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CAREER POSSIBILITIES

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AND SPECIAL SERVICES

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PRETORIA
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*Nirgends ist Information wichtiger als im
Erziehungs- und Bildungswesen. Nur wer
informiert ist, kann richtige Entscheide
fällen.*

- A. Scherer. Schweizer Studienführer, Bern, Paul
Haupt. 1977.

P R E F A C E

An important cause of failure during tertiary education and consequent failure in occupational life is inadequate and even incorrect training. However, adequate information should contribute considerably towards combating this problem.

This book, in a systematic and comprehensive way, provides secondary school pupils with essential basic information and guidance on university courses and possible careers that can be followed. In addition to its two counterparts, Tertiary training outside universities and career possibilities (GS-4) and Training and career opportunities for school leavers before Standard Ten (GS-3), the HSRC's Guidance Series provides information on training and career opportunities over an extremely broad spectrum.

Data on training are based on the 1978 university calendars. As far as the section Vocational Service is concerned, the fact should be borne in mind that the book is not a commercial publication and that consequently the publicising of individual employers in the private sector has been limited to the absolute minimum.

Thanks are due to all bodies which co-operated willingly to provide information. Particular appreciation is expressed to the universities which made available a large number of information documents as well as some of their own publications in this connection; the Department of Labour and the editorial staff of the periodical My Career, from which valuable information on career possibilities was obtained; the Public Service Commission for direct information as well as information gleaned from the publication Careers in Government Departments, and other public and private bodies.

The HSRC trusts that schools, universities and others who are concerned with the guidance of pupils and students will find this book a useful source of information.

A. L. Kotzee
PRESIDENT

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CHAPTER 1

UNIVERSITY TRAINING

INTRODUCTORY

This book is an attempt to supply high school pupils in particular with concise but comprehensive information on university training and also to provide a brief indication of vocational service or, in other words, job opportunities. It is purely a general introduction to supply basic information and arouse interest. If a candidate discovers fields in which he is interested and which he would like to know more about, then the time has arrived to go in search of literature in the library or elsewhere and to obtain further information in other ways.

It will also be noted that the sections on VOCATIONAL SERVICE in this book mainly provide guidance to students on planning for a career after they have obtained a first degree. However, it should be remembered that we are living in an age of specialization and that the Bachelor's degree, in most cases, merely paves the way towards an occupational field which can be followed after further training. Attention is thus constantly drawn to the necessity for post-graduate study and/or additional professional training. The highest qualification obtained or major subjects for a degree normally correlate with the occupation which will eventually be pursued but this by no means implies that the candidate, having obtained a degree or a diploma or even a degree and a diploma, can regard himself as fully qualified for a position. A person with Economics as a major subject for a degree, for instance, can in no way lay claim to being an economist in the full sense of the word, and Psychology as a major does not mean that such a person is a fully qualified psychologist. To become an economist or psychologist, for example, requires a great deal of experience and advanced post-graduate study. This is also true of practically all other occupational fields, even those for which specifically defined courses are taken. The early stage of any career is merely a continuation of the person's training.

Students should ascertain, as far as possible, what the demand is for employees in particular occupational fields. It may happen that a number of persons obtain degrees with certain major subjects, while the occupational possibilities in these fields are slight. Candidates proceeding to a university are thus strongly recommended to keep themselves well-informed, not only of the fields of study which will suit them best, but also of those career fields which a particular field of study will possibly open up for them. This book and related literature will, among others, assist them in this respect.

AIM OF UNIVERSITY TRAINING

Students in general and prospective university students in particular should be conversant with the nature and significance of university study. They should be aware of the difference between university training and other training at tertiary level. Unfortunately, it is not possible to present a detailed exposition at this stage. However, a few directives should suffice.

There are various training institutions at tertiary level such as the universities, the colleges for advanced technical education, teachers' training colleges and others. All these institutions have a joint, non-competitive function, with the principal aim of training students to achieve their full potential. These institutions function in the entire field of tertiary education and each has a specific function to fulfil. The difference between the universities and the other tertiary education institutions is determined by the variation in functions which each fulfils in the sphere of tertiary education.

The point of departure is that it is not the function of a university to train someone for an occupation but to educate and form the candidate for the eventual pursuit of an occupation. The student is taught to think critically, to develop the ability to acquire new knowledge on his own initiative, to reveal qualities of leadership and to solve problems. The university is consequently not a vocational school. As against this, the CATEs, for instance, concentrate on making the student a practical person in the full sense of the word, so that he can apply his knowledge to the utmost. In this case, there is greater emphasis on the application of knowledge than on the knowledge itself.

Although universities are sympathetic towards the wishes of graduates and employers, namely that students should be trained more functionally for the pursuit of an occupation, such training would deviate from the nature, aim and function of the university.

In this regard, employers should be prepared to invest in the in-service training of their personnel in order to cultivate specific knowledge and skills for a particular professional function. As far as the universities are concerned, it will only be possible in the vocationally oriented fields of study to equip the student professionally to any great extent.

University study imposes stringent demands and students who are not willing or able to satisfy these demands, should not attend a university. For such persons there are other training institutions which offer different but by no means inferior training. For this reason, timely guidance and, in particular, knowledge of the inevitable interaction of occupation, field of study and training institution are essential.

Those who cannot or should not attend a university or do not wish to do so, can obtain full particulars on non-university tertiary training in the HSRC publication Tertiary training outside universities and career opportunities.

CHOICE OF A FIELD OF STUDY

The choice of a field of study should be the result of the choice of an occupation and not the other way around. To pursue a university course without further ado in the hope that, on the basis thereof, it will lead to the pursuit of a vocation, may easily lead to disillusionment. Appropriate job opportunities often do not exist. The occupation should consequently determine the field of study and the field of study will, in its turn, determine the training institution.

The most important choice consequently centres in the occupation that will eventually be pursued. However, it often happens that a student makes a vocational choice, in spite of the fact that such a vocation does not represent his main interest, or that he selects a field in which he does not have sufficient aptitude. The subjects which will have to be taken are also not always taken into consideration. In most cases, the subjects are only names to him and the most useful subject combination is often totally ignored.

Persons who have pursued a vocationally oriented course usually do not have problems in obtaining a post in which their training can be utilised. It is mainly those persons with non-vocationally oriented training and particularly those with an ordinary B.A. degree without a professional qualification who have no specific labour market in which they can compete. Many students, even in the course of their university careers, have no certainty about the occupation they are going to pursue. Although there is no doubt concerning the formative value of university study, these students can experience problems in occupational life. They can find employment which is indirectly, vaguely or in no way related to their study. During a period of full employment, in particular, such persons often find themselves side by side with non-graduates in the same job situation.

There is no doubt about the momentous importance of a choice, as a career does not simply determine what a person is going to do one day, but also the kind of people he will have to work with, his home and place of work, his level of income, but especially whether lasting satisfaction from his career will be his share in life. Furthermore, in our age there is simply no time or place for failures. The price which must be paid for failure is much too high, since the person who does not equip himself for better things will have to be satisfied with an inferior position in the social and economic sphere. One important cause of failure is insufficient or even incorrect training.

Planning a career necessitates an evaluation of the individual's interest and capability, as well as the demands made by a particular career or occupational field and the field of study which will have to be taken. A large measure of interest in an occupational field, although important, is, however, not sufficient on its own to justify a choice of career. Aptitude and ability are also required. Naturally, the reverse is also true: a person may have all the necessary ability and aptitude for a certain profession, but may nevertheless not be interested in it. What is required, therefore, is a choice which will be marked by the highest correlation between aptitude and ability for a specific career on the one hand, and on the other hand interest in as well as a sound knowledge of the demands made by that career, job opportunities and the possibilities of promotion.

However, pupils are today in the privileged position and are also constantly encouraged to make use of the many guidance opportunities which are at their disposal. To start with, the candidate should examine himself with questions such as: Does my school achievement provide an indication of the field of study which I should follow? In what school subjects or fields of study do I obtain the best results? What am I actually interested in? The candidate's own desires, interests and school achievements are thus of

great importance in the planning of an occupation, but he should also consult his parents and relatives, his teachers, the guidance experts of the education departments and others who are competent and qualified to assist him; he should explore the occupational reference library and obtain as much direct information as possible on occupations.

Apart from expert guidance which candidates should already receive at school, the Department of Labour by means of its Vocational Service Division, is prepared to assist any young person or adult in the choice of a suitable career or field of study. Where great uncertainty exists, psychological tests are applied to determine fields of interest and aptitude. Trained vocational advisers are stationed in all the larger centres in the country. In addition, the Department publishes a quarterly journal, *My Career*, which is supplied to schools free of charge and in which a large variety of careers are discussed and extensive knowledge of the professional world is supplied. Various other bodies provide information in connection with careers, but then only for their own purposes. The NIPR of the CSIR also undertakes testing and interviewing in cases where vocational guidance is required.

The tremendous service undertaken by universities in this field deserves special mention. In addition to brief orientation programmes at the beginning of each year by which beginners are introduced to various subjects and fields of study, the functioning of the university machine, etc., considerable amounts of guidance material on courses and careers are made available. Students and prospective students should therefore not hesitate to make use of these facilities. Although it can probably be expected of a prospective student to know upon enrolment which course he wants to take and which subjects he wants to choose, the student guidance bureau of a university is always prepared to render assistance. Attention is given to virtually all aspects of the newcomer's life at the university. First-year students will soon realise that a university is not merely an academic machine, but also an institution where he has the opportunity to develop into a mature, balanced and educated person during his formative years.

THE FINANCING OF STUDIES

The concept financing of studies implies the defraying of total expenditure in connection with the training of a student at a university, and it embraces much more than merely the amount of money which it will cost a student and the defrayal thereof. To obtain a broader perspective in the matter, the cost of university training should be viewed from two sides at least, viz from the side of the university and secondly from the point of view of the student. With this approach the important question, for example, as to why class fees at a university are so high and why they are increased again and again, will be explained to some extent.

From the side of the university: If the annual current expenditure (figures for 1976, hostels excluded) of the ten residential universities is added up and divided by the total number of students, the average direct training cost per student per annum amounts to approximately R2 100. (For 1979 it will probably be considerably higher.) Approximately 12 per cent of this amount is contributed by the student himself, roughly 4 per cent by the university, assisted by the community, and approximately 84 per cent by the State, i.e. the taxpayer. This means that the State and the community pay about 88 per cent of the direct cost of training a student. Students therefore have no reason to complain about their share of current expenditure of universities. One has good reason for referring to people who call themselves students, but who neglect their work and make no progress in their studies, as "subsidized loafers" who "enjoy life" at university at the expense of others who do work.

To be a student, and this phase of life is not begrudged any true student, is therefore not only a great privilege, but also involves tremendous responsibility.

From the point of view of the student: It is practically impossible to give an exact indication of how much money per annum will be sufficient for the needs of each individual student. The amount is determined, *inter alia*, by the type of a course, the subjects which are studied, the student's personal needs, board and lodging in a hostel, etc. A university is not a school where all the groups of pupils attend the same classes. Students have a free choice of universities, fields of study and subjects. At some universities study, life in general and lodging are more expensive than at others; some courses are more expensive than others at the same university; sometimes fees for the first year differ from fees for the other years of study, and students differ from one another in what they consider essential for their personal needs.

However, the following averages for tuition and lodging may serve as a guide:

- Tuition fees: The average tuition fees at residential universities for 1978, for twenty selected fields of study which result in a first degree after at least three years of full-time study, amount to the following (fields of study in sequence of lowest to highest average):

R400 - R450: Library Science, Law (e.g. B.Proc. and B.Iuris), Home Economics;

R451 - R500: Nursing, B.A., B.Com., Social Work, Dietetics, Drama;

R501 - R550: Agriculture, Fine Arts, Land Surveying, Engineering;

R551 - R600: B.Sc., Music;

R601 - R650: Building Science/Building Management, Quantity Surveying, Architecture, Medicine and Dentistry.

Average tuition fees for the twenty fields of study: R515 p.a.

- Boarding fees: Boarding fees for 1978 vary as follows:

R660 - R700: at six universities,

R700 - R800: none,

R800 - R900: at two universities, and

R900 - R1 000: also at two universities.

Average boarding fees for the ten universities: R758 p.a.

On the average a full-time student may draw up his annual budget more or less as follows:

Tuition and registration fees	R515
Boarding fees	758
Extramural activities	100
Books, et cetera	200
Personal expenses	200
Travelling, et cetera	<u>227</u>
TOTAL	<u>R2 000</u>

Adjustments will definitely be necessary for individual students and it will be found that for some students the total indicated here is far too high, while for others the total may rise considerably. An additional consideration is the fact that the student could have started work, after matriculating, at a commencing salary, for example of R2 400 per annum. The actual cost of a student's training is, therefore, something in the region of R4 000 or more per annum. The longer he studies, the greater become the costs since he could, for example, have earned a series of salary increments if he had entered into employment.

It is obvious that the current training costs at universities are very high, not only for the State but also for the student. Apart from the direct and indirect financial loss and the waste of time involved in failing, one must also consider the personal frustration which it causes, the fact that many students, as a result of failing, embark upon a course which is not really their occupational choice, the loss of or delayed employment of manpower, especially in high-level occupations where there is a constant shortage, and similar negative effects.

Sources of financial assistance: There is a country-wide need of high-level manpower and to provide for this need bursaries, loans, scholarships, etc. are offered to students by, for example, the Government, the provincial administrations, municipalities, large business concerns and the universities themselves. However, it should be remembered that financial aid is more readily available for students with a record of meritorious academic achievement at school and afterwards. The better the progress, the better the chances of awards. This does not mean, however, that only brilliant pupils and students are considered for bursaries. The average student with a fine record of progress can also depend on assistance.

- Bursaries and bursary loans: These two concepts are actually the same thing and amount to awards which are repayable not in cash, but in the form of service. (In exceptional cases no repayment need be made.) Bursaries are normally awarded on the strength of need and academic achievement. When there is a breach of contract, the bursary must be repaid in cash plus interest. Service normally means one year of service for each year for which the award is made.

Study loans must, as the name implies, be repaid as soon as the student starts working. From that date onwards the interest, usually 6 per cent or more, is also brought into account.

Scholarships, also called achievement bursaries, are awarded for academic achievement and are normally not repayable. Some universities also award prizes and medals for excellent work.

Information on bursaries and loans may be obtained from:

- . Brochures on bursaries from the various universities, which are available on request.
- . The publication of the Human Sciences Research Council:

Awards available for undergraduate study: PU for CHE, RAU, RU, UCT, UN, UNISA, UOFS, UP, UPE, US, WITS and GENERAL.

The book contains the most recent information as obtained from universities, bodies and organizations which make awards available, and information gained from press announcements and other sources. A revised edition will be available at all high schools and universities towards the end of 1979. Schemes on which information is given, are, inter alia, the Public Service Bursary Scheme and the bursary and loan schemes of the various education departments for the training of teachers.

- Many students provide for their financial needs through part-time work.

Remarks: A few general remarks which may contribute towards facilitating the financing of study, are the following:

- . The better a student/pupil performs academically, the easier it is to obtain financial assistance.
- . It is normally most difficult to obtain money from normal financing sources for the first year of study. After one year's study and proofs of ability and achievement, the chances of obtaining money improve. This means that a student will normally have to make his own provisions for the first year.
- . Part-time study is naturally less expensive than full-time study and many students earn a reasonable amount of money by working part-time. However, it is recommended that priority should be given to study and that part-time work, for example, should not be undertaken during the second semester.
- . Full-time holiday work is strongly recommended by universities.
- . Short-sightedness, for example, by looking only for bursaries to which no service stipulation is attached, should be avoided.
- . It is a good policy to consult possible employers, to whom a field of study may be applicable, directly about financial assistance.
- . Collect all information concerning the cost aspect, so that financial assistance may be applied for in good time.

R E S E A R C H

In this day and age, large-scale scientific research in nearly every conceivable field has become indispensable for every progressive country, not only for the expansion and enrichment of knowledge, but for effective planning in every sphere of the country's economy. South Africa is no exception and there are numerous research facilities and bodies which cover the broad field of activities involving the natural and human sciences.

Among the most important research bodies in the field of the natural sciences are

- various government departments including those of Forestry, Health, Agricultural Economics and Marketing, Agricultural Credit and Land Tenure, Agricultural Technical Services, Mines, National Education, Industries, Transport, Water Affairs, the SA Railways, Planning and the Environment, Posts and Telecommunications, the Government Printer, the SA Mint and the four provincial administrations;

- statutory bodies such as the Council for Scientific and Industrial Research (CSIR), which controls various institutes and departments and subsidizes research at universities and other institutions, the Atomic Energy Board, the Fuel Research Institute of SA, the National Institute for Metallurgy, the National Parks Board of Trustees, the National Road Safety Council, the SABS, the SA Institute for Medical Research, the SA Medical Research Council (various institutes and units), the Water Research Commission;

- sixteen universities (the universities themselves or their research institutes and units, acting on their own initiative or in co-operation with other organizations;
- six colleges for advanced technical education;
- various museums, observatories, botanical and zoological gardens;
- public corporations including Escom, Fisheries Development Corporation of SA, Phoscor, Sasol, Iscor, Soecor, the SA Inventions Development Corporation and the Uranium Enrichment Corporation of SA;
- a number of industrial research institutes which are subsidized by the CSIR or the Government or which function independently, as well as about fifty industrial companies with separate research departments.

Research into the human sciences is undertaken by

- the government departments of Labour, Health, Agricultural Economics and Marketing, National Education (libraries, art galleries and museums), Planning and the Environment, Commerce, Plural Relations and Development and the four provincial administrations;
- statutory bodies such as the Human Sciences Research Council (HSRC), which controls a number of research institutes and, in addition, subsidizes research by universities, other bodies and even private persons on an extensive scale; the Africa Institute of SA; the Productivity Advisory Council; the SA Reserve Bank; the IRS and NIPR of the CSIR;
- sixteen universities (the universities themselves or their research institutes and units, acting on their own initiative or in co-operation with other organizations;
- some municipalities.

Young graduates who strive for recognition for original contributions can make use of the opportunity to do research work on their own initiative under the guidance of experienced persons, some of whom are of international repute. There are numerous opportunities and virtually unlimited possibilities in the natural and human sciences. Well-equipped offices, laboratories and libraries, as well as modern equipment such as computers are at the disposal of researchers.

Experience in research work is of inestimable value in any walk of life and is often also a useful point of departure for a career in the Public Service, at a university, in industry or in the many sections of the private sector. The minimum educational requirement for young researchers is usually a Bachelor's degree but in some cases an Honours or Master's degree, depending on the field of research. Post-graduate study remains important and is often a prerequisite for promotion to a senior rank.

The regular publication of the CSIR Directory of scientific research organizations in South Africa and the HSRC publication Directory of research organizations in the human sciences in South Africa, provide comprehensive information on organizations which undertake research in South Africa.

CHAPTER 2

FACULTIES OF ARTS

UNIVERSITY OF CAPE TOWN

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Bachelor of Arts (Honours)	: B.A. (Hons.)
Master of Arts	: M.A.
Doctor of Philosophy	: Ph.D.
Doctor of Literature	: D.Litt.

DEGREES

Bachelor of Arts: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

- A pass on the Higher or Standard Grade in at least five of the following subjects: Afrikaans, English, Mathematics, Biology, Physical Science, Bantu Languages, French, German, Greek, Hebrew, Italian, Latin, Nederlands, Portuguese, Spanish, Hindi, History, Geography, Music, Biblical Studies, Economics, Art.

- A pass on the Higher Grade or at least 50 per cent on the Standard Grade in either Mathematics or a language other than the official languages, or a pass with at least 50 per cent on the Higher Grade in one of the official languages.

- The minimum requirement for admission to Mathematics I is a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Three years of full time study. An approved curriculum must include at least nine qualifying courses comprising one major course, four senior courses and four courses given in departments established in the Faculty of Arts.

Courses recognized as qualifying towards the degree of B.A.

<u>Subject</u>	<u>Number of Qualifying Courses</u>	<u>Department and Faculty</u>
African Customary Law	one	Public Law (Law)
African Economic History	one	Economics (Arts)
*African History	two	History (Arts)
African Languages	three	African Languages (Arts)
Afrikaans	one	Afrikaans en Nederlands (Arts)
Afrikaans en Nederlands	three	Afrikaans en Nederlands (Arts)
Afrikaans en Nederlands Addisioneel	one	Afrikaans en Nederlands (Arts)
Ancient History	three	Classics (Arts)
*Applied Mathematics	three	Applied Mathematics (Science)
Archaeology	three	Archaeology (Arts)
Archaeology Additional	one	Archaeology (Arts)
*Botany	three	Botany (Science)
CASAM	one	Applied Mathematics (Science)

<u>Subject</u>	<u>Number of Qualifying Courses</u>	<u>Department and Faculty</u>
*Chemistry	three	Chemistry (Science)
Classical Hebrew	one	Hebrew (Arts)
Comparative African Government and Law	two	Anthropology (Arts)
*Computer Science	two	Computer Science (Science)
Constitutional Law	one	Public Law (Law)
Cultural History of Western Europe	three	Cultural History of Western Europe (Arts)
Drama	three	Speech Training and Dramatic Art (Arts)
Economics	three	Economics (Arts)
Economic History	three	Economics (Arts)
English	three	English (Arts)
English Additional	one	English (Arts)
Environmental Resource Management	half	Environmental Studies (Inter-Faculty)
French	four	Romance Studies (Arts)
French Additional	one	Romance Studies (Arts)
Geography	three	Geography (Science)
*Geology	three	Geology (Science)
German	four	German (Arts)
German Additional	one	German (Arts)
Greek	three	Classics (Arts)
Greek and Roman Literature and Philosophy	one	Classics (Arts)
Hebrew	four	Hebrew (Arts)
Hebrew Culture	two	Hebrew (Arts)
History	three	History (Arts)
History Additional	one	History (Arts)
History of Art	three	School of Fine Art (Fine Art and Architecture)
*History and Appreciation of Music	two	College of Music
History and Philosophy of Science	one	Philosophy (Arts)
Human Biology	one	Anatomy (Medicine)
Italian	three	Romance Studies (Arts)
Jurisprudence A	one	Roman and Comparative Law (Law)
Latin	three	Classics (Arts)
Mathematics	three	Mathematics (Science)
Philosophy	four	Philosophy (Arts)
*Physics	three	Physics (Science)
Physiology	one	Physiology (Science)
Political Science	three	Political Science (Arts)
Psychology	three	Psychology (Social Science)
Public Administration	one	Public Administration (Social Science)
Public International Law	one	Public Law (Law)
Religious Studies	three	Religious Studies (Arts)
Roman Law and Jurisprudence	two	Roman and Comparative Law (Law)
Roman-Dutch Law	two	Roman-Dutch Law (Law)
Social Anthropology	two	Anthropology (Arts)
Social Anthropology Additional	one	Anthropology (Arts)
Sociology	three	Sociology (Social Science)
*Statistics	two	Mathematical Statistics (Science)
Xhosa (Service course)	one	African Languages (Arts)
*Zoology	three	Zoology (Science)

An asterisk * denotes subjects which may not be counted as the compulsory major course.

In the subjects French, German and Hebrew there are intensive courses for candidates who have not attained the standard required for entrance to French I, German I and Hebrew I. These courses will be allowed to count towards the degree of B.A. in addition to any other

course completed in the same language. Intensive courses are also offered in African languages and Italian; completion of these courses qualifies a candidate for direct entry into course II of these languages.

A student may not take more than four courses in one year. A candidate must also satisfy the conditions regarding the specified auxiliaries for such courses; e.g. (i) candidates who wish to major in Archaeology should include Social Anthropology I and Geology I or Geography I in their curriculum; (ii) Physiology I is a senior course which may only be taken by candidates who have completed Chemistry I, Physics I and Human Biology. Not more than four courses selected from the science subjects will be recognised for degree purposes. Science subjects are e.g. Applied Mathematics, Botany, Computational and Statistical Applied Mathematics (CASAM), Human Biology, Statistics.

Bachelor of Arts (Honours): B.A. (Hons.)

Admission requirement: A B.A. degree. The subject for an Honours degree must be one which the student took as a major subject for the B.A. degree.

Curriculum: One year. The degree is conferred in one of the following subjects: African Languages, Afrikaans en Nederlands, Archaeology, Classics, Comparative African Government and Law, Cultural History of Western Europe, Economics, Economic History, English Language and Literature, French, Geography, German, Greek, Hebrew, History, Latin, Mathematics, Philosophy, Political Science, Psychology, Religious Studies, Social Anthropology, Sociology.

The degree may also be conferred in a pair of language subjects:

- e.g. Afrikaans en Nederlands - English
- Afrikaans en Nederlands - German
- English - French
- French - Latin

A candidate who fails in the Honours examination will not be allowed to present himself for the examination again.

Master of Arts: M.A.

Admission requirement: A B.A. (Hons.) degree.

Curriculum: A candidate must work under the supervision of a member of the Department concerned for at least one academic year. Examination is by thesis, unless otherwise stated.

Doctor of Philosophy: Ph.D.

Admission requirement: Graduates must hold a Bachelor's degree of at least three years' standing.

Curriculum: This degree is a research degree. Candidates are required to complete two years of post-graduate work under the supervision of the University before presenting themselves for the degree. The candidate's work must be presented in the form of a thesis.

Doctor of Literature: D.Litt.

Admission requirements: The degree of Doctor of Literature may be conferred on the following candidates:

- Bachelor of Arts of not less than eight years' standing
- Graduates possessing a Master's or Doctor's degree in Arts of not less than six years' standing.

Curriculum: Candidates for the degree must present a thesis or published memoir of work which must be a mature study of high quality constituting a major original contribution to his branch of learning.

UNIVERSITY OF NATAL

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Bachelor of Arts (Honours)	: B.A. Hons.
Master of Arts	: M.A.
Doctor of Philosophy	: Ph.D.
Doctor of Literature	: D.Litt.

DEGREES

Bachelor of Arts: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: Passes in both official languages on the Higher Grade together with a minimum of 40 per cent in at least three subjects on the Higher Grade, one of which must be the First Language.

Curriculum: Three years. A candidate must obtain credit for at least ten qualifying courses distributed amongst not fewer than five subjects chosen from the following list:

African Civil Law, Afrikaans I, Afrikaans en Nederlands, Applied Mathematics, Bantu Law, Biblical Studies, Biology, Biology in Human Affairs, Biometry I, Biometry Ia and Introduction to Computer Science, Botany, Chemistry, Classical Civilization, Classical Hebrew, Comparative African Government and Administration, Computer Science, Constitutional Law, Criminal Law and Procedure, Economic History, Economics, Economics of Underdeveloped Regions, English, Fine Art, French, Geography, Geology, German, Greek, Hebrew, History, History of Africa from Pre-literate Times, History of Art, Introduction to South African Law, Introductory French, Introductory German, Introductory Hebrew, Jewish Studies, Latin, Mathematical Statistics, Mathematics, Music, Music and Social Anthropology, Philosophy, Physics, The Political Economy of Southern Africa, Political Science, Population and Labour, Prehistory of Southern Africa, Principles and Practice of Fine Art, Psychology, Public International Law, Roman Law, Social Anthropology, Sociology, Speech and Drama, Statistics, Statistics Ia and Introduction to Computer Science, Theology, Zoology, Zulu, Southern Sotho (or other approved Bantu language).

Every approved curriculum must include at least two subjects known as major subjects, in each of which either two or three full qualifying courses must be taken.

A candidate must select his major subjects from the following groups:

(a) Major subjects in which three qualifying courses must be taken:

Afrikaans en Nederlands, Economics, English, Fine Art, French, Geography, German, Greek, Hebrew, History, History of Art, Latin, Mathematics, Music, Philosophy, Political Science, Psychology, Social Anthropology, Sociology, Statistics, Speech and Drama, Zulu (or another approved Bantu language).

(b) Major subjects in which two qualifying courses must be taken:

Biblical Studies, Classical Civilization, Comparative African Government and Administration, Economic History, Mathematical Statistics, Theology.

Bachelor of Arts (Honours): B.A. Hons.

Admission requirement: A B.A. degree.

Curriculum: One academic year. A candidate must pursue a course of advanced study in one subject selected from the following list:

Afrikaans en Nederlands, Bantu Languages, Classics, Comparative African Government and Administration, Divinity, Economic History, Economics, English, Fine Art, French, Geography, German, Greek, Hebrew, History, History and Economic History, History and Political Science, History of Art, Jewish Studies, Latin, Mathematical Statistics, Mathematics, Music, Music and Social Anthropology, Music and Speech and Drama, Philosophy, Political Science, Psychology, Social Anthropology, Sociology, Speech and Drama.

A candidate who offers Language Honours must choose any two of the following subjects: Afrikaans en Nederlands, English, French, German, Greek, Hebrew, Latin, Zulu (or approved Bantu language).

The subject for an Honours course must be one which the candidate has completed as a major subject for the B.A. degree. The Senate may refuse to admit a student to an Honours course in any subject if the standard of proficiency which he has previously attained in that subject is not sufficiently high.

A candidate is required to present himself for all parts of the final examination at one and the same time. No candidate for the degree may present himself for the final examination more than once.

Master of Arts: M.A.

Admission requirements: A B.A. Hons. degree. A candidate's previous academic attainments must be sufficiently high.

Curriculum: A candidate for the degree must prosecute advanced study, or research, or both, under the guidance of a supervisor, for not less than one academic year.

The examination for the degree consists of a dissertation, or of two or more written papers, or of a dissertation together with a written paper or papers, or together with such practical work as the Senate may prescribe.

No candidate may present himself for examination more than once.

Doctor of Philosophy: Ph.D.

Admission requirements: A candidate must be either a Master of Arts of at least two years' standing or a Bachelor of Arts (Honours) of at least three years' standing whom the Senate has specially exempted from the Master's examination.

Before registration, a candidate must submit for the approval of the Senate a statement of the subject of special study or research which he proposes to pursue.

Curriculum: A candidate is required to pursue an approved course of special study or research on some subject connected with Archaeology, Divinity, Economics, Fine Art, Geography, History, Language, Library and Information Science, Literature, Mathematical Statistics, Music, Philosophy, Political Science, Psychology, Pure Mathematics, Social Anthropology or Sociology.

A candidate is required to submit a thesis embodying the results of his special study or research. A thesis must make a distinct contribution to the knowledge or understanding of the subject and afford evidence of originality shown either by the discovery of new facts or by the exercise of independent critical power.

Doctor of Literature: D.Litt.

Admission requirements: A candidate must be a Bachelor of Arts of not less than six years' standing. An intending candidate for the degree must submit a formal application for registration.

Curriculum: The degree is awarded only for published work in the form of articles, pamphlets, or books which, being obtainable through booksellers, have been accessible to relevant experts and critics for at least one year.

A candidate may be permitted to submit, in partial fulfilment of the requirements for the degree, any thesis previously accepted for a research degree, provided that the work has been published and accessible to relevant experts and critics for at least one year.

U N I V E R S I T Y O F T H E O R A N G E F R E E S T A T E

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Bachelor of Arts with Honours	: B.A. (Hons.)
Master of Arts	: M.A.

Master of Arts (Clinical Psychology)	: M.A. (Clinical Psychology)
Master of Arts (Counselling Psychology)	: M.A. (Counselling Psychology)
Doctor of Literature	: D.Litt.
Doctor Philosophiae	: D.Phil.

DEGREES

Bachelor of Arts: B.A.

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: At least six semesters of full-time study (three years). The curriculum for B.A. (General Field of Study) must include at least twenty semester courses. A student may offer a maximum of four additional semester courses.

A curriculum must include at least two major subjects, in each of which the prescribed number of semester courses must be completed. The major subjects for B.A. (General Field of Study) must be selected from the following subjects:

Afrikaans en Nederlands, Anthropology, Applied Anthropology, Biblical Studies, Criminology, Economics, English, French, General Science of Linguistics, General Science of Literature, Geography, German, Greek, Hebrew, History, History of Art, Latin, Mathematics, Philosophy, Political Science, Private Law, Psychology, Psychology (Counselling)*, Roman Law and Legal History, Social Work, Sociology, Southern Sotho, Zulu.

* May not be taken together with Psychology as a major subject.

In addition to his major subjects a student must include in his curriculum such ancillary subjects as the university may prescribe.

The major subjects for B.A. (Special Fields of Study) comprise

Biokinetics*, Communication, Dramatic Art and Theatrical Art, Fine Arts, History of Art, Information Science, Librarianship, Media Science ≠, Music, Physical Education.

* May be taken only with Physical Education.

≠ May be taken only with Communication.

See Chapter 6: Vocationally Oriented Fields of Study, for the aforementioned curricula.

Bachelor of Arts with Honours: B.A. (Hons.)

Admission requirements: A student must satisfy all the requirements of an ordinary Bachelor's degree, and may only offer a subject taken as a major subject.

The Senate may refuse to admit a student to an Honours course if it considers the student's ability in the subject concerned to be inadequate.

Curriculum: The degree study extends over at least two or three consecutive semesters.

A student must take a university examination at the end of the course and pass in the entire examination. A student may present himself for the final examination twice only.

The degree may be obtained in the following subjects:

Afrikaans en Nederlands, Anthropology, Applied Anthropology, Bantu Languages, Biblical, Studies, Classics, Criminology, Economics, English, French, Geography, German, Greek, History, History of Art, Latin, Mathematics, Philosophy, Political Science, Psychology, Semitic Languages, Sociology.

Master of Arts: M.A.

Admission requirements: A B.A. (Hons.) degree. A student must convince the head of the department concerned that the standard of his knowledge is adequate to perform the work for the degree.

Curriculum: A student is admitted to the Master's degree two years after obtaining the ordinary B.A. degree.

An examination for the Master's degree consists of a written examination or a dissertation or both. The dissertation which is written under the guidance of the head of the Department concerned or a study leader appointed by the faculty concerned, must provide proof that the candidate is capable of undertaking scientific research.

The M.A. degree is conferred in the same subjects as those for the B.A. (Hons.) degree.

Doctor Philosophiae: D.Phil. or

Doctor of Literature: D.Litt.

Admission requirement: An M.A. degree.

Curriculum: A Doctor's degree shall not be conferred before three years, or two years, of which at least one year is devoted exclusively to research or full-time study, have elapsed after obtaining the Master's degree.

A candidate must take a doctoral examination within one year after registration of his subject.

A student must submit a thesis for the Doctor's degree. Each thesis must be prepared under the supervision of a promoter/assistant promoter. A thesis must make an original contribution to the existing knowledge of the subject selected.

UNIVERSITY OF PORT ELIZABETH

FACULTY OF ARTS

Degrees

Baccalaureus Artium	: B.A.
Baccalaureus Artium (Educationis)	: B.A. (Ed.)
Baccalaureus Artium Honores	: B.A. Hons.
Magister Artium	: M.A.
Magister Artium in Clinical Psychology	: M.A. (Clin. Psych.)
Magister Artium in Counselling Psychology	: M.A. (Couns. Psych.)
Master in Public Administration	: M.P.A.
Doctor Philosophiae	: D.Phil.
Doctor Litterarum	: D.Litt.

Diploma

Diploma in Advanced Public Administration.

DEGREES

Baccalaureus Artium: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: For admission to the following courses a candidate must have attained the standard indicated in each case:

- French IB: A pass in French on the Higher or the Standard Grade
- German I: A pass in German (third language) on the Higher Grade or a pass in German on the Higher Grade (mother-tongue)
- Latin I: A pass in Latin on the Higher or the Standard Grade
- Mathematics I, Mathematical Statistics I or Statistical Methods I: A pass of at least 40 per cent in Mathematics on the Standard Grade.

Curriculum: Three years of full-time study or four years of part-time study. An approved curriculum consists of not less than ten and not more than twelve courses. Such a curriculum must include at least four courses taken at first-year level, at least three courses taken at second-year level and at least two courses, known as the major courses, taken at third-year level.

An approved curriculum consists of courses selected from the following:

GROUP I

Subjects which may be taken up to a third-year level

Afrikaans, Afrikaans/Nederlands, English, French, General Linguistics, General Literary Theory, German, Greek, Latin, Nederlands, Semitica, South Sotho, Xhosa.

GROUP II

Subjects which may be taken up to a third-year level

Anthropology, Biblical Studies, Computer Science, Economics, Geography, History, Mathematics, Mathematical Statistics, Pedagogics, Philosophy, Political Science, Private Law, Psychology or Industrial and Organizational Psychology, Public Administration, Sociology.

GROUP III

Subjects which may be taken up to a second-year level

Principles of Interpretation of Statutes and Administrative Law, Social Work.

GROUP IV

Subjects which may be taken as first-year courses

General Literary Theory and Linguistics, Classical Culture, Economic History, Professional Afrikaans, English Special, Statistical Methods, Introduction to Legal Science and History of Law, Business Economics, History of Music.

A candidate selects his major subjects either from Group I or from Group II. A candidate may be permitted to combine a major subject selected from Group I with a major subject selected from Group II.

A candidate must also complete the semester course in Philosophy of Science which he must attend during the second semester of his penultimate year of study.

For certain courses there are compulsory ancillary subjects, e.g. a candidate must complete South Sotho I before he can be admitted to Xhosa III, and vice versa.

Baccalaureus Artium (Educationis): B.A. (Ed.)

Admission requirements: As for the B.A. degree. All prospective student teachers are selected.

Curriculum: Four years of full-time study. The degree may be obtained with the endorsement Junior Primary Teaching, Senior Primary Teaching or Secondary Teaching. There is a prescribed curriculum for each field.

Junior Primary and Senior Primary: The two curricula are more or less similar in content and both include the following courses: Afrikaans/Nederlands or Professional Afrikaans, English I or Special English, History, Geography (one of these subjects must be taken up to second year-level); Pedagogics III; School Music: Instrumental; School Music: Method; Practical Teaching.

The degree allows admission to study for the B.Ed. degree. See p.132.

Secondary Teaching: The curriculum comprises four B.A. courses selected from the following subjects: Afrikaans/Nederlands, Professional Afrikaans, English, English Special, French, German, Latin, Xhosa, South Sotho, History, Geography, Biblical Studies, Mathematics, Psychology. Two of these subjects must be taken up to third-year level. The curriculum also includes, inter alia, the following courses: Pedagogics III, Educational Practice III, Method of the two school subjects.

The degree allows admission to post-graduate study in the Faculties of Education and Arts.

Also see p.122.

Baccalaureus Artium Honores: B.A. Hons.

Admission requirement: A B.A. degree.

A person may only be admitted as a candidate in a subject taken by him as a major subject for the Bachelor's degree.

Curriculum: At least two consecutive semesters.

The examination consists of not less than four or more than six written papers as well as such practical and oral examinations as the Senate may prescribe.

The B.A. Hons. degree is conferred in one of the following subjects:

Afrikaans, Afrikaans/Nederlands, Anthropology, Biblical Studies, Classical Languages, Economics, English, French, Geography, General Linguistics, General Literary Theory, German, Greek, History, Industrial and Organizational Psychology, Latin, Mathematics, Mathematical Statistics, Pedagogics, Philosophy, Political Science, Psychology, Public Administration, Semitics, Social Work, Sociology, South Sotho, Xhosa.

Magister Artium: M.A.

Admission requirement: A B.A. Hons. degree.

Curriculum: A candidate must register for an approved course of study or research, or both, for a period of at least one academic year.

A Master's degree may be obtained by (i) a dissertation, in which case the Senate may require a candidate to present himself for an oral examination on his dissertation or his knowledge of his subject in general, or both; or (ii) a written examination; or (iii) both a dissertation and a written or oral examination.

Magister Artium in Clinical Psychology: M.A. (Clin. Psych.)

Admission requirement: A B.A. Hons. degree in Psychology.

Curriculum: Two years of full-time study. The curriculum comprises six theoretical courses and appropriate practical work in the first year. During the second year the candidate has to do an internship which satisfies the conditions of the Professional Board for Psychology of the SA Medical and Dental Council. A dissertation is also required.

Magister Artium in Counselling Psychology: M.A. (Couns. Psych.)

As for the above degree.

Master in Public Administration: M.P.A.

Admission requirements: A Bachelor's degree and adequate administrative experience.

Curriculum. Two years. The curriculum consists of seven theoretical courses and a treatise on an approved subject.

Doctor Philosophiae: D.Phil. or

Doctor Litterarum: D.Litt.

Admission requirement: Except by permission of the Senate, only the holder of a Master's degree may be accepted as a candidate for a Doctor's degree.

Curriculum: A candidate shall not be admitted to a degree of Doctor before he has been a registered student of the University for at least two consecutive years.

A candidate must submit, for the approval of the Senate, a thesis on an approved subject. A thesis will not be approved unless it makes a contribution to the knowledge or understanding of the subject and affords evidence of originality.

DIPLOMA

Diploma in Advanced Public Administration

Admission requirements: A Senior Certificate or equivalent and adequate administrative experience.

Curriculum: One year. The curriculum consists of four theoretical courses.

POTCHEFSTROOM UNIVERSITY FOR CHRISTIAN HIGHER
EDUCATION

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Bachelor of Philosophy	: B.Phil.
Honours Bachelor of Arts	: Honns. B.A.
Master of Arts	: M.A.
Doctor Litterarum	: D.Litt.
Doctor Philosophiae	: D.Phil.

Diplomas

Lower University Diploma in Bantuistics
University Diploma in Bantuistics

DEGREES

Bachelor of Arts: B.A.

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years. A student must pass in at least eleven and a half courses which must be divided among at least five subjects. A curriculum includes at least two major subjects, in each of which at least two or three complete courses must be taken. The final courses in at least two of the major subjects cannot be taken before the third year of study.

A student may present himself for examination in subjects from the following groups:

GROUP A

(i) Major subjects and ancillary subjects

Afrikaans-Nederlands, Bantu Languages, Dramatic Art, English, French, General Linguistics and Literary Theory, German, Greek, Latin, Portuguese, Semitic Languages, Speech and Interpretation.

(ii) Supplementary ancillary subjects

Afrikaans, English IB, Special German, Special Latin, Special French, Special Italian.

GROUP B

(i) Major subjects and ancillary subjects

Anthropology, Biblical Studies, Criminology, Cultural Science, Development Administration, Economics, Ethics, Geography, History, History of Art, History of Music, Industrial and Personnel Psychology, Industrial Sociology, International Politics, Mathematics, Philosophy, Physical Education, Political Science, Practical Music (may only be taken with History of Music), Private Law, Psychology, Roman Law, Sociology, Theatrical Art, Theory of Science and Logic, Theory of Statistics.

(ii) Supplementary ancillary subjects

Ancient Cultural History, Bantu Law, Communication, Economic History I, Harmony and Counterpoint, History and Appreciation of Music, Jurisprudence and Interpretation of Statutes, Library and Information Science, Money and Banking, Physiology I (only when Industrial and Personnel Psychology, Physical Education, Psychology or Nursing is a major subject), Public Administration, Public Law, Social Work, Statistical Methods, Town and Regional Planning I.

For certain major subjects there are compulsory ancillary subjects, e.g. for Geography as a major, one course in Economics, Sociology or Statistical Methods is recommended.

Honours Bachelor of Arts: Honns. B.A.

Admission requirements: A B.A. degree.

The subject of an Honours degree course must be one which the student took as a major subject for the B.A. degree.

Curriculum: The student must attend an approved course at the University for at least one year. A student may present himself for the final examination once only.

The Honours degree may be obtained in one of the following divisions:

Afrikaans-Nederlands Language and Literature, African Studies, Anthropology, Bantu Languages, Biblical Studies, Classics, Communication, Cultural Science, Development Administration, Dramatic Art, Economics/Money and Banking, English Language and Literature, French Language and Literature, General Linguistics and Literary Theory, Geography, German Language and Literature, Greek, History, History of Art, Industrial and Personnel Psychology, Industrial Sociology, International Politics, Latin, Library and Information Science, Mathematics, Philosophy, Physical Education, Political Science, Portuguese, Psychology, Romance Languages, Semitic Languages, Social Work, Sociology, Speech and Interpretation, Theatrical Art.

Bachelor of Philosophy: B.Phil.

Admission requirement: A Bachelor's degree: Provided that Philosophy is not one of the major subjects.

Curriculum: At least two academic years. The degree course is offered at Potchefstroom and on Saturdays only.

Master of Arts: M.A.

Admission requirement: An Honns. B.A. degree.

Curriculum: The degree may only be awarded after the candidate has attended an approved course or courses of study or research or both at the University for one academic year. The examination consists of one or more question papers and a dissertation or paper in the field of the subject concerned.

The degree may be conferred in the same subjects as those mentioned under Honns. B.A., as well as in Town and Regional Planning, Fine Arts, Clinical Psychology or Counselling Psychology.

Doctor Philosophiae: D.Phil. or

Doctor Litterarum: D.Litt.

Admission requirement: A Master's degree.

Curriculum: A student must, under the supervision of the University, and for a period of at least two years, pursue an approved programme of special study or research in any approved subject.

The examination consists of at least a thesis reflecting the results of the candidate's study and research. A thesis will only be accepted if it renders a positive contribution to the knowledge and understanding of the subject and affords evidence of originality as shown either by the discovery of new facts or by the exercise of an independent critical ability.

The degree is Doctor Philosophiae in the case of graduates who have made an approved contribution to the knowledge of Philosophy, Economics, Mathematics, Geography, Nursing or any related subject, and in other cases it is Doctor Litterarum.

Should a Department regard it as necessary, a post-graduate student may be required to have such knowledge of a third modern Western language that it will enable him to study works in that language.

DIPLOMAS

Lower University Diploma in Bantuistics

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) or a Senior Certificate with an acceptable pass.

Curriculum: Three years of full-time study. The curriculum includes, inter alia, the following subjects: Anthropology, Development Administration, a Bantu language, History of the Bantu in South Africa, Bantu Law, the Bantu in the Western Civilization, Bantu Administration and Development.

University Diploma in Bantuistics

Admission requirement: An approved Bachelor's degree.

Curriculum: At least one year. A candidate selects five topics from a number of aspects of Bantuistics such as, for example, Material culture and technology; Religion and philosophy of life; Clothing, diet and housekeeping; Music; Contact with the Western Culture.

UNIVERSITY OF PRETORIA

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Bachelor of Arts (Educationis)	: B.A. (Ed.)
Bachelor of Arts (Educationis) (Senior Primary)	: B.A. (Ed.) (Senior Primary)
Bachelor of Arts (Educationis) (Junior Primary)	: B.A. (Ed.) (Junior Primary)
Bachelor of Arts (Educationis) (Pre-Primary)	: B.A. (Ed.) (Pre-Primary)
Bachelor of Arts (Honours)	: B.A. (Hons.)
Master of Arts	: M.A.
Master of Arts in Clinical Psychology	: M.A. (Clinical Psychology)
Master of Arts in Counselling Psychology	: M.A. (Counselling Psychology)
Doctor of Literature	: D.Litt.
Doctor of Philosophy	: D.Phil.

Diploma

Post-graduate Diploma in Museology

DEGREES

Bachelor of Arts: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: - A candidate must have obtained a pass in at least two of the following subjects on the Higher Grade: History, Geography, Mathematics, Biblical Studies, Economics, Biology or Physiology, Physical Science, a third language: On the understanding that a pass in a third language on the Standard Grade may be accepted if offered on the Standard Grade only.

- A candidate may not be admitted to the German IA course unless he has obtained a pass in German in the Matriculation or Standard 10 examination or has passed in German IB.

- A candidate may not be admitted to the French IA course unless he has obtained a pass in French in the Matriculation or Standard 10 examination or has passed in French IB.

- A candidate may not be admitted to the English IA course unless he has obtained at least 50 per cent in English on the Standard Grade or has passed in English on the Higher Grade.

Curriculum: Three years. The curriculum, which must include at least ten courses, is compiled from courses in the following subjects:

GROUP I

Afrikaans, English, French, German, Greek, Hebrew or another Semitic language, Latin, Sotho, Zulu.

GROUP II

Afrikaans and Netherlands Cultural History, Anthropology, Applied Anthropology (Native administration and development), Archaeology, Biblical Studies, Criminology, Dramatic Art, Economics, Geography, Historical Pedagogics, History, History of Art, History of Music, Information Science, International Politics, Librarianship, Linguistics, Mathematical Statistics, Mathematics, Pedagogics, Philosophy, Physical Education, Political Science, Psychology, Public Administration, Social Work, Sociology.

GROUP III

Bantu Law, Constitutional and Administrative Law, Criminal Law, Interpretation of Statutes, Jurisprudence, Philosophy of Law, Public International Law, Roman-Dutch Law, Roman Law.

GROUP IV

Applied Mathematics, Biology, Botany, Chemistry, Geology, Physics, Physiology, Zoology.

At least one course must be selected from Groups I and II respectively; not more than seven courses may be selected from Group III, and not more than two courses from Group IV.

In addition to the two major subjects, each candidate must select at least one more subject with at least two courses.

A candidate who selects a third course in a language must offer at least two other language courses.

In view of the fact that a reading knowledge of German and/or French is essential for post-graduate study, it is recommended that candidates who wish to continue their studies should include German I or French I.

Bachelor of Arts (Educationis): B.A. (Ed.)

Admission requirements: As for the B.A. degree.

Curriculum: Four years of full-time study. In order to comply with the requirements for the recognition of degrees for teaching purposes a candidate must take

- at least one recognised school subject up to third-year level and one other recognised school subject up to second-year level; or
- at least two recognised school subjects up to second-year level and at least one other school subject at first-year level; or
- at least one recognised school subject up to third-year level and two other recognised school subjects at first-year level.

Candidates must include at least one course in Afrikaans and one in English in their studies.

The following recognised school subjects are offered in this Faculty:

Afrikaans, Applied Mathematics, Biblical Studies, Biology, Economics, English, French, Geography, German, Greek, Hebrew, History, Latin, Mathematics, Physical Education, Psychology, Sociology, Sotho, Zulu.

The curriculum includes, inter alia, at least two third-year courses; Art or Librarianship or School Music; Pedagogics III; School Organisation and Administration; School Practice.

The above-mentioned also applies to B.A. (Ed.) (Senior Primary) and B.A. (Ed.) (Junior Primary).

Also see pp. 124, 125.

Bachelor of Arts (Educationis) (Pre-Primary): B.A. (Ed.) (Pre-Primary)

Admission requirements: As for the B.A. degree.

Additional requirements: A candidate must sit for a practical test at the beginning of the first year of study at the Faculty of Education in order to ascertain whether her instrumental skill (piano) justifies her admission to the course in Infant Music: On the understanding that a candidate who does not command such a skill must receive and pass in music instruction (piano) under supervision of the Faculty of Education before obtaining admission to the course in Infant Music.

Curriculum: Four years of full-time study. The first three years of study are the same as that for the B.A. (Ed.). A selection will be made at the end of the third year and a maximum of 40 candidates will be admitted to the fourth year of study. The subjects for the fourth year are, *inter alia*, Infant Didactics, Infant Health Care, Infant Literature, Art, Pedagogics III, Infant Music, School Practice.

Also see p.125.

Bachelor of Arts (Honours): B.A. (Hons.)

Admission requirement: A Bachelor's degree.

A candidate must satisfy the head of the department concerned that he has sufficient knowledge of the subject to be able to undertake the work for the degree.

Curriculum: One year.

The degree may be awarded in the following subjects:

Afrikaans, Afrikaans and Netherlands Cultural History, Anthropology, Applied Anthropology, Archaeology, Bantu Languages, Biblical Studies, Criminology, Dramatic Art, Economics, English, French, Geography, German, Greek, History, History of Art, International Politics, Latin, Linguistics, Mathematical Statistics, Mathematics, Philosophy, Political Science, Psychology, Public Administration, Semitic Languages, Sociology.

A candidate may not present himself for the examination more than twice without the permission of the Senate.

Master of Arts: M.A.

Admission requirement: A B.A. (Hons.) degree.

Curriculum: A candidate must be registered for the Master's degree for at least one year. A candidate may, however, submit his dissertation for examination before the year of registration has expired.

The Master's degree is conferred in the same fields of study as those for the B.A. (Hons.) degree.

Master of Arts in Clinical Psychology: M.A. (Clinical Psychology)

Admission requirement: A B.A. (Hons.) degree in Psychology.

Curriculum: The curriculum extends over two years and consists of one year of full-time class attendance and practical work with one further year of full-time internship at an institution approved for the purpose by the South African Medical and Dental Council and the presentation of a dissertation.

Master of Arts in Counselling Psychology: M.A. (Counselling Psychology)

Admission requirement: A B.A. (Hons.) degree in Psychology.

Curriculum: The degree may be awarded after one year of full-time class attendance and practical work or two years of part-time class attendance and practical work with, at least one further year of full-time internship at an approved institution or institutions and the presentation of a dissertation which deals with a subject applicable to Counselling Psychology.

Doctor of Literature: D.Litt. or

Doctor of Philosophy: D.Phil.

Admission requirement: A Master's degree.

Curriculum: The degree is awarded on the grounds of a thesis and an examination on the thesis. A Doctor's degree may be conferred at least four years after all the requirements for the Bachelor's degree have been fulfilled or at least two years after all the requirements for the Master's degree have been fulfilled.

When a thesis deals with a subject from Linguistics and/or Literature the title of the degree is D.Litt. and in all other cases the title is D.Phil.

DIPLOMA

Diploma in Museology

Admission requirements: A Bachelor's degree with a pass in one of the following courses: Afrikaans and Netherlands Cultural History III, History III, History of Art III, Anthropology III, Archaeology II, Botany III, Zoology III, Entomology III, Geology III; or such knowledge of another appropriate subject which in the opinion of the head of the Department of Afrikaans and Netherlands Cultural History justifies admission to the course.

Curriculum: One year of full-time study or eighteen months of part-time study. The curriculum comprises: Museology with specialisation with a view to one of the following endorsements: Cultural-historical, Natural Science, Art; and a written assignment.

R A N D A F R I K A A N S U N I V E R S I T Y

FACULTY OF ARTS

Degrees

Bachelor of Arts:	: B.A.
Bachelor of Arts (Education)	: B.A. (Ed.)
Bachelor of Arts with Honours	: B.A. Hons.
Master of Arts	: M.A.
Doctor of Literature and Philosophy	: D.Litt. et Phil.

Diploma

Diploma in Development Studies

DEGREES

Bachelor of Arts: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional admission requirements to courses

- German I, French I, Latin I: A pass (40 per cent) in the corresponding Standard 10 subject on the Higher Grade; or a pass in the special course in the language concerned at the University.

- Mathematics: A pass of at least 40 per cent on the Higher Grade. Candidates who have passed Mathematics on the Standard Grade will only in exceptional cases, be admitted to the course in Mathematics after a test set by the Department of Mathematics has been passed.

Curriculum: Three years' full-time study or at least four years' part-time study. A curriculum comprises 20 or 22 semester courses, or the equivalent thereof in year courses.

The degree is offered in each of the following Curriculum Groups: Admission, African and Development Studies, General, Library Science and Informatics, Human Sciences, Communication, Social Work, Teacher Training, Law, Political Sciences, Languages.

A student registers for a Bachelor's degree in a certain curriculum group and his registration and course changes must be approved by the chairman of the curriculum group.

A student must select courses for the degree from the following subjects:

Administrative Law, African History, Afrikaans-Nederlands, Practical Afrikaans, Anthropology, Arabic, Bantu and Native Law, Biblical Instruction, Biblical Studies, Biology, Communication, Computer Science, Constitutional Law, Demography (post-graduate only), Development Administration, Economics, Education, English, Practical English, Ethics,

French, French Special, General Linguistics, General Literary Theory, Geography, Geology, German, German Special, Greek, Greek Cultural History, Hebrew, History, History of Art, Interpretation of Statuteš, Italian, Latin, Latin Special, Law of Persons and Family Law, Library Science I and II, Logic, Mathematical Statistics, Mathematics, Northern Sotho, Philosophy, Physics, Political Science, Private Law, Psychology, Public International Law, Roman Law, Social Work, Sociology, Southern Sotho, Statistical Methods A, Teaching Practice, Zulu.

Only one practical and one special language course are recognised as part of a curriculum for degree purposes.

Various prerequisites and compulsory ancillary subjects apply to specific courses, e.g. Statistical Methods A is a prerequisite ancillary subject for Psychology III B.

A curriculum consists of either two primary major subjects or one primary plus two secondary major subjects. One reinforced major subject may be taken instead of a primary major subject. A primary major subject consists of six semester courses of which at least two must be taken at each year level. A secondary major subject consists of at least three semester courses of which at least one semester course must be taken at each year level. A reinforced major subject consists of seven or eight semester courses of which at least two must be at the third-year level.

The semester course comprising Theory of Science A and Theory of Science B is a compulsory additional semester course to first degree curricula in the Faculties of Arts, Science, Economic and Management Sciences, Education and Law.

Bachelor of Arts (Education): B.A. (Ed.)

Admission requirements: As for the B.A. degree.

Curriculum: The curriculum is a four-year integrated academic and professional degree curriculum which fulfils all the requirements for a B.A. degree as well as the requirements laid down by the Committee of Heads of Education for the training of teachers for secondary schools.

The curriculum consists of at least 29 semester courses, besides Biblical Instruction, and is compiled as follows: Education I, II and III; Subject Didactics in two school subjects; Teaching Practice; 18 semester courses, including two major subjects and selected according to the regulations of a Curriculum Group of the Faculty; Biblical Instruction.

The curriculum consists of three major subjects (Education and two others) of which two must be passed simultaneously.

A prescribed period of practical teaching and experience must be completed in approved schools and educational libraries during the period of study.

A student who has obtained the B.A. (Ed.) degree is qualified to apply for admission to post-graduate study for the B.A. Hons. and/or B.Ed degrees.

Also see p.125.

Bachelor of Arts with Honours: B.A. Hons.

Admission requirements: A student must hold the Bachelor's degree and have passed in the subject concerned at the level of a primary major subject.

Curriculum: Two semesters of full-time study or four semesters of part-time study.

The examination consists of at least four and not more than six three-hour papers. A student who fails an Honours examination may only present himself for re-examination with the special permission of the Faculty.

Master of Arts: M.A.

Admission requirement: A student must have obtained the Honours Bachelor degree in the subject concerned.

Curriculum: Two semesters of full-time study or four semesters of part-time study. Study for a Master's degree in Clinical Psychology extends over two academic years and is offered on a full-time basis only.

A dissertation or a paper with a study report is required.

In cases where an examination and a paper are required, the examination part and the paper must be completed within twelve months of each other.

A student who fails a Master's examination may only present himself for a second time with the special permission of the faculty.

Doctor of Literature and Philosophy: D.Litt et Phil.

Admission requirement: A student must have obtained a Master's degree in the subject concerned.

Curriculum: At least two years' full-time study or at least four years' part-time study. The full-time student must undertake at least two years of full-time research at the university or an approved institution. The examination consists of the submission of a thesis which must be an original contribution to the knowledge and understanding of the subject. The student must have sufficient knowledge of his research topic as well as of those fields which have a bearing on the topic.

DIPLOMA

Diploma in Development Studies

Admission requirement: A Senior Certificate with an acceptable pass mark.

Curriculum: Two years. The curriculum includes, *inter alia*, the following courses: Development Administration I and II and one of the following: Economics II, four semesters of Sociology, Anthropology II. Any two further semester courses from the following: Bantu and Native Law I, Communication I, two semesters of Political Science.

R H O D E S U N I V E R S I T Y

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Bachelor of Arts with Honours	: B.A. (Hons.)
Master of Arts	: M.A.
Doctor of Philosophy	: Ph.D.
Doctor of Literature	: D.Litt.

DEGREES

Bachelor of Arts: B.A.

The degree of Bachelor of Arts may be awarded either as an ordinary degree or as an Honours degree.

The ordinary degree

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

- In Latin, Greek, French, German, Hebrew, Italian and the African languages, candidates who have not matriculated in these subjects may take an introductory course. If a sufficiently high standard is reached in the examination, the candidates may be permitted to proceed direct to the second course in that language.

- A candidate may not take any course in English, Afrikaans or Afrikaans/Nederlands unless he has obtained a matriculation pass in that subject in either First or Second Language Higher Grade.

Curriculum: Three years. A candidate for the ordinary degree must obtain credit in not less than ten courses; he may present himself for examination in not more than four of these in the first year of study, not more than four in the second year of study, and not more than two in the final year of study.

* Indicates subjects which may only be taken as first-year courses for the B.A. degree.
A candidate may present himself for examination in the following subjects:

GROUP A

Afrikaans, Afrikaans/Nederlands, English, French, German, Greek, Hebrew, Italian, Latin, Shona, Southern Sotho, Translation *, Xhosa, any other approved African language.

GROUP B

Customary Law, Legal Theory.

GROUP C

Anthropology, Economics, Economics of Agriculture, Industrial Sociology, Linguistics, Philosophy, Political Studies (African), Politics, Psychology, Social Work *, Sociology.

GROUP D

Economic Geography, Economic History, General History of Art, Geography, History, History and Appreciation of Music, Principles of Classical Culture.

GROUP E

Biblical Studies, Ecclesiastical History, Judaica, Introduction to the Study of Religion, Systematic Theology.

GROUP F

Mathematics, Mathematical Statistics, Statistics.

GROUP G

Drama Practice, Fine Art Practice, Fine Art Studies, Journalism *, Music, Musical Education, Physical Education *, Speech and Drama, Visual Communication.

GROUP H

Biological Science, Chemistry, Computing and Applied Mathematics, Geology, Physics.

A candidate must obtain credit in all the required courses in at least two subjects, to be known as major subjects, which shall be selected from the following:

(a) Major subjects in which three courses are required:

Afrikaans/Nederlands, Anthropology, Biblical Studies, Economics, English, Fine Art Studies, French, Geography, German, Greek, Hebrew, History, Latin, Legal Theory, Mathematics, Music, Philosophy, Political Studies (African), Politics, Psychology, Sociology, Southern Sotho, Speech and Drama, Xhosa, another approved African language.

(b) Major subjects in which two courses are required:

Ecclesiastical History, Economic History, Economics of Agriculture, Linguistics, Mathematical Statistics, Systematic Theology.

Two African languages may not be offered as the only two major subjects; and Politics and Political Studies (African) may not be offered as the two major subjects.

A candidate must select his course from at least two of the aforementioned groups: Provided that a candidate who selects one of his major subjects from Group E may, as an alternative to Sociology I, include in his curriculum one course in Pastoral Work (taken in the Faculty of Divinity).

A candidate who takes a major subject from Group A must also obtain credit in at least one other course from that Group, or Linguistics or Principles of Classical Culture or Speech and Drama, except in the case of candidates majoring in an African language, who may take Anthropology instead of Principles of Classical Culture.

The Honours degree: B.A. (Hons.)

Admission requirement: A B.A. degree or the status thereof.

Curriculum: A candidate must attend the University for not less than one academic year and pursue a course of study in his chosen subject.

The Honours degree may be taken in any subject or combination of subjects approved by the Senate. The subjects are as follows: African Languages, Afrikaans/Nederlands, Anthropology, Biblical Studies (Old Testament or New Testament), Classics, Ecclesiastical History, Economic History, Economics, English, French, Geography, German, Greek, History, Journalism, Latin, Linguistics, Mathematical Statistics, Mathematics, Philosophy, Physical Education, Political Studies (African), Politics and Economics, Politics, Psychology, Sociology, Speech and Drama, Systematic Theology, a combination of any two approved languages, or a combination of English and History, or a combination of Linguistics and Anthropology.

As an alternative a candidate may be admitted to the course for the Honours degree from the beginning of the third year of study for the ordinary degree. A candidate attends the University for a further period of not less than two academic years and complies with such further requirements as may be prescribed by the Senate.

A candidate who has been awarded the ordinary degree may be admitted to a two-year course to take the Honours and the Master's degree concurrently. At the end of this period, he shall write the full Honours examination, and if successful may submit his Master's thesis at any subsequent date without further attendance requirements.

Master of Arts: M.A.

Admission requirement: A B.A. (Hons.) degree.

Curriculum: A candidate must attend an approved course of study or research at the University for one year.

The examination consists of a thesis on a subject approved in advance by the Head of the Department concerned, and/or such written or oral examination as may be prescribed by the Department concerned.

Doctor of Philosophy: Ph.D.

Admission requirements: A candidate will not be admitted to the degree until at least three years after admission to the degree or status of Bachelor with Honours, or until at least two years after admission to the degree of Master.

Curriculum: A candidate must attend an approved course of special study or research at the University for the period prescribed in the previous paragraph.

A candidate must submit a dissertation on the results of his special study or research.

Doctor of Literature: D.Litt.

Admission requirements: A candidate will not be admitted to the degree until at least five years after admission to the degree or status of Bachelor with Honours, or until at least four years after admission to the degree of Master.

Curriculum: A candidate must submit, for the approval of the Senate, six copies of published work dealing with some subject falling within the scope of the studies represented in the University.

UNIVERSITY OF SOUTH AFRICA

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Honours Bachelor of Arts	: Hons. B.A.
Master of Arts	: M.A.
Master of Arts in Clinical Psychology	: M.A. (Clinical Psychology)
Master of Arts in Counselling Psychology	: M.A. (Counselling Psychology)
Doctor of Literature and Philosophy	: D.Litt. et Phil.

Diploma

Diploma in Bantu Studies

DEGREES

Bachelor of Arts: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: For admission to a first degree course in any language except English, Afrikaans, Hellenistic Greek and Arabic a pass is required in the corresponding language either on the Higher Grade or on the Standard Grade.

Curriculum: The curriculum extends over at least three years and consists of at least ten courses divided as follows:

- First year : a maximum of five
- Second year : a maximum of four
- Third year : a maximum of three

The curriculum consists of courses in the following subjects:

GROUP A

Note: Subjects marked with an asterisk * are one-year courses.

(i) Afrikaans en Nederlands, Arabic, Classical Hebrew, English, French, German, Greek, Hellenistic Greek, Italian, Latin, Linguistics, Modern Hebrew, Ndonga, Northern Sotho, Portuguese, Practical Afrikaans*, Practical English*, Russian, Southern Sotho, Spanish, Tsonga, Tswana, Venda, Xhosa, Zulu.

In most of these languages one-year Special Courses are offered which are recognized as full degree courses, but a student may not offer more than one special language course.

(ii) African Development Administration, African Politics, Ancient History, Anthropology, Biblical Archaeology, Communication, Computer Science*, Criminology, Economic History*, Economics, Education, Geography, History, History of Art, History of Music, Information Systems*, International Politics, Judaica, Logic, Mathematics, Penology, Philosophy, Political Science, Principles of Greek Culture*, Psychology, Public Administration, Sociology, South African Bantu Administration*, South African Archaeology, Statistics.

GROUP B

Biblical Studies, Biology*, Church History, Constitutional Law, Criminal Law, History of Law*, Introduction to the Theory of Law*, Private Law, Public International Law*, Roman Law, Science of Religion*, South African Bantu and Native Law, Systematic Theology.

Each curriculum must contain at least two major subjects. Major subjects must be chosen from the following:

(a) Major subjects with three courses:

Afrikaans en Nederlands, African Development Administration, Anthropology, Arabic, Biblical Studies, Church History, Classical Hebrew, Communication, Criminology, Economics, Education, English, French, Geography, German, Greek, History, History of Art, History of Music, Italian, Latin, Linguistics, Logic, Mathematics, Modern Hebrew, Northern Sotho, Penology, Philosophy, Political Science, Portuguese, Private Law, Psychology, Public Administration, Russian, Sociology, Southern Sotho, Spanish, Systematic Theology, Tsonga, Tswana, Venda, Xhosa, Zulu.

(b) Major subjects with two courses:

African Politics, International Politics, Judaica, Roman Law,

For certain subjects there are compulsory ancillary subjects and/or other requirements.

Honours Bachelor of Arts: Hons. B.A.

Admission requirement: A B.A. degree. Some departments have specific admission and examination requirements.

Curriculum: No student is admitted to the examination unless he has followed an approved course for at least one year.

The degree may be conferred in the following departments:

African Languages, Afrikaans en Nederlands Language and Literature, Anthropology, Arabic, Biblical Studies, Classical Hebrew, Classics, Communication, Criminology, Development Administration and Politics, Economics, English Language and Literature, French Language and Literature, Geography, German Language and Literature, Greek, History, History of Art, International Politics, Italian Language and Literature, Judaica, Latin, Linguistics, Mathematics, Modern Hebrew, Philosophy, Political Science, Psychology, Public Administration, Russian, Sociology, Strategic Studies.

Master of Arts: M.A.

Admission requirement: The degree of Honours Bachelor of Arts.

Curriculum: The degree may not be awarded until at least two years after completion of the Bachelor's degree.

The degree may be conferred in the same departments as the Honours Bachelor's degree. The examination consists of a dissertation on an approved subject.

Master of Arts in Clinical Psychology: M.A. (Clinical Psychology)

Admission requirement: The degree of Honours Bachelor of Arts in Psychology.

Curriculum: Two years. The course comprises a theoretical and a practical part as well as a dissertation.

Upon completion of the course prospective candidates may apply for a one-year internship at various hospitals. A one-year internship is a prerequisite for those who intend to register as clinical psychologists with the SA Medical and Dental Council.

Master of Arts in Counselling Psychology: M.A. (Counselling Psychology)

Admission requirement: The degree of Honours Bachelor of Arts in Psychology.

Curriculum: Two years. The course embraces a theoretical and a practical section as well as a dissertation.

In order to be registered as a counselling psychologist with the South African Medical and Dental Council, an internship must also be completed at an approved institution.

Doctor of Literature and Philosophy: D.Litt. et Phil.

Admission requirements: A candidate must have obtained the Master's degree and have given satisfactory proof of his proficiency in the field of study selected.

Curriculum: A thesis deals with a topic in a subject in which the Master's degree was taken and may not be submitted for examination until two years after completion of the M.A.

DIPLOMA

Diploma in Bantu Studies

Admission requirement: A Senior Certificate.

Curriculum: The curriculum consists of eight courses and extends over at least two years. (i) Four courses are chosen from the following: An African language I and II, Anthropology I and II, African Development Administration I and either African Development Administration II A or II B (Urban African Administration) or African Politics I. (ii) One course in one of the aforementioned subjects if not already taken. (iii) Three courses are chosen from subjects such as Economics I, Private Law, Sociology, Political Science, Constitutional Law, Anthropology II (if not already taken).

UNIVERSITY OF STELLENBOSCH

FACULTY OF ARTS

Degrees

Bachelor of Arts

: B.A.

Honours Bachelor of Arts

: B.A. Hons.

Master of Arts : M.A.
M.A. (Clinical Psychology)
M.A. (Counselling Psychology)
Doctor Litterarum : D.Litt.
Doctor Philosophiae : D.Phil.

Diplomas

Post-graduate Diploma in Counselling Psychology
Post-graduate Professional Diploma in Museology

DEGREES

Bachelor of Arts: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). In the case of a B.A. course which includes Statistics (half course) and Mathematics (half course), a pass in Mathematics on the Standard Grade is a requirement.

Curriculum: Three years of full-time study. During the first year of study the ordinary B.A. degree course comprises five subjects of which three must be selected in such a way that they form an appropriate introduction to the rest of the course. The second year of study is limited to the three subjects already taken in the first year. The third year of study is devoted to the major subjects, i.e. those two subjects also taken during the first and second years.

The subjects for the B.A. degree are divided into the following groups:

GROUP A

Languages: Afrikaans, Afrikaans-Nederlands, English, French, German, Greek, Italian, Latin, Semitic Languages, Southern Sotho, Xhosa.

GROUP B

African Studies, Afrikaans Cultural Science and Folklore, Anthropology, Archaeology, Bantu Administration, Bantu Law, Biblical Studies, Classical Culture, Development Administration, Drama B, Economics, General Linguistics, Geography A, History, Philosophy, Political Philosophy, Political Science, Private Law, Psychology, Public Administration, Sociology.

GROUP C

(i) Drama, Fine Arts, Librarianship, Mathematics C, Music, Physical Education, Physiology B, Statistical Methods A, Statistical Methods B, Statistics. (ii) Only for the degree of B.A. (with Law subjects): Business Economics, Accounting, Roman Law.

GROUP D

Only in exceptional cases approved by the Senate, and subject to time-table possibilities is it permissible to take a subject from the Faculty of Science (apart from Mathematics and Physiology mentioned under Group C above) for the B.A. degree. Physiology, Statistics and Mathematics may be taken as first-year subjects if the time-table allows it.

All the subjects must be selected from groups A and B, except in the case mentioned above and in the case of a B.A. degree in a special field of study, e.g. B.A. in Fine Arts. The five first-year subjects must be selected from at least two of the above-mentioned groups. If the two major subjects are chosen from A, then at least one ancillary subject must be chosen from B. If the two major subjects are chosen from B or B and C, then at least one language must be selected, except in the case of B.A. in Fine Arts, B.A. with Physical Education and B.A. in Social Work. A major subject may not be chosen from Group D.

Honours Bachelor of Arts: B.A. Hons.

Admission requirements: A student must hold a Bachelor's degree and must lodge his application in writing with the Senate.

Curriculum: The prescribed course extends over at least one year after obtaining the Bachelor's degree. Students must pass in the required examination at the end of the year.

Master of Arts: M.A.

Admission requirements: A student must hold an Honours degree and must lodge his application in writing with the Senate.

Curriculum: Students attend an approved curriculum of research and/or advanced study for at least one year, after obtaining the Honours degree, at the University or at another approved place. A satisfactory dissertation must be submitted.

Advanced study in one of the major subjects for the B.A. degree is required for the B.A. Hons. and M.A. courses. The M.A. course may be taken directly after the B.A. course. The course then extends over two years and students must pursue an approved curriculum for at least two years, pass in the proscribed examination and submit a satisfactory dissertation.

M.A. (Clinical Psychology)

Admission requirement: An Honours degree with Psychology or Counselling Psychology.

Curriculum: The course extends over one academic year at the end of which a final examination is taken.

Advanced study in the following fields: Personality Psychology, Diagnostic testing, Psychopathology, Psychotherapy.

A satisfactory assignment, the topic of which is chosen in consultation with the Head of the Department.

For registration as a clinical psychologist, a full-time internship of 12 months is required at the Stikland Hospital after completion of the course.

M.A. (Counselling Psychology)

Admission requirements: Students who hold an Honours degree in Counselling Psychology and who are already employed in posts where they undertake psychological guidance.

Curriculum: As for the Post-graduate Diploma in Counselling Psychology, but at a more advanced level.

Doctor Litterarum: D.Litt. or

Doctor Philosophiae: D.Phil.

Admission requirements: A candidate must hold a Master's degree or have achieved an adequate standard of proficiency in his specific field of study through other means. Students must lodge their applications for admission in writing.

Curriculum: A student must be registered for a Doctor's degree at the University for at least two years.

A thesis is required from each candidate. The thesis must comprise original research by the candidate on one or other aspect in connection with his major subject.

An oral examination is generally required but exemption may be granted in special cases.

DIPLOMAS

Post-graduate Diploma in Counselling Psychology

Admission requirements: Graduates with Counselling Psychology III who are employed as counselling psychologists.

Curriculum: Three years of part-time study. A prescribed reading programme and assignments in the form of research projects of limited scope must be completed during every year. Candidates must attend intensive courses of two weeks each at the University, twice a year.

Post-graduate Professional Diploma in Museology

Admission requirement: A Bachelor's degree with at least one of the following subjects as a major subject: Afrikaans Cultural Science and Folklore, Archaeology, Fine Arts, Library Science, History, Classical Culture, Anthropology, Botany, Geology, Entomology or Zoology.

Curriculum: One year of full-time study. The curriculum comprises the following courses: Introduction to Museology, Museum field and techniques, Collection and Research, Educational task of museums.

Students have to gain six weeks' practical experience under the supervision of an approved museum. Two separate reports thereon must be submitted by the students and by the head of the institution.

UNIVERSITY OF THE WITWATERSRAND

FACULTY OF ARTS

Degrees

Bachelor of Arts	: B.A.
Bachelor of Arts in Education	: B.A. (Education)
Bachelor of Arts with Honours	: B.A. Hons.
Master of Arts	: M.A.
Master of Arts in Clinical Psychology	: M.A. (Clin. Psych.)
Doctor of Philosophy	: Ph.D.
Doctor of Literature	: D.Litt.

DEGREES

Bachelor of Arts: B.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: A pass on the Higher Grade in three of the following subjects: Afrikaans First Language, Art*, Bantu Language, Biology, English First Language, French, Geography, German, Hebrew, History, Latin, Mathematics, Music**, Physical Science, Physiology.

* Only for admission as a candidate for the degree of B.A. in Fine Arts.

** Only for admission as a candidate for the degree of Bachelor of Music.

Curriculum: Three years of full-time study. A student must include in his curriculum at least ten qualifying courses. A student may not include in his curriculum more than four qualifying courses in any year of study.

A student must include in his curriculum qualifying courses in subjects selected from the following: African Government I, II; Afrikaans; Afrikaans en Nederlands I, II, III; Applied Mathematics, Computer Science and Mathematical Statistics I; Archaeology I, II, III; Astronomy; Biblical and Religious Studies I, II, III; Botany I; Chemistry I; Classical Life and Thought I, II, III; Economic History I, II, III; Economics I, II, III; English I, II, III; Fine Art I, II, III; French Preliminary, I, II, III; General Biology; Genetics for Arts students; Geography I, II, III; German IB, IA, II, III, Additional; Geology I; Greek I, II, III; Hebrew Prelim., I, II, III; History I, II, III; History and Appreciation of Music; History of Art I, II, III; History of Drama I, II; History of Music I, II, III; Industrial Sociology I, II; International Relations I, II; Italian IB, IA, II, III; Latin Prelim., I, II, III; Legal Theory and Institutions I, IIA or B, IIIA, B, C or D; Mathematical Statistics II, III; Mathematics I, I Special, II, II Ancillary, III, III Teaching; Painting Techniques; Philosophy I, II, III; Phonetics and Linguistics - Phonetics and Linguistics I, Phonetics II, III, Linguistics II, III; Physics I; Political Science I, II, III; Portuguese IB, IA, II, III; Psychology I, II, III; Russian IB, IA, II, III; Social Anthropology I, II, III; Sociology I, II, III; Southern Sotho I, II, III; Zoology I; Zulu I, II, III.

A student must include in his curriculum either the third course in each of two subjects selected from the above, or the third course in one subject selected from the above list and the second course in each of two subjects selected from all the other subjects in the list.

A third course is one denoted by the numeral III and a second course is denoted by the numeral II.

There are special restrictions on admission and credit; e.g. a student shall not be admitted (i) to both Afrikaans and Afrikaans en Nederlands I, (ii) to Fine Art I, unless he has obtained credit in or takes concurrently History of Art I, (iii) to a third course in more than one of the Bantu languages.

A candidate may not include in his curriculum more than one of the following qualifying courses: Astronomy, Botany, Chemistry, General Biology, Genetics for Arts students, Geology, Physics, Zoology.

Bachelor of Arts in Education: B.A. (Education).

Admission requirements: As for the B.A. degree.

Curriculum: Four years of full-time study. The first three years of study are similar to that for the B.A. degree with the addition of Education I and II Part I. The fourth year of study includes, *inter alia*, the following courses: Education III; courses in the methodology of an approved teaching subject in which the student has obtained credit in the third course, and of an approved teaching subject in which he has obtained credit in at least the second course; advanced study in a subject in which the student has completed the third course; practical teaching for nine weeks.

See also p.131.

Bachelor of Arts with Honours: B.A. Hons.

Admission requirements: A candidate must have obtained credit in all the qualifying courses prescribed for the Bachelor's degree.

Curriculum: One academic year of full-time study or two academic years of part-time study. The degree may be obtained in one of the following subjects or an approved combination of two such subjects:

African Government, African Languages and Linguistics, Afrikaans en Nederlands Language and Literature, Ancient History, Applied Linguistics, Archaeology, Biblical and Religious Studies (Scripture), Biblical and Religious Studies (History and Philosophy of Religions), Classics, Comparative Literature, Comparative Linguistics, Comparative Philology, Development Studies, Economic History, Economics, English Language and Literature, Fine Art, French Language and Literature, Geography, German Language and Literature, Greek, Hebrew, History, History and Philosophy of Science, History of Art, History of Drama, History of Music, Industrial Sociology, International Relations, Italian Language and Literature, Latin, Linguistics, Mathematical Statistics, Mathematics, Philosophy, Philosophy of Science and History of Technology, Phonetics, Political Science, Portuguese Language and Literature, Psychology, Russian Language and Literature, Social Anthropology, Social Theory, Sociology.

The examination at the end of the course is known as the Honours examination and no candidate may repeat an Honours examination.

Master of Arts: M.A.

Admission requirements: A B.A. Hons. degree. A candidate must lodge his application in writing with the Registrar, submitting evidence of his academic and general qualifications and indicating the line of research he wishes to prosecute.

Curriculum: A candidate for the degree must prosecute, for at least one academic year, advanced study or research or both, under the guidance of a supervisor appointed by the Senate.

A candidate must present a dissertation on an approved subject. A candidate may be required to present himself for an examination or test in regard to the subject of his dissertation.

Master of Arts in Clinical Psychology: M.A. (Clin. Psych.)

Admission requirement: A B.A. Hons. degree in Psychology or a B.Sc. Hons. in Psychology.

Curriculum: A candidate for the degree must prosecute for at least two academic years, such full-time advanced study and clinical training as may be determined by the Senate, and also research under the guidance of a supervisor appointed by the Senate.

A candidate must not submit his dissertation for examination until the Senate is satisfied that he has attained a satisfactory standard in his advanced study and clinical training. See also M.A. above.

Doctor of Philosophy: Ph.D.

Admission requirements: An M.A. degree. A candidate must lodge his application in writing with the Registrar, submitting evidence of his academic and general qualifications and indicating the line of research which he wishes to prosecute.

Curriculum: A candidate must prosecute, during at least two academic years, full-time research in the University under the guidance of a supervisor appointed by the Senate. A candidate may be required to attend advanced courses of instruction. A candidate must present a thesis which must constitute a substantial contribution to the advancement of knowledge in the subject chosen. A candidate may be required to present himself for an examination or test, oral or written.

Doctor of Literature: D.Litt.

Admission requirements: A candidate must have held the degree of Bachelor of Arts with Honours for at least five years; or the degree of Master of Arts for at least four years; or the degree of Doctor of Philosophy for at least two years.

Curriculum: A candidate must present for the approval of the Senate at least five copies of original published work, or original work accepted for publication, in an approved field. The work must constitute a distinguished contribution to the advancement of knowledge in that field.

SUBJECTS FOR B.A. (GENERAL) OFFERED IN THE FACULTIES OF ARTS

Note: Consult Chapter 6 for subjects in the vocationally oriented courses.

Administrative Law: RAU	Bantu Law and Administration: UOFS
African Civil Law: UN	Biblical and Religious Studies: UW
African Customary Law: UCT	Biblical Archaeology: Unisa
African Development Administration: Unisa	Biblical Instruction: RAU
African Economic History: UCT	Biblical Studies: UN, UOFS, UPE, PU for
African Government: UW	CHE, UP, RAU, Rhodes, Unisa, US
African History: UCT, RAU	Biological Science: Rhodes
African Languages: All the universities	Biology: UN, UOFS, UP, RAU, Unisa
African Politics: Unisa	Biology in Human Affairs: UN
African Studies: US	Biometry: UN
Afrikaans: UCT, UN, UPE, PU for CHE, UP,	Biometry and Introduction to Computer
RAU, Rhodes, US, UW	Science: UN
Afrikaans and Netherlands Cultural	Botany: UCT, UN, UOFS, UP, UW
History: UP	Business Economics: UPE
Afrikaans Cultural Science and Folklore: US	Chemistry: UCT, UN, UOFS, UP, Rhodes, UW
Afrikaans en Nederlands: All the universi=	Church History: Unisa
ties except UP	Classical Civilization: UN
Ancient Cultural History: PU for CHE	Classical Culture: UPE, US
Ancient History: UCT, Unisa	Classical Hebrew: UCT, UN, Unisa
Anthropology: UOFS, UPE, PU for CHE, UP,	Classical Life and Thought: UW
RAU, Rhodes, Unisa, US	Communication: PU for CHE, RAU, Unisa
Applied Anthropology: UOFS, UP	Comparative African Government and Admini=
Applied Mathematics: UCT, UN, UOFS, UP	stration: UN
Applied Mathematics, Computer Science	Comparative African Government and Law: UCT
and Mathematical Statistics: UW	Computational and Statistical Applied
Arabic: RAU, Unisa	Mathematics: UCT
Archaeology: UCT, UP, US, UW	Computer Science: UCT, UN, UPE, RAU,
Astronomy: UW	Unisa
Bantu Administration: US	Computing and Applied Mathematics: Rhodes
Bantu and Native Law: RAU	Constitutional and Administrative Law:
Bantu Law: UN, PU for CHE, UP, US	UOFS, UP

Constitutional Law: UCT, UN, PU for CHE, UP, RAU, Unisa
 Criminal Law: UP, Unisa
 Criminal Law and Procedure: UN
 Criminology: UOFS, PU for CHE, UP, Unisa
 Cultural History of Western Europe: UCT
 Cultural Science: PU for CHE
 Customary Law: Rhodes
 Development Administration: PU for CHE, RAU, US
 Drama/Dramatic Art: UCT, PU for CHE, UP, US
 Drama Practice: Rhodes
 Ecclesiastical History: Rhodes
 Economic Geography: Rhodes
 Economic History: UCT, UN, UPE, PU for CHE, Rhodes, Unisa, UW
 Economics: All the universities
 Economics of Agriculture: Rhodes
 Economics of Underdeveloped Regions: UN
 Education/Pedagogy: UPE, UP, RAU, Unisa
 English: All the universities
 Ethics: PU for CHE, RAU
 Fine Art: UN, UW
 Fine Art Practice: Rhodes
 Fine Art Studies: Rhodes
 French: All the universities
 General Biology: UW
 General History of Art: Rhodes
 General Linguistics: UOFS, UPE, RAU, US
 General Literary Theory: UOFS, UPE, RAU
 General Literary Theory and Linguistics: UPE, PU for CHE
 Genetics for Arts students: UW
 Geography: All the universities
 Geology: UCT, UN, UP, RAU, Rhodes, UW
 German: All the universities
 Greek: All the universities
 Greek and Roman Literature and Philosophy: UCT
 Greek Cultural History: RAU
 Harmony and Counterpoint: PU for CHE
 Hebrew: UCT, UN, UOFS, UP, RAU, Rhodes, UW
 Hebrew Culture: UCT
 Hellenistic Greek: Unisa
 Historical Pedagogy: UP
 History: All the universities
 History and Appreciation of Music: UCT, PU for CHE, Rhodes, UW
 History and Philosophy of Science: UCT
 History of Africa from Pre-literate Times: UN
 History of Art: UCT, UN, UOFS, PU for CHE, UP, RAU, Unisa, UW
 History of Drama: UW
 History of Law: Unisa
 History of Music: UPE, PU for CHE, UP, Unisa, UW
 Human Biology: UCT
 Industrial and Organizational Psychology: UPE
 Industrial and Personnel Psychology: PU for CHE
 Industrial Sociology: PU for CHE, Rhodes, UW
 Information Science: UP
 Information Systems: Unisa
 International Politics: PU for CHE, UP, Unisa
 International Relations: UW
 Interpretation of Statutes: UP, RAU
 Introduction to Legal Science and History of Law: UPE
 Introduction to South African Law: UN
 Introduction to the Study of Religion: Rhodes
 Introduction to the Theory of Law: Unisa
 Italian: UCT, PU for CHE, RAU, Rhodes, Unisa, US, UW
 Jewish Studies: UN
 Journalism: Rhodes
 Judaica: Rhodes, Unisa
 Jurisprudence: UCT, UP
 Jurisprudence and Interpretation of Statutes: PU for CHE
 Latin: All the universities
 Law of Persons and Family Law: RAU
 Legal Theory: Rhodes
 Legal Theory and Institutions: UW
 Library and Information Science: PU for CHE
 Library Science: UP, RAU
 Linguistics: UP, Rhodes, Unisa, UW
 Logic: RAU, Unisa
 Mathematical Statistics: UN, UPE, UP, RAU, Rhodes, UW
 Mathematics: All the universities
 Modern Hebrew: Unisa
 Money and Banking: PU for CHE
 Music: UN, Rhodes
 Music and Social Anthropology: UN
 Musical Education: Rhodes
 Ndonga (SWA): Unisa
 Netherlands: UPE
 Northern Sotho: PU for CHE, RAU, Unisa
 Painting Techniques: UW
 Pedagogy/Education: UPE, UP, RAU, Unisa
 Penology: Unisa
 Philosophy: All the universities
 Philosophy of Law: UP
 Phonetics: UW
 Physical Education: PU for CHE, UP, Rhodes
 Physics: UCT, UN, UOFS, UP, RAU, Rhodes, UW
 Physiology: UCT, PU for CHE, UP
 The Political Economy of Southern Africa: UN
 Political Philosophy: US
 Political Science: All the universities except Rhodes
 Political Studies (Africa): Rhodes
 Politics: Rhodes
 Population and Labour: UN
 Portuguese: PU for CHE, Unisa, UW
 Practical Music: PU for CHE
 Prehistory of Southern Africa: UN
 Principles and Practice of Fine Art: UN
 Principles of Classical Culture: Rhodes
 Principles of Greek Culture: Unisa
 Principles of Interpretation of Statutes and Administrative Law: UPE
 Private Law: UOFS, UPE, PU for CHE, RAU, Unisa, US

Psychology: All the universities
 Psychology (Counselling): UOFS
 Public Administration: UCT, UPE, PU for CHE,
 UP, Unisa, US
 Public International Law: UCT, UN, UP, RAU,
 Unisa
 Religious Studies: UCT
 Roman-Dutch Law: UCT, UP
 Roman Law: UN, PU for CHE, UP, RAU, Unisa
 Roman Law and History of Law: UOFS
 Roman Law and Jurisprudence: UCT
 Russian: Unisa, UW
 Science of Religion: Unisa
 Semitica/Semitic Languages: UPE, PU for CHE,
 UP, US
 Shona: UCT, Rhodes
 Social Anthropology: UCT, UN, UW
 Social Work: UOFS, UPE, PU for CHE, UP, RAU,
 Rhodes
 Sociology: All the universities
 Sotho: UP
 South African Archaeology: Unisa
 South African Bantu Administration: Unisa
 South African Bantu and Native Law: Unisa

Southern Sotho: All the universities
 except UP
 Spanish: Unisa
 Speech and Drama: UN, Rhodes
 Speech and Interpretation: PU for CHE
 Statistical Methods: UPE, PU for CHE, RAU
 Statistics: UCT, UN, Rhodes, Unisa
 Statistics and Introduction to Computer
 Science: UN
 Systematic Theology: Rhodes, Unisa
 Teaching Practice: RAU
 Theatrical Art: PU for CHE
 Theology: UN
 Theory of Science and Logic: PU for CHE
 Theory of Statistics: PU for CHE
 Town and Regional Planning: PU for CHE
 Translation: Rhodes
 Tsonga: Unisa
 Tswana: PU for CHE, Unisa
 Venda: Unisa
 Visual Communication: Rhodes
 Xhosa: UCT, UPE, Rhodes, Unisa, US
 Zoology: UCT, UN, UOFS, UP, UW
 Zulu: UN, UOFS, PU for CHE, UP, RAU,
 Unisa, UW

VOCATIONAL SERVICE

Note: a. Since this book deals primarily with undergraduate study, vocational service based mainly on post-graduate study, is discussed in a few exceptional cases only.

b. Various subjects are offered in more than one faculty while other subjects and/or fields of study either involve post-graduate study or are specifically discussed under the vocationally oriented courses in Chapter 6. For reference to a particular subject or field of study it will thus be necessary to consult the INDEX OF CAREERS AND/OR FIELDS OF STUDY on p.225 beforehand.

c. Also read the section "CHOICE OF A FIELD OF STUDY" in Chapter 1.

A clearly defined course of study must usually be followed in vocationally oriented fields of study such as B.A. Librarianship, Social Work, Fine Arts and others. The vocational service in these fields is dealt with separately in Chapter 6.

The ordinary B.A. degree does not normally comprise a vocationally oriented field of study. The main objective is to equip the student with a broad background in the human sciences but also, to some extent, to prepare him or her for an occupational field. Students should therefore determine their fields of interest beforehand and choose their subjects in such a way that specialization in one or other subject field is possible and worth while. Furthermore, a carefully planned combination of major and subsidiary subjects, which are to a great extent determined by the student's interest and aptitude, is of great importance for the intended broad occupational field. With a view to purposeful planning, consultation with the student guidance officer of the university and possible employers in the field concerned, will definitely be worth while.

POSSIBLE OCCUPATIONAL VALUE OF SOME OF THE SUBJECTS

Languages (mainly English, Afrikaans, German, French, Italian, Portuguese, etc.)

Like some of the other human sciences subjects, a language does not prepare the student for any specific career. Its occupational value is more indirect, but therefore no less real. Apart from this fact, the spiritual and cultural moulding rendered by a language is invaluable, because literature is a particularly accessible treasure not only of beauty, but also of wisdom, and a more profound knowledge of a language reveals unsuspected wonders. Someone once said: "With every language acquired, one becomes reborn, obtains a new mind" (Translation).

Languages normally form a good combination with a variety of other subjects, and a course with one or more languages as a basis can usually be planned without difficulty to correspond to the occupation which the student has in mind.

The value of a study of Afrikaans and English is obvious. In occupational life, in particular, it is becoming increasingly important for people to be bilingual and it is understandable that the two official languages are of specific value in the occupational field. One or more courses in these languages are required for a variety of fields of study.

Administrative Assistant (Public Service) (Afrikaans, English, Economics, Roman-Dutch Law, Public Administration, Political Science)

Graduates who have an appropriate B.A., B.Admin. or B.Com. degree may be appointed in the Public Service as administrative assistants. When they fill the higher administrative posts, they will daily have to investigate matters, carry on negotiations, give orders, take decisions and write memoranda and reports. Newcomers are trained by experienced personnel. They attend an induction course and the more senior officers attend a course on the principles of supervision.

Because of the large variety of duties to be performed, there are administrative personnel scattered in offices all over the country as well as overseas. Thus there is the opportunity to appoint people with a diversity of interest fields and qualifications in such a way that they can find complete fulfilment in their occupations.

Administrative personnel have much scope for promotion. At an early stage in his career the able person is given a position of responsibility in which he can fully realise his personal aptitude and in which his potential may be used to the best advantage. Promotion to higher ranks is not limited to one department only, but candidates may compete for senior positions in other departments as well. A position of high responsibility may eventually be reached in the Public Service. The normal ranks of promotion are: Senior Administrative Assistant, Administrative Officer, Administrative Control Officer, Under Secretary, Deputy Secretary, Secretary.

Also consult Tertiary Training for particulars on the National Diploma (Public Administration) and the National Diploma (State Accounts and Finance).

Announcer and programme compiler (Afrikaans, English, other languages, Speech and Drama, Music)

The SABC offers employment to graduates in a variety of divergent fields, for example in administration, the programme section, Springbok Radio and regional services, and the section for foreign services. It is expected, furthermore, that the SABC will employ still more graduate men and women to make provision for effective television programmes. However, intending B.A. candidates (male and female) who are interested in a career in broadcasting, must make sure of a suitable subject combination. More information about this may be obtained from the Regional Manager, SABC, at one of the following addresses: P.O. Box 962, Pretoria 0001; P.O. Box 2551, Cape Town 8000; P.O. Box 122, Grahams-town 6140; P.O. Box 321, Windhoek 9100; P.O. Box 563, Bloemfontein 9300; P.O. Box 1588, Durban 4000. Enquiries may also be directed to: The Head, Personnel Administration, SABC, P.O. Box 8606, Johannesburg 2000 OR The Deputy Director, General Services, P.O. Box 4559, Johannesburg 2000.

Also see p.152.

Committee Clerk (Afrikaans, English, Communication, other B.A. subjects and, where possible, Typing)

Various bodies and firms mainly employ women as committee clerks. Although basically their duties are similar, there are particular differences owing to the nature and requirements of the body employing them. Consequently, some employers are satisfied with a Senior Certificate as qualification for a committee clerk, although others, such as, for example, the SABS, require a B.A. degree. Normally this career demands that persons be completely bilingual, with a sound knowledge of English in particular in cases where employers have liaison with overseas countries. The work is interesting and varied, and has the advantage for a young woman that she may return to her occupation after marriage.

Drama work (Afrikaans, English, courses in Drama)

Also see p.152.

Editorial work (Afrikaans, English, Communication, Psychology, Sociology, History)

Appropriate experience in journalistic and newspaper or magazine work (in addition to a degree) is normally required for appointment as an editor. Numerous opportunities for this exist in the private sector, publishing firms as well as the government departments of Agricultural Technical Services, National Education, Sport and Recreation, and Defence, and the Bureau of National and International Communication.

Also see pp. 37,144.

Education (Afrikaans, English, History, other languages, other school subjects)

See Chapter 5.

Foreign Service Officer (Diplomat) (Afrikaans, English, French or Spanish or Portuguese, Public International Law, Constitutional Law, Private Law or Roman-Dutch Law, Economics or Business Economics).

The South African diplomatic service is administered by the Department of Foreign Affairs and is responsible for promoting good international relations.

Foreign missions can be embassies, legations, consulates-general or consulates with such functions as the following: Representation, political and economic duties, commercial functions, consular and shipping obligations, conference work, liaison, agreements and treaties, and administration. Approximately the same functions are covered in the head-office at Pretoria, but the nature of the duties is somewhat different.

Since the responsibilities are obviously great, a high standard of personal qualities is required from each candidate. In addition, an aptitude for languages and the ability to negotiate, to explain and to persuade will be useful qualities. A recognized university degree with one or more of the subjects (apart from the two official languages) mentioned above is required for appointment to the diplomatic service. All diplomatic officers are also required to pass a prescribed departmental examination. Promotions are decided on the basis of merit, as vacancies occur.

Information Officer (Afrikaans, English, Journalism (Communication), Political Science, Economics, History, languages such as French, German and Spanish)

Graduates (male and female) who have a combination of the above-mentioned subjects at their command, are employed by the Bureau of National and International Communication to be further trained as information officers in the foreign and home information services of the Bureau. A talent for personal liaison is one of the most important qualities which an information officer should have. Equally important are: an aptitude for writing and for acquiring languages; an extensive knowledge of the country and its problems; an alert personality; enthusiasm, self-control and patience. The ability to explain national problems and government policy correctly and efficiently is essential.

There are attractive opportunities of promotion for the information officer who performs meritorious work and who improves his/her qualifications by further study. The normal order of promotion is as follows: Information Officer, Senior Information Officer, Chief Information Officer, Controller of Information and Senior Controller of Information.

Journalistic work (Afrikaans, English, other languages, Communication, History, Speech and Drama)

Also see p.144.

Language Officer/Translator (Afrikaans, English, other languages such as German, French, Italian, Portuguese)

The language service of the Public Service is rendered by the Language Services Bureau of the Department of National Education and the Language Service divisions of the four provincial administrations.

The Language Services Bureau is responsible for translating and editing the language of official publications of all government departments; for translations from foreign languages into the official languages for government departments and for the development of the terminology required for publications in the different specialized fields of the work of these departments. In order to execute these functions, the Bureau is divided into three sections: Afrikaans, English and Foreign Languages.

A translator - or language officer, as he is known in the Language Services Bureau - renders a particular service to the inhabitants of the country. The occupation is suitable for men and women and post-graduate studies are always encouraged. The promotion ranks in the Public Service are at present: Senior Language Officer, Chief Language Officer, Assistant Director and Director of the Language Services Bureau.

Bilingualism and the correct use of the two official languages are, however, becoming an increasing requirement and the demand for qualified translators will consequently increase. Most organizations which serve the public, continuously require the services of translators. These bodies and organizations are, for example, the HSRC, CSIR, Iscor, Unisa, the SA Railways, SABC, large municipalities, several control boards, publishing firms, insurance companies and many other private institutions.

Also see p. 221.

Library work (Afrikaans, English, Library Science, other languages)

Also see p. 177.

Organiser of Training/Training Officer (Public Service) (Afrikaans, English, Public Administration, Political Science, Anthropology and subjects covering the natural sciences, economic sciences and law)

When a person has been newly appointed to a post, he can hardly be expected to accomplish his task effectively from the very outset. The training of personnel has thus become a primary function of almost every organization. For the effective functioning of the government machine, for instance, it was essential to appoint full-time organisers of training in the office of the Public Service Commission and full-time training officers in all the larger departments and administrations.

The field of the organisers of training is exceptionally wide. Apart from numerous other duties, they are responsible for advising and rendering aid to departmental heads, other senior personnel, departmental training officers and instructors. They do liaison work on senior level with departments, organize training, develop new courses, train training officers, do research on aspects of training and so forth.

The departmental training officers in their turn do in broad outline for a department what the organisers of training do for the Public Service in general.

It is evident that these posts impose high demands as regards self-development. Furthermore, those interested should have a sound knowledge of the functioning of the government machine. Consequently preference is given to those with appropriate experience and academic qualifications and who have the necessary aptitude, as established by selection procedures. Although recent graduates can therefore not expect to be appointed to one of these posts, they nevertheless offer an ideal objective which may be achieved in time.

Good opportunities for promotion are available to organisers of training as well as training officers, since after a time they may be taken up in departments in positions where broad insight is of importance.

Personnel Officer (Public Service) (Afrikaans, English, Economics, Public Administration, Political Science, Sociology, Psychology/Industrial Psychology)

Looking after the interests of personnel in the Public Service (and utilizing their services) is known as personnel administration. The Public Service Commission is the central body responsible for the personnel policy of the entire Public Service. Every government department in its turn has a personnel section which serves as liaison between that department and the Public Service Commission.

The majority of the personnel sections, which together with other sections usually form the head office of a department, are based in Pretoria, but are also found in Cape Town, Bloemfontein, Pietermaritzburg and Windhoek. For persons attached to personnel administration there are numerous opportunities for self-improvement and achievement. Junior personnel receive effective guidance, while induction and supervisor's training courses are offered to officers to equip themselves more suitably for their tasks.

Personnel officers have practically unlimited opportunities for promotion. They can compete for promotion in all departments and by doing efficient work may be appointed to posts of high responsibility in the Public Service.

Also consult Tertiary Training for particulars on the National Diploma (Public Administration).

Politician (Afrikaans, English, Political Science, History, Anthropology, Economics)

Private Secretary (Afrikaans, English, Speech and Drama, Communication, secretarial courses outside the university)

Also consult Tertiary Training for particulars on the National Secretarial Certificate (Private Secretary).

Professional Officer (Publications) (Afrikaans, English, Journalism, Psychology, Sociology or the degree B.Sc. (Agric.))

In performing its task of research and guidance, the Department of Agricultural Technical Services makes frequent use of publications and other communication media to disseminate information among farmers. This publication service is undertaken by the special Division of Agricultural Information, in which the activities are divided among five sections, viz: pamphlets, the agricultural radio service, news services, audio-visual services and

popular journals. Professional officers (publications) are appointed to all these sections to fill the posts of journalists, sub-editors, radio officers and audio-visual officers.

In addition to in-service training, the professional officers are also enabled to pursue post-graduate studies during their time of service. For the devoted officer there are practically no restrictions in his advancement to the post of Director of the Division or even higher.

Public Relations work (Afrikaans, English, Speech and Drama, Sociology, Psychology, Communication)

Also see pp. 134, 144, 203.

African Languages

The African languages (excluding Afrikaans) which enjoy recognition in the RSA can be classified in four groups, as follows:

Group:	<u>Nguni</u>	<u>Sotho</u>	<u>Tsonga</u>	<u>Venda</u>
Language:	Zulu	Southern Sotho	Tsonga	Venda
	Xhosa	Northern Sotho		
	Swazi	Western Sotho (Tswana)		
	Ndebele			

Of all these languages, only Swazi and Ndebele are not offered at one or the other university for Whites. The languages in a particular group are closely related to one another. Consequently, a knowledge of Zulu in the Nguni Group will for instance make it possible to communicate with Xhosa, Swazi or Ndebele-speaking persons. Similarly, a person qualified in Southern Sotho will be able to communicate with people who speak Northern Sotho and Tswana. The Nguni and Sotho-speaking groups constitute approximately 94 per cent of all Bantu language speakers in the Republic.

There is no longer any doubt concerning the desirability of studying African languages at university level. In fact, such study has of late become a necessity. Knowledge of an African language has practical value in virtually all occupations, in that misunderstandings can be eliminated and mutual trust promoted. However, these languages can also be occupationally oriented to a considerable extent, as the following examples will show:

- Education: The four education departments (particularly that of the Transvaal) and universities, as well as the Department of Education and Training, to which considerable numbers of White teachers are at present attached;

- The Administration: In various government departments such as those of Plural Relations and Development, Agricultural Technical Services and Justice; the HSRC, the SA Railways, the Transvaal Board for the Development of Peri-Urban areas, the various Administration Boards, municipalities, mines and industries;

- Sport and recreation: As officials in the service of the Department of Sport and Recreation, mines, municipalities and other institutions employing large numbers of Blacks;

- Personnel and training officers: Various large industries, mines, municipalities, the SA Railways, et cetera;

- Broadcasting: The section Radio Bantu of the SABC has regular vacancies for programme organisers, controllers of programmes, news compilers, et cetera;

- Advertising, publishing and printing industry, as well as Social Work, Mission and Library Services;

- Research: In addition to the opportunities which the universities offer graduates in African languages, there are other institutions which use such persons in a research capacity, for example the HSRC, the Department of Education and Training, and the section for Ethnography of the Department of Plural Relations and Development.

Examples of the most important employers of graduates who majored in languages are most government departments and the provincial administrations, HSRC, CSIR, SABC, Iscor, Posts and Telecommunications, SA Railways, SA Defence Force, municipalities, universities, schools, colleges, aviation and other travel agencies, insurance companies, commerce and industry, libraries, publishing firms, advertising agencies, the film industry and international companies.

Note: Candidates should bear in mind that for some employers a first B. degree with languages is not enough and that further study or training and/or suitable experience may be required.

Other subjects for B.A.

Anthropology/Ethnology: Ethnology and Anthropology are allied concepts. As the name implies, Ethnology is concerned with a study of ethnic groups, their ways of life and cultures, what these were like in the past, what they are like today and how they have changed, while Anthropology embraces the total study of man.

As in the case of most other subjects, Anthropology can be taken as a major or subsidiary together with other B.A. majors. It can usually be effectively combined with, for example, the following subjects: Applied Anthropology, Development Administration, Bantu Languages, Bantu Law and Administration, History, Geography, Sociology, Communication, Philosophy, Political Science, Economics, Psychology and Public Administration.

A few fields in which a student with academic qualifications in Anthropology and related subjects may hope to find a career, are, briefly, the following:

Various government departments such as those of Plural Relations and Development (with its various ramifications), Education and Training (certain professional posts), Community Development, Foreign Affairs and Justice, and the Bureau of National and International Communication; research institutions such as the Human Sciences Research Council (HSRC); sections for Non-White personnel of large organizations such as the Railways and mining companies; local governments (senior officials such as director or manager of Non-White affairs); Radio Bantu of the SABC (with the accent on knowledge of Bantu languages); the Peri-urban Areas Board; the Africa Institute (limited number of posts); on the staff of the commissioners-general and as researchers in the field of ethnology and anthropology. With the transfer of powers, duties, functions and responsibilities of municipalities in respect of the control and administration of urban Blacks to the statutory bodies e.g. the Administration Boards, it can be expected that a large number of highly salaried posts will gradually become available.

Graduates in this field of study must normally be deeply interested in research and should be prepared to continue studying.

Archaeology: Archaeology is concerned with a study of man of the past - since his earliest origin (two to three million years ago) up to the recent past. Amongst other things the archaeologist is interested in reconstructing human behaviour and the culture of the past by studying man-made objects which have remained intact on top of and under the surface of the earth.

Archaeology is related to other subjects which also study different aspects of human existence. Subjects such as Anthropology, History, Zoology, Botany, Geology and Geography are important in this connection, but Archaeology is also linked to subjects such as Sociology and Statistical Methods.

Since job prospects in this occupation are so limited, it is imperative that candidates who are interested in it should either equip themselves for another career as well or make a judicious choice of major and subsidiary subjects. Vacant posts are mainly limited to a number of museums and a few universities. Occupational archaeology is a new field and by being equipped for another occupation as well, the person who is trained in archaeology can hold himself in readiness for a possible post, should it become available.

Biblical Studies: Biblical Studies is the subject in which a scientific study of the Bible is made. This means that one book is singled out for independent study and, as a subject, is accessible to anyone who is interested in acquiring more knowledge, at the scientific level, of the Bible, its character and the implications of its message. The subject consequently does not imply a mere knowledge of the Bible but constitutes an attempt at scientific thought on the revelation of God in order to bridge any unaccountable gap between faith and knowledge, the Bible and science.

Biblical Studies as a major for a degree is suitable for Religious Instruction at primary and secondary school level and is essential for the teacher who has to teach the subject in the secondary school. Biblical Studies, which is a recognised subject for Matriculation exemption, is currently being offered by an increasing number of secondary schools and there will be a growing demand for teachers of this subject in the future. The subject is also of considerable importance for a career in library science or the book-trade.

Criminology: In Criminology a study is made of certain aspects of crime manifestation. The most important of these are, for example, what constitutes crime, the causes of crime, the incidence of crime, the offender as a person, punishment and treatment of criminals and the prevention of crime. Criminology is consequently closely related to subjects such as Sociology, Psychology, Anthropology, Social Work and Criminal Law, and to a lesser extent to Philosophy (particularly Ethics), Education, Political Science, Economics, and so forth.

A knowledge of Criminology is to a larger or smaller extent of value in all occupations in which crime or the criminal is encountered, such as the legal professions (attorneys, advocates, prosecutors, magistrates, judges, the police and prison services) and in all welfare work performed by private organizations, the Departments of Social Welfare and Pensions and National Education (reform schools). This field of study offers particular scope for research at universities or in the service of the HSRC.

Development Administration: In a wider sense this field comprises the scientific study of the administration and development problems of developing nations in general. More specifically, Development Administration is concerned with the process of state forming and developing in Southern Africa. Universities make provision for the meaningful combination of Development Administration with subjects such as Economics, Ethnology, Sociology, Political Science, Bantu Law, Geography, Public Administration, Bantu Languages and History.

The demand for specialists in this field is still growing. Opportunities are available, for example, in the government departments of Plural Relations and Development, Education and Training, the Bureau of National and International Communication and Foreign Affairs; the Administration Boards, the radio and press, universities and some research institutes.

History: Students who want to take History as a major, may, for example, choose a second major or subsidiaries from the following subjects: Afrikaans, English, German, (possibly other languages), Geography, Sociology, Psychology, Anthropology, Economics, Political Science and Philosophy. History is useful even as a subsidiary, because it functions as a bond-stone for the human and social sciences.

Although a study of History is not really an occupationally directed study, it is particularly valuable because of its moulding influence and the fact that it deals with man in his social context and institutions. It consequently provides a very necessary and sometimes indispensable background for several occupational fields such as broadcasting, foreign service, museums, libraries, journalism and the publishing industry, as well as politics. Knowledge of the past must continuously be handed down to each rising generation. Hence the urgent need of highly trained and well-equipped history teachers and lecturers, as well as writers on history at professional and popular levels. People may also be appointed as archivists or as professional officers (heraldry) in the Department of National Education or as researchers in the Institute for Historical Research of the HSRC.

Also consult Tertiary Training for particulars on the National Diploma in Archival Science.

History of Art: A work of art reflects a specific level and way of thinking and is distinguished from other human creations by virtue of its composition. The artist derives the forms which he creates from his own environment and time, and the appearance of art will therefore change with the changing times. The task of the student of History of Art and of the art historian is to explain the art forms of the past and to give them new life. For this purpose the art historian makes intensive use of the knowledge obtained from other subjects such as History, Philosophy, Sociology, Psychology, Biblical Studies, Literature and sometimes even from the natural sciences.

Career opportunities for art historians are found mainly in the field of research and/or lecturing in art museums, cultural-historical museums, universities, the HSRC and art schools. They may also be employed by the SABC as art critics, by art dealers as liaison officers between artists and the public, and by the diplomatic service as cultural attachés.

Linguistics: A language is used and spoken by all normal people and without it everything distinctly human in the personal and social behaviour of man would cease to exist. Despite this, however, people normally know very little or nothing about their language, what it is and how it functions.

Linguistics is the discipline which takes human language as the object of its investigation, posing the question 'What is language?' and seeking to provide an answer in terms of structural properties of human communication, from a description of the sounds of speech to the rules governing the way in which these sounds come to express the complexity of human thought. A linguist's training would therefore enable him to describe completely any language, irrespective of whether that language was previously known by him or not.

While language study is of interest in its own right and may lead to an academic career in Linguistics, there are a number of related fields in which application of Linguistics plays an important part. Some of the most obvious ones are Communication Studies, Psychology, Speech Therapy, Philosophy and first and second language studies. Any subject concerned with the teaching, learning and use of language, must presume an understanding at a general level of what language or a particular language is.

Philosophy: Every student is indeed a philosopher. But, even if every student should have a philosophy, Philosophy as such is not studied as a subject by everybody. There is therefore, a difference between philosophy as a view of life and Philosophy as a science compared with other sciences. Whereas subject sciences such as, for example, Botany and Anthropology make a study of the particular world of plants and ethnic groups, Philosophy tries to comprehend the world (cosmos) as an orderly whole (totality).

Philosophy offers a general occupational preparation; it does not supply a particular occupational training. A combination with, *inter alia*, Political Science, Psychology, Librarianship, Sociology, History, Anthropology, History of Art, Communication, modern and classic languages, is admirably suited for preparing a student for careers such as those of teacher, diplomat, law practitioner, minister, librarian, psychologist, journalist, et cetera.

Political Science: Political Science as a subject science offers opportunity for the study of constitutional affairs and political matters. As a social science it is closely related to some other disciplines and particularly to other social sciences. It is therefore a useful major to take together with subjects such as Industrial Psychology, Economics, Geography, History, Communication, Public Administration, Law subjects, Sociology, Anthropology, Philosophy, et cetera. The reverse is also true: Students who study the above-mentioned subjects, may to advantage include one or more courses in Political Science.

Political Science is mostly studied as a background for a large number of occupational fields in, for example, some government departments, the provincial administrations and local authorities; in education, law, journalism, private concerns, practical politics, broadcasting and librarianship.

Psychology: Psychology as a subject can briefly be described as the study of all aspects of human behaviour. In the practical situation psychologists study the normal and abnormal behaviour of individuals and groups in order to understand and explain their actions more fully. Various methods are employed to obtain as much information as possible.

Although a Bachelor's degree offers a good background, undergraduate training in Psychology is not occupationally directed. A candidate must therefore be prepared to undertake intensive post-graduate studies to qualify as a successful psychologist. The subject is exceedingly wide and candidates normally specialise in one or more fields. Often psychologists also combine different fields in practice. No person may, however, practise as a psychologist without being registered with the South African Medical and Dental Council. The requirement for registration is at least a Master's degree plus internship of one year at an approved institution.

Branches of Psychology include, for example:

- Counselling Psychology: In this field the psychologist renders assistance in respect of problems in connection with the choice of a field of study or the choice of an occupation, and with marital or family problems. Teacher or school psychologists employed by education departments work with pupils and deal with learning problems, the choice of subjects and occupations and behaviour problems. In their work use is made of various scholastic and psychological tests.

- Clinical Psychology: These psychologists chiefly work with adults and children displaying serious forms of disturbed or abnormal behaviour. They work in conjunction with a medical doctor or a psychiatrist and psychological testing constitutes an important aspect of their work as well.

- Industrial and Personnel Psychology: This important branch of Psychology is discussed separately on p.83.

- Research and Academic Psychology: Psychologists in this field undertake full-time research in various fields of Psychology, while a limited number of them provide advanced training in the subject as lecturers.

- Pastoral Psychology: These psychologists are persons with theological training (clergymen) and who are also trained as clinical or counselling psychologists. In other words, they are capable of helping people in need of psychotherapy.

- Other fields include Child Psychology or Development Psychology, Physiological Psychology, Social Psychology and Psychometrics. Psychology can also be a useful subject for students who do not intend becoming psychologists, but who will mainly work with people.

Psychology can be taken as a major for B.A., B.Com. or B.Sc. Depending on the regulations of each university and the interest of the student, Psychology can usually be combined with subjects such as Sociology, Anthropology, Languages, Mathematics, Mathematical Statistics, Social Work, Philosophy, Economics, Physiology, Zoology, Physics and Computer Science.

Note: The psychiatrist is not mentioned above because, strictly speaking, he is a medical practitioner who, besides his ordinary medical training, has also received training in the treatment of the mentally ill and specializes in this field.

Psychologists normally find occupational opportunities with the following: The HSRC; the NIPR; the sections for psychological services of, for example, the Railways, the Defence Force, Iscor, Sasol, the mines and large municipalities; the provincial education departments and government departments of Labour, National Education, Prisons and Social Welfare and Pensions; hospitals; church denominations; commerce and industry; large business concerns; private practice or clinics; institutions for the mentally ill and mentally deficient, and child guidance clinics.

Public Administration: A wide classification of any government's functions is legislative (political body), executive (administrative body) and judicial (the courts). Viewed in broad outline, there are three subject fields involved here, viz Political Science for the political aspect, Public Administration for the executive aspect and Law for the constitutional aspect.

As an academic discipline Public Administration therefore concentrates on the study of the administrative side of government action. It covers the composition and functioning of all government organizations concerned with putting public policy into practice, such as those of government departments, provincial administrations, municipalities, councils, commissions, corporations and research institutes.

The public or government sector is also the greatest employer in this field. Graduates will, however, also find attractive careers in the private sector, in journalism and in the judiciary. Public Administration prepares candidates for managerial posts. The other major subject and the subsidiary subjects combined with Public Administration will, however, to a large extent determine the kind of employment that will be found as well as the organization that will employ candidates. A judicious subject combination is therefore of the utmost importance.

Also see p.84.

Sociology: In the general sense it can be said that the problems of the world are related to the organization of satisfactory and lasting human relations and to the handling of social and economic change and development. Sociology is therefore concerned with the study of human relations, the way in which individuals and groups of people react to one another, socio-economic development and change. This amounts to a factual, objective study of the social conditions under which specific patterns of behaviour and deviance are established, maintained and changed.

Sociology has particular significance in four broad fields:

- Academic sociologists (as lecturers at universities),
- research sociologists (persons doing full-time research at universities, university research institutes, private concerns, government departments and government-aided organizations. The largest concentration of research sociologists in South Africa is found in

the Institute for Sociological, Demographic and Criminological Research of the Human Sciences Research Council (HSRC) in Pretoria.),

- administrative and planning sociologists (persons employed in large organizations and industries in which a sound knowledge of human relations is essential, for example liaison officers and personnel managers and persons concerned with planning and development),

- various professional and labour situations (for which training in Sociology is advisable and even essential, for example for social workers, clergymen, teachers, medical doctors, psychiatrists, architects, nurses, jurists, artists and journalists).

Sociology fits in particularly well with various fields of study and can be combined with several major or subsidiary subjects. Graduates are employed by some government departments, the Defence Force, large municipalities, commerce and industry. Senior posts are not plentiful, but capable persons with post-graduate qualifications will always find employment.

CHAPTER 3

FACULTIES OF COMMERCE AND
ECONOMIC SCIENCES

UNIVERSITY OF CAPE TOWN

FACULTY OF COMMERCE

Degrees

Bachelor of Commerce	: B.Com.
Bachelor of Commerce (Honours)	: B.Com. (Hons.)
Master of Commerce	: M.Com.
Bachelor of Business Science	: B.Bus.Sc.
Master of Business Science	: M.Bus.Sc.
Master of Business Administration	: M.B.A.
Doctor of Philosophy	: Ph.D.

Certificate and Diplomas

Certificate in the Theory of Accountancy	: C.T.A.
Advanced Diploma in Taxation	: Adv. Dip. Tax.
Advanced Diploma in Business Administration	: Adv. Dip. B.A.
Advanced Diploma in Management Accounting	: Adv. Dip. Mgt. A.
Post-graduate Diploma in Personnel Management and Manpower Development	
Advanced Diploma in Personnel Management and Manpower Development	: Adv. Dip. Pers. Mgt.

DEGREES

Bachelor of Commerce: B.Com.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Three years of full-time study. The curriculum includes all the following subjects:

Accounting A and B, Costing (Management Accounting) I, Taxation & Estate Duty I, Auditing A, Systems & Electronic Data Processing, Economics IA and II, Commercial Law A and B, Mathematics I, Statistics I, Economic History I or Industrial Sociology I or another approved course, Business Administration I or Statistics II, Company Law.

Bachelor of Commerce (Honours): B.Com.(Hons.)

Admission requirements: Any one of the following may be admitted:

- A B.Com. or a B.Bus.Sc., special field Business Finance
- a Chartered Accountant registered with the Public Accountants' and Auditors' Board
- an Associate or Fellow of the Institute of Cost and Management Accountants
- a graduate of any other university who has completed equivalent courses.

Curriculum: One year of full-time study or not less than two years of part-time study. A candidate must attend and complete an Honours course in either Accounting, Taxation or Management Accounting or any other field of study approved by the Senate provided that the candidate may be required to attend and complete courses which the Senate may prescribe.

The Honours examination consists of a formal written examination. In addition a technical report may be required. A candidate may also be required to present himself for an oral examination. Candidates who are not successful in the Honours examination will not be permitted to present themselves for a second time.

Master of Commerce: M.Com.

Admission requirements: A B.Com.(Hons.) degree. A candidate must lodge his application in writing with the Registrar, submitting evidence of his academic and general qualifications and indicating the line of research which he wishes to prosecute.

Curriculum: A candidate must, during not less than one academic year, do advanced study and research under the guidance of a supervisor. The study and research must be in the field of study in which the candidate passed the Honours examination or its equivalent. The candidate must present a thesis and take such examination as the Senate may determine.

Bachelor of Business Science: B.Bus.Sc.

Admission requirements: As for the B.Com. degree.

Curriculum: Four years of full-time study. The curriculum consists of compulsory courses in Business Science and Economics, together with courses in subjects comprising fields of study designed to equip students for the careers in which they have special interest. Each special field consists of a group of related subjects; generally an Honours course and appropriate ancillary courses.

Each student must choose one special field from the following:

Actuarial Science, Banking, Business Finance, Computing and Data Processing, Economics (General), Insurance, Marketing, Mathematical Economics, Personnel Management, Psychology, Public Administration, Sociology, Statistics and Operational Research.

The structure of the degree is as follows: Four full courses to be completed in each of the first and second years, with three and a half courses in the third year and three in the fourth year. Generally a student is required to complete all the courses prescribed for each year before proceeding to those for the following year.

Master of Business Science: M.Bus.Sc.

Admission requirements: The following candidates may be admitted: Bachelors of Business Science; Honours graduates of other faculties; Honours graduates of other universities; other specially qualified graduates approved by the Senate.

A candidate must satisfy the Senate that the curriculum for his Bachelor's degree is an adequate preparation for the M.Bus.Sc. degree.

Curriculum: A candidate must work at an approved subject for at least one academic year under the direction of an approved supervisor. Every candidate must select a subject for intensive study and research from among the range of subjects included in the special fields of the B.Bus.Sc. degree. Every candidate must submit a thesis on the approved subject.

Master of Business Administration: M.B.A.

Admission requirements: The qualification of M.B.A. is open to approved graduates who have obtained a degree in Arts, Commerce, Engineering, Law, Science or Social Science, and to Chartered Accountants.

Curriculum: Every candidate will be required to complete a full-time MBA Programme at the University for a period of one year. The MBA Programme consists of closely co-ordinated courses in the fields of:

- Operating Management,
- Underlying Disciplines,
- Business Integration

and a Technical Report.

Doctor of Philosophy: Ph.D. - See Faculty of Arts, p. 9.

CERTIFICATE AND DIPLOMAS

Certificate in the Theory of Accountancy: C.T.A.

Admission requirements: As for the B.Com. degree. No person shall be registered as a candidate for the Certificate unless he has produced evidence that he has either served or is serving or is about to serve under articles registered with the Public Accountants' and Auditors' Board.

Curriculum: Four years of part-time study. The Senate may exempt a candidate from such course or courses on the ground of credits obtained in equivalent courses while registered for a degree, or a diploma or a certificate.

The following subjects are included in the curriculum for the C.T.A.:

Accounting, Auditing, Costing I (Management Accounting), Insolvency, Commercial Law, Company Law, Economics, Introduction to Systems & Electronic Data Processing, Mathematics, Statistics, Taxation & Estate Duty.

Advanced Diploma in Taxation: Adv. Dip. Tax.

Admission requirements: Any one of the following may be admitted as a candidate for the Diploma:

- A person who has passed the Qualifying Examination of the Public Accountants' and Auditors' Board of the Republic of South Africa
- a person who has passed, or has been exempted from the attorney's entrance examination in the RSA
- a person accepted as a candidate for the Advanced Diploma in Taxation by virtue of his having passed such examinations as are equivalent to the examinations prescribed in either of the above cases.

Curriculum: One year of full-time study or not less than two years of part-time study.

The Advanced Diploma examination consists of a formal examination. In addition a technical report may be required. A candidate who is not successful in the examination will not be permitted to present himself for the examination again.

Advanced Diploma in Business Administration: Adv. Dip. B.A.

Admission requirements: The Diploma is open to approved non-graduates with acceptable professional qualifications and/or several years of business experience.

Curriculum: The MBA degree and Diploma courses are identical in content and standard.

Advanced Diploma in Management Accounting: Adv. Dip. Mgt. A.

Admission requirements: Application for admission must be lodged in writing with the Registrar.

Any one of the following may be admitted:

- (i) A person who has passed the Qualifying Examination of the Public Accountants' and Auditors' Board of the Republic of South Africa: or
- (ii) a person accepted as a candidate for the Advanced Diploma in Management Accounting by virtue of his having passed such examinations as are equivalent to the examinations prescribed in the above case.

Curriculum: One year of full-time study or not less than two years of part-time study.

The Advanced Diploma examinations comprise formal written examinations. In addition a technical report may be required. A candidate who has not been successful in the examination will not be permitted to present himself for a second time.

Post-graduate Diploma in Personnel Management and Manpower Development

Admission requirements: Application for admission must be lodged in writing with the Registrar. Graduates of this university or other recognized universities may be admitted.

Curriculum: One year of full-time study or not less than two years of part-time study. A candidate must attend and complete all the following courses: Business Administration I, Personnel Management I and II, Industrial Psychology.

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Advanced Diploma in Personnel Management and Manpower Development

Admission requirements: This Diploma is open to non-graduates with approved professional qualifications and/or several years of approved business experience.

Curriculum: The regulations for the Advanced Diploma are the same as that for the Post-graduate Diploma.

U N I V E R S I T Y O F N A T A L

FACULTY OF COMMERCE

Degrees

Bachelor of Commerce	: B.Com.
Bachelor of Commerce (Honours)	: B.Com. Hons.
Master of Commerce	: M.Com.
Doctor of Philosophy	: Ph.D.
Doctor of Economics	: D.Econ.
Bachelor of Accountancy	: B.Acc.
Master of Accountancy	: M.Acc.

Diploma

Diploma in Accountancy	: Dip. Acc.
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DEGREES

Bachelor of Commerce: B.Com.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: A pass of at least 40 per cent in Mathematics on the Higher Grade or 50 per cent on the Standard Grade.

Curriculum: Three years of full-time study or at least four years of part-time study. A candidate must obtain credit for the following courses:

First year

Accounting I, Economics I, English I or Afrikaans I or Afrikaans en Nederlands I or Language and Communication, Mathematics C or Mathematics I, Commercial Law or Introduction to South African Law

Second year

Accounting II or Business Data Processing I, Economics II, Business Administration I, Company Law.

Any two of the following:

Accounting II (if not already taken), Auditing I, Business Data Processing (if not already taken), Comparative African Government and Administration I, Afrikaans I or Afrikaans en Nederlands I or English I (if not taken in first year) or Latin IA or IB, Computer Science I, Constitutional Law, Economic History I, Mathematics II, Political Economy of Southern Africa, Political Science I, Psychology I, Social Anthropology I, Sociology I, Philosophy I, Statistics I, Statistics Ia and Introduction to Computer Science, Public Administration I, Taxation

Third year

1. Business Administration II
2. One of: Accounting III, IIIa or IIIB, Business Finance, Business Policies and Agreements, Computer Science II, Economics III, Economics of Underdeveloped Regions, Managerial Accounting, Marketing, Population and Labour, Public Sector Accounting
3. One of: Any course listed and not taken under 2 above, Auditing I (if not already taken in second year), Agricultural Economics, Business Data Processing II, Comparative African Government and Administration II, Computer Science II, Economic History II,

Economic Framework of Business, Economics of Transport, Industrial Psychology, International Business, Law of Taxation or Taxation, Mathematics III, Political Science II, Philosophy II, Psychology II, Roman Law, Social Anthropology II, Sociology II, Statistics II.

There are various regulations which must be followed with regard to certain subjects, e.g. a candidate must have completed Economics I before proceeding to Business Administration I or The Political Economy of Southern Africa, or Psychology I before proceeding to Industrial Psychology.

Bachelor of Commerce (Honours): B.Com. Hons.

Admission requirements: A B.Com. or B.Econ. degree.

Curriculum: One year of full-time study or two years of part-time study.

A candidate must pursue advanced study in one of the following branches of study, provided that the courses shown in parenthesis have either been completed before admission to the Honours course, or are taken concurrently with the Honours courses: Accountancy; Business Administration; Economics (Economics III); Mathematics and Statistics (Mathematics II, Statistics II or Actuarial Mathematics).

A candidate may not present himself for the final examination more than once.

Master of Commerce: M.Com.

Admission requirement: A B.Com. Hons. or B.Econ. Hons. degree or have been admitted to the status thereof.

Curriculum: A candidate must prosecute advanced study, or research, or both, under the guidance of a supervisor for at least one academic year. A candidate must take an examination at the end of that year. The examination consists of a dissertation. Every dissertation must show acquaintance with the methods of research, make a contribution to knowledge, and be satisfactory as regards literary presentation.

Bachelor of Accountancy: B.Acc.

Admission requirements: As for the B.Com. degree.

Curriculum: At least five years of part-time study. A candidate must obtain credit for the following courses which are distributed as follows:

First year: Accounting I, Language and Communication or English I or Afrikaans I, Mathematics C or Mathematics I

Second year: Accounting II, Economics I, Commercial Law

Third year: Administration of Estates, Auditing I, Business Administration I, Company Law

Fourth year: Accounting III, Law of Taxation, Business Data Processing I

Fifth year: Auditing II, Management Accounting, Accounting IV.

Master of Accountancy: M.Acc.

Admission requirements: A candidate holding a B.Acc. degree or a graduate who has been admitted to the status of Bachelor who either holds a Diploma in Accountancy of the University or who is a Chartered Accountant (South Africa).

Curriculum: A candidate must undertake research under the guidance of a supervisor for at least one academic year.

A candidate must present a dissertation on some aspect of accountancy theory and/or practice and he may be required to submit himself to an oral examination on the subject of his dissertation.

Doctor of Philosophy: Ph.D.

Admission requirements: A candidate must be a Master of Commerce or a Master of Economics or a Master of Accountancy of at least two years' standing or a Bachelor of Commerce (Honours) or a Bachelor of Economics (Honours) of at least three years' standing who has been specially exempted from the Master's examination.

Curriculum: A candidate is required to pursue an advanced course of special study or research on some subject falling within the scope of the studies represented in the University.

A candidate must submit a thesis embodying the results of his special study or research. A thesis must make a distinct contribution to the knowledge or understanding of the subject and afford evidence of originality shown either by the discovery of new facts or by the exercise of independent critical power.

Doctor of Economics: D.Econ.

Admission requirements: A candidate must be a Bachelor of Commerce or a Bachelor of Economics of at least six years' standing. An intending candidate must submit a formal application for registration.

Curriculum: The degree is awarded only for published work in the form of articles, pamphlets or books which, being obtainable through booksellers, have been accessible to relevant experts and critics for at least one year.

A candidate may be permitted to submit, in partial fulfilment of the requirements for the degree, any thesis previously accepted for a research degree, provided that the work has been published and accessible to relevant experts and critics for at least one year.

DIPLOMA

Diploma in Accountancy: Dip.Acc.

Admission requirements: A graduate who qualifies for credit in ten or more of the courses prescribed for the B.Com. degree.

Curriculum: One-year part-time course. A candidate who is taking the Diploma course in Durban must complete Advanced Auditing, Advanced Accounting I and Advanced Accounting II. A candidate who is taking the course in Pietermaritzburg must complete Accounting IV, Auditing II and Management Accounting or Law of Taxation.

A candidate may be permitted to present himself for a supplementary examination in those courses in which he failed at the previous examination.

U N I V E R S I T Y O F T H E O R A N G E F R E E S T A T E

FACULTY OF ECONOMIC AND ADMINISTRATIVE SCIENCES

Degrees

Bachelor of Administration	: B.Admin.
Honours Bachelor of Administration	: B.Admin. (Hons.)
Master of Administration	: M.Admin.
Doctor of Administration	: D.Admin.
Bachelor of Commerce	: B.Com.
Honours Bachelor of Commerce	: B.Com. (Hons.)
Master of Commerce	: M.Com.
Doctor of Commerce	: D.Com.
Bachelor of Personnel Leadership	: B.P.L.
Bachelor of Accounting Science	: B.Compt.
Honours Bachelor of Accounting Science	: B.Compt. (Hons.)
Master of Accounting Science	: M.Compt.
Doctor of Accounting Science	: D.Compt.
Master of State and Municipal Administration	: M.S.A.

Diplomas and Certificate

Diploma in State and Municipal Administration

Advanced Diploma in State and Municipal Administration

Certificate in the Theory of Accountancy

DEGREES

Bachelor of Administration: B.Admin.

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: At least six semesters of full-time study (three years). Part-time students are strongly recommended to extend their degree study over four years (eight semesters).

The curriculum comprises at least 26 full semester courses. A curriculum for the degree must include at least two approved major subjects in each of which 6 semester courses must be completed.

The major subjects must be chosen from the following:

State Administration and ONE of the following: Political Science, Economics, Applied Anthropology, Municipal Administration.

Honours Bachelor of Administration: B.Admin. (Hons.)

Admission requirements: A student must fulfil all the requirements of the ordinary Bachelor's degree. A student may only offer a subject which he has completed as a major subject for the ordinary Bachelor's degree.

The Senate may refuse to admit a student if it considers the student's proficiency in the subject concerned to be inadequate.

Curriculum: Each candidate must pursue an approved course of study for at least one year. The B.Admin. (Hons.) degree may be awarded in one of the following subjects: State and Municipal Administration, Applied Anthropology, Political Science, Economics.

A student must sit for a university examination at the end of the course and pass the whole examination at one and the same time. A student may present himself twice only for the final examination.

Master of Administration: M.Admin.

Admission requirements: The B.Admin. (Hons.) degree. A student must satisfy the head of the department concerned that he has sufficient knowledge of the subject to be able to undertake the work for the degree.

Curriculum: The Master's degree will not be awarded to a candidate within two years after he has obtained the B.Admin. degree. The examination consists of a written examination or a dissertation or both. The dissertation is written under the guidance of the head of the department concerned. The M.Admin. degree is awarded in the same subjects as those for the B.Admin. (Hons.) degree.

Bachelor of Commerce: B.Com.

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Standard Grade at least.

Curriculum: At least six semesters of full-time study or eight semesters of part-time study. The curriculum consists of 26 full semester courses and it must include at least two approved major subjects, in each of which the prescribed number of courses must be completed.

The major subjects (six semester courses) must be selected from the following:

Economics, Business Economics, Accounting, Statistics, Agricultural Economics, Industrial Psychology, Private Law.

Major subjects in which four semester courses are required:

Business Data Processing, Money and Banking, Transport Economics, Mathematical Statistics.

A student selects his curriculum from one of the following fields:

- (i) General field
Third year: At least two of the following: Economics, Business Economics, Accounting
- (ii) Accounting field
Third year: Accounting, Auditing, Income Tax (Auditing together with Income Tax as a major subject); and two of the following semester courses: Economics, Business Economics
- (iii) Business Administration field
Third year: Industrial Psychology, Business Economics and one of the following: Accounting, Economics, Mercantile Law, Income Tax
- (iv) Business Economics field
Third year: Business Economics and one of the following: Industrial Psychology, Statistics, Money and Banking, Accounting, Transport Economics, Economics, Business Economics
- (v) Statistical field
Third year: Statistics and/or Mathematical Statistics and one of the following: Economics, Business Economics, Accounting, Business Data Processing, Transport Economics
- (vi) Money and Banking field
Third year: Money and Banking, Economics and one of the following: Business Economics, Accounting, Statistics
- (vii) Quantitative - Economical field
Third year: Economics and at least four semester courses from the following: Money and Banking, Mathematics, Statistics, Business Economics, Accounting, Transport Economics
- (viii) Transport Economics field
Third year: Transport Economics and two of the following including at least Economics or Business Economics: Economics, Business Economics, Statistics, Mathematics, Accounting
- (ix) Agricultural Economics field
Third year: Agricultural Economics and two of the following including at least Economics or Business Economics: Economics, Business Economics, Money and Banking, Statistics, Business Data Processing, Income Tax, Transport Economics
- (x) Legal field
Third year: Private Law, Roman Law and History of Law* and one of the following: Economics, Business Economics, Accounting.

* No candidate will be allowed to register for the course Roman Law and History of Law II unless he has already passed in Latin I.

Honours Bachelor of Commerce: B.Com. (Hons.)

Admission requirements: As for the B.Admin. (Hons.) degree, p. 50.

Curriculum: Each candidate must pursue an approved course for at least one year. The B.Com. (Hons.) degree may be awarded in one of the following subjects: Accounting, Agricultural Economics, Business Data Processing, Business Economics, Economics, Industrial Psychology, Mathematical Statistics, Money and Banking, Statistics, Transport Economics.

A student must sit for a university examination at the end of the course and pass the whole examination at one and the same time. A student may present himself twice only for the final examination.

Master of Commerce: M.Com.

Admission requirements: The B.Com. (Hons.) degree. A student must satisfy the head of the department concerned that he has sufficient knowledge of the subject to be able to undertake the work for the degree.

Curriculum: The Master's degree will not be awarded to a candidate within two years after he has obtained the B.Com. degree. The examination comprises a written examination or a dissertation or both. The dissertation is written under the guidance of the head of the department concerned. The M.Com. degree is awarded in the same subjects as those for the B.Com.(Hons.) degree.

Bachelor of Personnel Leadership: B.P.L.

Admission requirement: As for the B.Admin. degree.

Curriculum: At least six semesters of full-time study or eight semesters of part-time study. The curriculum comprises at least 26 full semester courses. A curriculum for the degree must include at least two major subjects in each of which at least six semester courses must be completed.

The major subjects must be chosen from the following: Industrial Psychology and ONE of the following: Business Economics, State Administration, Applied Anthropology, Industrial Sociology.

Students will be selected for this degree. (Selection of students takes place on the day of enrolment.)

Students are required to do at least one month's vacation work at an approved undertaking during each of the second and third years.

A student chooses his curriculum according to one of the following fields: Business field, Public Services field, Bantu - Personnel field, Industrial Relations field.

Bachelor of Accounting Science: B.Compt.

Admission requirement: As for the B.Admin. degree.

Curriculum: Four years of full-time study. The curriculum comprises 30 semester courses. The major subjects are Accounting, Auditing and Mercantile Law.

Honours Bachelor of Accounting Science: B.Compt. (Hons.)

Admission requirement: A B.Compt. degree.

Curriculum: As for the Certificate in the Theory of Accountancy, p.53.

Master of Accounting Science: M.Compt.

Admission requirement: A B.Compt. (Hons.) degree.

Curriculum: As for the M.Com. degree in Accounting.

Master of State and Municipal Administration: M.S.A.

Admission requirements: Students must hold a Bachelor's degree and have had adequate practical experience.

Curriculum: This degree is awarded in State and Municipal Administration. The examination consists of eight examination papers and an essay.

Doctor of Administration: D.Admin. or

Doctor of Commerce: D.Com. or

Doctor of Accounting Science: D.Compt.

Admission requirement: A Master's degree.

Curriculum: A Doctor's degree shall not be conferred before three years, or two years, of which at least one year is devoted exclusively to research or full-time study at the University or at another institution approved by the Senate, have elapsed after obtaining the Master's degree.

A student must submit a thesis for the Doctor's degree. A thesis must constitute an original contribution to the existing knowledge of the subject selected. Each thesis must be prepared under the supervision of a promoter/assistant promoter.

Unless the Faculty decides otherwise, a candidate must take a doctoral examination before he commences with the work of the Doctor's thesis.

DIPLOMAS AND CERTIFICATE

Diploma in State and Municipal Administration

Admission requirement: A Senior Certificate.

Curriculum: The curriculum for the Diploma course is the same as that for the B.Admin. degree with the qualification that all the courses in Municipal Administration must be taken.

Advanced Diploma in State and Municipal Administration

Admission requirements: Diploma in State and Municipal Administration.

OR

Extensive experience which may be regarded as adequate to undertake the study profitably.

Curriculum: The curriculum is the same as that for the B.Admin. (Hons.) degree plus an essay.

Certificate in the Theory of Accountancy

Admission requirements: A B.Compt. degree or the candidate must have fulfilled the subject requirements of this degree.

Curriculum: The following courses are prescribed: Accounting, Auditing and Income Tax. Persons who hold the degree of B.Compt. or B.Com. may obtain the degree of B.Compt. (Hons.) or B.Com. (Hons.) through this study provided that they submit an article which can be published.

UNIVERSITY OF PORT ELIZABETH

FACULTY OF ECONOMIC SCIENCES

Degrees

Baccalaureus Commercii	: B.Com.
Baccalaureus Commercii (Educationis)	: B.Com. (Ed.)
Baccalaureus Commercii Honores	: B.Com. Hons.
Magister Commercii	: M.Com.
Doctor Commercii	: D.Com.

Certificate

Certificate in the Theory of Accountancy : C.T.A.

DEGREES

Baccalaureus Commercii: B.Com.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: For admission to the following courses a candidate must have obtained the standard indicated in each case:

- Mathematics or Mathematical Statistics: A pass of at least 40 per cent in Mathematics on the Standard Grade

- Mathematics for Economists: A pass in Mathematics on the Standard Grade.

Curriculum: Three years of full-time study or at least five years of part-time study. A full-time student selects one of the following curricula and completes the prescribed courses:

* Indicates courses available to part-time students.

- (i) Economics and Business Economics*
Major subjects: Economics, Business Economics
- (ii) Industrial and Organizational Psychology (Management)*
Major subjects: Industrial and Organizational Psychology, Business Economics
- (iii) Industrial and Organizational Psychology (Personnel Management)*
Major subjects: As for (ii)
- (iv) Industrial and Organizational Psychology (Behavioural Sciences)*
Major subjects: As for (iii)
- (v) Accountancy*
Major subjects: Accounting, Auditing, Cost and Management Accounting, Income Tax
- (vi) Pedagogy*
Major subjects: Two or three of: Economics, Business Economics, Accounting, Geography for B.A. students or Mathematics or Psychology. See also p.122.
- (vii) Business Economics and Accountancy*
Major subjects: Business Economics, Accounting, Cost and Management Accounting or Income Tax or a due performance course: Electronic Data Processing
- (viii) Law
Major subjects: One of: Economics, Business Economics, Accounting; and Private Law, Mercantile Law, Roman Law
- (ix) Computer Science
Major subjects: Two of: Computer Science or Computer Science for B.Com. students, Economics, Business Economics, Accounting
- (x) Computer Science for B.Com.
Major subjects: Two of: Computer Science for B.Com. students, Business Economics, Economics, Accounting
- (xi) Mathematics or Mathematical Statistics
Major subjects: Two of: Mathematics, Operational Research, Mathematical Statistics, Economics, Business Economics, Industrial and Organizational Psychology, Accounting
- (xii) Public Administration (Financial Administration)*
Major subjects: Public Administration, Economics, Cost and Management Accounting
- (xiii) Public Administration (Financial Administration)*
Major subjects: Accounting, Public Administration, Business Economics (Financial Management), Economics (Public Administration).

Baccalaureus Commercii Honores: B.Com. Hons.

Admission requirements: A B.Com. degree. A person will not be registered as a candidate except by permission of the Faculty of Economic Sciences.

Curriculum: One year of full-time study or not less than two years of part-time study.

A candidate may attend and complete an Honours course in one of the following subjects: Accountancy Subjects, Business Economics, Economics, Mathematical Statistics, Operations Research, Industrial and Organizational Psychology, Mathematics, Computer Science and other subjects which the Senate may approve. The Senate may require any candidate to attend and complete before being admitted to the Honours course, such course or courses of the curriculum for the degree of B.Com. as it may prescribe.

The examination consists of not less than four written papers and such practical or oral examinations, or both, as the Senate may prescribe.

Magister Commercii: M.Com.

Admission requirement: The degree of B.Com. Hons.

Curriculum: See Faculty of Arts, M.A. degree, p.15.

Doctor Commercii: D.Com.

See Faculty of Arts, D.Phil. and D.Litt. degrees, p.15.

CERTIFICATE

Certificate in the Theory of Accountancy: C.T.A.

Admission requirements: The degree of B.Com. (Accountancy) or any other approved Bachelor's degree provided that the Senate may in such a case prescribe a special curriculum.

Curriculum: At least one year of full-time or part-time study.

The following courses are prescribed: Accounting IV, Auditing IV, Cost and Management Accounting IV, Income Tax IV, Accounts of Executors, Liquidators and Trustees II.

A candidate who qualifies for the Honours degree in Accountancy Subjects obtains simultaneously the C.T.A., provided that he has complied with all the requirements for obtaining the Certificate.

P O T C H E F S T R O O M U N I V E R S I T Y F O R C H R I S T I A N H I G H E R E D U C A T I O N

FACULTY OF ECONOMIC SCIENCES

Degrees

Bachelor of Commerce	: B.Comm.
Honours Bachelor of Commerce	: Hons. B.Comm.
Master of Commerce	: M.Comm.
Doctor of Commerce	: D.Comm.
Baccalaureus Rationalium	: B.R.
Honours Business Administration	: H.B.A.
Master of Business Administration	: M.B.A.
Doctor of Business Administration	: D.B.A.

Diplomas

Diploma in Cost Accounting
University Diploma in Commerce

DEGREES

Bachelor of Commerce: B.Comm.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on at least the Standard Grade.

Curriculum: Three years of full-time study or four years of extramural study. A student must pass in at least 16 courses. A curriculum includes at least three major subjects, in each of which two or three full courses must be taken.

A student may present himself for examination in subjects from the following groups:

GROUP A

Major subjects with three courses
Accounting, Business Economics, Economics, Industrial and Personnel Psychology, Industrial Sociology, Mathematics, Statistics

Group B

Major subjects with two courses

Auditing, Mercantile Law, Cost Accounting, Money and Banking

Group C

Supplementary ancillary subjects

Agricultural Economics I and II, Communication I and II, Computer Methods, Distributive Trade, Economic History I and II, Income Tax, Industrial Law, Insurance, Optimisation.

There are prescribed curricula for the following major subjects:

* Indicates that at least one of the courses must be a final course from Groups A and B.

- (i) Economics and Money and Banking
Third year: Economics III or Mathematical Economics III, Money and Banking II, plus three more courses from groups A, B and C.*
- (ii) Business Economics
Third year: Business Economics III, Cost Accounting II, plus three more courses from groups A, B and C.*
- (iii) Cost Accounting
Third year: Cost Accounting II, Income Tax I and one of the following: Accounting III, Business Economics III, Economics III, plus two more courses from groups A, B and C.*
- (iv) Accountant's training
A student who intends to qualify as a Public Accountant, must have obtained at least 40 per cent in Mathematics on the Higher Grade or 50 per cent on the Standard Grade; and must complete this curriculum.
Third year: Accounting III, Cost Accounting II, Mercantile Law II, Income Tax I, Auditing II.
- (v) Statistics
Third year: Mathematical Economics III, Statistics III, Mathematics III, Econometrics plus one course from groups A, B and C.
- (vi) Industrial and Personnel Psychology
Third year: Industrial and Personnel Psychology III, Business Economics III, plus three more courses from groups A, B and C of which at least one must be a final course from Group A.

Extramural students choose one of the following curricula: Economics, Business Economics, Cost Accounting, Industrial and Personnel Psychology, Accountant's training.

B.Comm. with supplementary Law subjects

The curriculum includes, *inter alia*, the following: Economics III, Roman Law, Money and Banking II, Private Law II, Business Economics III or Accounting III.

A student who has passed in all the prescribed subjects, may obtain the degree of Bachelor of Laws (see p.175) after a further three years of study.

All students must also pass in Philosophy of Science A and Philosophy of Science B.

Honours Bachelor of Commerce: Hons. B.Comm.

Admission requirement: A B.Comm. degree.

Curriculum: A student must complete advanced study in one or two of the following departments, provided that the requirements of the B.Comm. degree in such a field of study are fulfilled before the Hons. B.Comm. examination is conducted: Accounting, Business Economics, Cost Accounting, Economics, Industrial and Personnel Psychology, Industrial Sociology, Statistics and any other approved department.

A student must attend an approved course for at least one academic year and pass the prescribed examination.

Master of Commerce: M.Comm.

Admission requirement: An Hons.B.Comm degree.

Curriculum: A student must pursue an approved course or courses of study or research or both at the University for at least one academic year.

The subjects for the M.Comm. degree are the same as those prescribed for the Hons. B.Comm. degree.

The examinations comprise examination papers and a dissertation in a field of the subject concerned.

Doctor of Commerce: D.Comm.

Admission requirement: An M.Comm. degree.

Curriculum: The degree will only be awarded after the candidate has pursued an approved course or courses of study or research or both at the University for at least two academic years.

The subjects for the D.Comm. degree are the same as those prescribed for the Hons. B.Comm. degree.

The examination for the degree comprises at least a thesis which includes the results of the candidate's study and research.

A thesis will not be accepted unless it is a positive contribution to the knowledge and understanding of the subject and affords evidence of originality shown either by the discovery of new facts or by the exercise of an independent critical faculty.

Baccalaureus Rationalium: B.R.

Admission requirement: An approved Bachelor's degree and the candidate must have passed in the following courses:

Accounting III, Auditing II, Mercantile Law II, Cost Accounting II, Income Tax I.

Curriculum: Two years of part-time study.

Financial Accounting and Auditing are the major subjects.

This degree grants admission to the qualifying examination of the Public Accountants' and Auditors' Board.

Honours Business Administration: H.B.A.

Admission requirement: A Bachelor's degree.

Curriculum: Two academic years. The course is only offered extramurally at Potchefstroom and Vanderbijlpark.

The degree will only be awarded to a student who has completed two years' approved practical experience.

Students who have not previously attended courses in Economics and Business Economics will be required to supplement their knowledge of these courses to the satisfaction of the departmental heads concerned.

A student has to pass in all the prescribed courses at the end of each year of study.

Master of Business Administration: M.B.A.

Admission requirement: The H.B.A. degree.

Curriculum: A student must complete the following courses: Management Economics II, Analysis and interpretation of financial accounts and statements, Personnel Control and Organization Theory and Interpersonal Relations II, Advanced Management Accounting and Inference, Essay.

The curriculum extends over at least one academic year. The M.B.A. degree course is offered extramurally at Vanderbijlpark.

Doctor of Business Administration: D.B.A.

Admission requirement: The M.B.A. degree.

Curriculum: As for the D.Comm. degree.

DIPLOMAS

Diploma in Cost Accounting

Admission requirements: A student must hold (i) the B.Comm. degree with Accounting III, Cost Accounting II, Income Tax I; or (ii) the National Diploma for Cost Accountants; or (iii) be an associate member of the SA Institute of Chartered Secretaries and Administrators.

Curriculum: Two years. The Diploma will only be awarded to candidates who have had two years' approved practical experience.

University Diploma in Commerce

Admission requirement: A Senior Certificate.

Curriculum: Three years. The curriculum includes, *inter alia*, the following courses: Business Economics II, Economics, Accounting, Industrial and Personnel Psychology, Secretarial Practice, Distributive Trade.

Vanderbijlpark: The following courses are offered extramurally at Vanderbijlpark: B.Comm., Hons. B.Comm. (Cost Accounting), H.B.A., M.B.A.

U N I V E R S I T Y O F P R E T O R I A

FACULTY OF ECONOMIC AND POLITICAL SCIENCES

Degrees

in Commerce

Bachelor of Commerce	: B.Com.
Bachelor of Commerce (Education)	: B.Com. (Ed.)
Bachelor of Commerce (Honours)	: B.Com. (Hons.)
Master of Commerce	: M.Com.
Doctor of Commerce	: D.Com.

in Public Administration

Bachelor of Public Administration	: B.Admin.
Bachelor of Public Administration (Honours)	: B.Admin. (Hons.)
Master of Public Administration	: M.Admin.
Master of State and Urban Administration	: M.S.A.
Doctor of Public Administration	: D.Phil.

in Business Administration

Master of Business Administration	: M.B.A.
Doctor of Business Administration	: D.B.A.

Diplomas and Certificate

Diploma in Business Administration	: Dip. B.A.
Diploma in Advanced Public Administration	
Certificate in the Theory of Accountancy	

DEGREES

Bachelor of Commerce: B.Com.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 40 per cent on the Standard Grade.

Curriculum: Three years of full-time study or four years of extramural study. A curriculum includes about 13 courses. A student chooses one of the following major fields:

- (i) Economic Sciences
Third year: Economics III and two of the following: Business Economics III, Cost Accounting and Management, Economic Analysis, Accounting III, Statistics III, Commercial Law III
- (ii) Marketing
Third year: Marketing IIIA, Marketing IIIB, Business Economics III
- (iii) Econometry
Third year: Economics III, Mathematical Statistics III, Economic Analysis
- (iv) Personnel Management
Third year: Personnel Management III, Business Economics III, Labour Law B
- (v) Accountancy
Third year: Accounting III, Auditing II, Informatics, Income Tax and one of the following: Commercial Law III, Cost and Management Accounting.

At present some courses are offered only intramurally, others only extramurally. All candidates who are in their final year of study for the B.Com. degree must attend an orientation course in the use of the computer and electronic data processing. No examination is conducted.

Bachelor of Commerce (Education): B.Com. (Ed.)

Admission requirements: As for the B.Com. degree as well as a pass in Afrikaans and in English in the matriculation examination.

Curriculum: Four years of full-time study. The major subjects are Economics III and one of the following: Business Economics III, Accounting III. In the fourth year students take educational subjects such as Pedagogics III, School Practice, School Organisation and Administration, Subject Didactics of at least two school subjects.

Bachelor of Commerce (Honours): B.Com. (Hons.)

Admission requirement: A B.Com. degree.

A candidate must satisfy the head of the department concerned that he has sufficient knowledge of the subject to be able to undertake the work for the degree.

Curriculum: A candidate qualifies for the Honours degree after he has obtained at least eight credits in the courses offered.

The degree may be obtained in the following fields of study: Accountancy, Business Economics, Econometry, Economics, Marketing, Personnel Management, Statistics.

Master of Commerce: M.Com.

Admission requirement: The B.Com. (Hons.) degree.

Curriculum: A student must obtain two credits and submit a dissertation on a subject from his field of study for the B.Com. (Hons.) degree.

Bachelor of Public Administration: B.Admin.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A candidate must also obtain a pass in at least two of the following subjects on the Higher Grade, viz: History, Geography, Mathematics, Biblical Studies, Biology or Physiology, Physical Science and a third language: Provided that when a language is only offered on the Standard Grade, it will be recognised for this purpose.

Additional admission requirements to courses

Business Economics II, Economics II, Accounting or Statistics: At least 40 per cent in Mathematics on the Standard Grade or, as an alternative, a pass in an approved course in Econometric Methods.

Curriculum: Three years of full-time study or four years of extramural study.

The curriculum comprises 12 courses. In the third year students take Public Administration III and two more subjects which they have to choose from the following: Business Economics III, Economics III, International Politics II, Economic Analysis, Personnel

Management III, Accounting III, Political Science III, Statistics III, Interpretation of Statutes, another third year course approved by the Dean.

Bachelor of Public Administration (Honours): B.Admin. (Hons.)

Admission requirement: A B.Admin. degree. See also B.Com. (Hons.)

Curriculum: A candidate qualifies for the Honours degree after obtaining at least eight credits in the courses offered.

The degree may be obtained in the following fields of study: Economics, International Politics, Public Administration, Political Science.

Master of Public Administration: M.Admin.

Admission requirement: The B.Admin. (Hons.) degree.

Curriculum: A student must obtain two credits and submit a dissertation on a subject from the field of study for the B.Admin. (Hons.) degree.

Master of State and Urban Administration: M.S.A.

Admission requirements: A candidate must hold a Bachelor's degree or be admitted to the status thereof. He must also have had at least three years' practical experience, preferably in the public sector. The candidate must also have 5 core courses of the B. degree, viz Public Administration III, Economics I and Political Science I.

Curriculum: At least two years and not more than four years. The degree course consists of three parts. Each part must be completed separately. Part 3 comprises a dissertation of limited scope on an approved topic taken from any of the subjects in parts 1 or 2.

Only one supplementary examination in not more than any two subjects may be granted.

Master of Business Administration: M.B.A.

Admission requirements: A candidate must hold a Bachelor's degree, a pass mark in Mathematics on the Standard 10 level and have had adequate practical experience.

Curriculum: The part-time study extends over at least two years of 34 weeks each, but must be completed within four years.

The curriculum comprises ten subjects and a paper. A candidate must submit a paper on an approved topic from any of the subjects for the degree.

Doctor's degree: D.Com., D.B.A. or D.Phil.

Admission requirements: A candidate must hold a Master's degree or be admitted to the status thereof.

Curriculum: Each candidate for the D.Com. or D.B.A. degree must submit, for the approval of the Senate, a thesis on a topic in the field in which the B. (Hons.) degree or the Master's degree or the M.B.A. degree was obtained, and each candidate for the D.Phil. degree must submit a thesis on a topic from Economics, Political Science, International Politics or Public Administration.

The examination is conducted in one major subject and two ancillary subjects selected from the subjects of the Faculty.

A reading knowledge of French or German is compulsory for all candidates.

A Doctor's degree is awarded at least four years after all the requirements for the Bachelor's degree have been fulfilled or at least three years after all the requirements for the Master's degree have been fulfilled.

DIPLOMAS AND CERTIFICATE

Diploma in Business Administration: Dip. B.A.

Admission requirements: A candidate who, at the discretion of the departmental head, holds appropriate qualifications and/or experience, may be admitted to the Diploma course.

The regulations for the M.B.A. degree is, otherwise, mutatis mutandis, applicable to the Diploma.

Diploma in Advanced Public Administration

Admission requirements: A Senior Certificate or equivalent qualification, and adequate experience.

Curriculum: At least two years and not more than four years. The curriculum comprises the following courses:

First year: General Politics, Economic Principles of Public Administration, Fundamentals of the SA Administrative Systems. Second year: Advanced Administrative Theory and Practice; Advanced Personnel Administration (Public sector); Advanced Financial Administration (Public sector); and TWO of the following: Government Planning, Advanced Municipal Administration, International Administration, Industrial Psychology Special, Administrative Technology, Business Economics Special, Constitutional and Administrative Law, Interpretation of Statutes.

Certificate in the Theory of Accountancy: C.T.A.

The Certificate in the Theory of Accountancy will only be awarded to graduates who have passed the following courses:

- Accounting I, II, III and Advanced Accounting
- Auditing I, II and Advanced Auditing
- Cost and Management Accounting and Advanced Management Accounting
- Income Tax and Advanced Income Tax
- Administration of Estates
- Commercial Law I, II and III
- Statistics I
- Business Economics I and II and Economics I and II or in any other course or courses which cover the same subject field, but not being of a lower standard
- Advanced Accountant's Practice
- Orientation course, computer or Informatics.

Where applicable courses taken for the B.Com. (Hons.) (Accountancy) degree, will be recognised for the C.T.A.

R A N D A F R I K A A N S U N I V E R S I T Y

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

Degrees

Bachelor of Economic and Management Sciences	: B.Com.
Bachelor of Economic and Management Sciences for Teacher Training	: B.Com. (Ed.)
Honours Bachelor of Economic and Management Sciences	: B.Com. Hons.
Master of Economic and Management Sciences	: M.Com.
Master of Philosophy	: M.Phil.
Doctor of Philosophy	: D.Phil.
Doctor of Economic and Management Sciences	: D.Com.

Certificate

Certificate in the Theory of Accountancy	: C.T.A.
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DEGREES

Bachelor of Economic and Management Sciences: B.Com.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Additional admission requirements to courses

- Mathematics: Candidates who have passed Mathematics on the Standard Grade will only in exceptional cases, be admitted to the course in Mathematics after a test set by the Department of Mathematics has been passed.

- Mathematical Methods: A pass (40 per cent) in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, and after a test set by the Department of Mathematics has been passed.

Curriculum: Three years of full-time study or four years of part-time study. A curriculum comprises 14 year courses or the equivalent in semester courses plus Theory of Science A and B. A curriculum must include three major subjects.

The degree is offered in the following fields:

- (i) General
Compulsory subjects: Business Economics, Economics, Accounting, Commercial Law, Statistical Methods or Mathematical Statistics
- (ii) Industrial Psychology
Compulsory subjects: Business Economics, Industrial Psychology, Economics, Accounting, Statistical Methods or Mathematical Statistics
- (iii) Econometry
Compulsory subjects: Economics, Mathematics, Mathematical Statistics, Business Economics, Commercial Law, Accounting, Computer Science or Business Data Processing
- (iv) Communication
Compulsory subjects: Business Economics, Economics, Communication, Industrial Psychology, Accounting, Sociology, Statistical Methods or Mathematical Statistics
- (v) Education
Compulsory subjects: Business Economics, Economics, Accounting, Teaching Practice, Education. See also p.125.
- (vi) Law
Compulsory subjects: Private Law, Roman Law, Mercantile Law, Business Economics, Economics, Accounting
Matriculation Latin (or Latin Special) is a prerequisite for Roman Law I. Roman Law I is a prerequisite for Private Law III. Roman Law I is a second-year course.
- (vii) Computer Science
Compulsory subjects: Business Economics, Computer Science, Economics, Accounting, Mathematical Statistics
- (viii) Accounting
Compulsory subjects: Business Economics, Auditing, Accounting, Economics, Commercial Law, Cost and Management Accounting, Statistical Methods or Mathematical Statistics
- (ix) Transport
Compulsory subjects: Transport Economics, Transport Administration and Management, Business Economics, Economics, Commercial Law, Accounting, Statistical Methods or Mathematical Statistics.

B.Com. (Accounting) - C.T.A. (for part-time students)

Students who intend to sit for the Qualifying Examination of the Public Accountants' and Auditors' Board and thus have to obtain the Certificate in the Theory of Accountancy (C.T.A.) before they can sit for the above-mentioned examination, must complete this course.

Admission requirement: As for the B.Com. degree.

Curriculum: Five years of part-time study. The major subjects for the B.Com. degree are Accounting III, Auditing II, Business Economics III. The fifth year is the C.T.A. course and comprises the following subjects: Accounting IV, Cost and Management Accounting II, Auditing III and Income Tax II.

A candidate obtains his B.Com. (Accounting) degree after he has completed 14 of the 16 year courses of the first four years of study.

B.Com. Hons., M.Com., D.Phil. and D.Com. degrees

See Faculty of Arts, B.A. Hons., M.A. and Doctor's degrees, pp. 22, 23.

M.Phil. degree

See Faculty of Science, M.Phil. degree, p.99.

R H O D E S U N I V E R S I T Y

FACULTY OF COMMERCE

Degrees

Bachelor of Commerce	: B.Com.
Bachelor of Commerce with Honours	: B.Com. (Hons.)
Master of Commerce	: M.Com.
Bachelor of Economics	: B.Econ.
Bachelor of Economics with Honours	: B.Econ. (Hons.)
Doctor of Economics	: D.Econ.
Doctor of Philosophy	: Ph.D.

Diploma and Certificates

Diploma in Personnel Management	: Dip. Pers. Man.
Certificate in the Theory of Accountancy	: C.T.A.
Certificate in Secretarial Practice	

DEGREES

Bachelor of Commerce: B.Com.

The degree of Bachelor of Commerce may be awarded either as an ordinary degree or as an Honours degree.

The ordinary degree

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional admission requirements to courses

Mathematics, Computing and Applied Mathematics, Physics or Statistics: A pass in Mathematics with at least an F symbol on the Higher Grade or at least an E symbol on the Standard Grade.

Curriculum: Three years. A candidate must obtain credit in all the courses contained in one of the following curricula. Each curriculum contains twelve courses.

Curriculum 1. (General) is designed for those who desire to obtain a broad general knowledge of commerce and industry, and those who intend to enter the teaching profession.

First-year subjects are: Accounting, Business Administration, Economics, Business Mathematics and Statistics or Elementary Theory of Finance and Statistics or Mathematics, Mercantile Law.

The two major subjects are chosen from, inter alia, the following: Accounting, Business Administration, Economics, Computer Science, Mathematics, Mathematical Statistics.

Curriculum 2. (Business Administration) is designed to provide an appropriate theoretical foundation for those who intend to enter the managerial profession in either the private or public sectors of the national economy.

First-year subjects are the same as for Curriculum 1. One major subject is Business Administration and the second one is chosen from, inter alia, the following: Accounting, Computer Science, Economics, Mathematics.

Curriculum 3. (Accounting): Students who wish to enter the profession of Accountancy should take this course which includes most of the subjects required for the Certificate in the Theory of Accountancy, which can be completed in one further year of study after completion of the degree course.

First-year subjects are Accounting, Business Administration, Business Mathematics and Statistics, Economics, Mercantile Law.

Third-year subjects are Accounting III, Business Administration II, Cost and Management Accounting. Auditing I is taken in the second year.

Curriculum 4. (Law): Students who wish to enter the legal profession should take this course. By doing so, they can obtain exemptions from LL.B. subjects, sufficient to enable them to complete this degree in a further period of two years, instead of the usual period of three years.

First-year subjects are Accounting, Economics, Legal Theory and two of the following: English I, Afrikaans I or Afrikaans/Nederlands I, Latin I, a course in any other language.

The major subjects are Legal Theory III and Business Administration II.

Students who have not obtained a pass in Latin in the Std 10 examination are not qualified to take Latin I and will thus be required to obtain credit in Preliminary Latin.

Curriculum 5. (Economics) is designed to enable students to include in their B.Com. degree as much knowledge of Economics and related subjects as possible.

First-year subjects are the same as for Curriculum 1. The major subjects are Economics III and one of the following: Accounting, Computer Science, Economic History, Economics of Agriculture, Mathematics, Mathematical Statistics, Mathematics and Statistics.

Curriculum 6. (Psychology) allows students to include three courses in Psychology in their degree and is particularly suitable for those who are interested in personnel management.

First-year subjects are Accounting, Business Administration, Economics, Psychology and Mercantile Law.

Third-year subjects are Psychology III and two of the following: Business Administration III, Economics III, Economic History II, Sociology I.

Curriculum 7. (Statistics) enables students to combine in their degree the fundamental B.Com. subjects and a knowledge of mathematical and statistical techniques.

First-year subjects are the same as for Curriculum 1. The major subjects are Mathematics and Statistics III and one of the following: Accounting III, Economics III, Business Administration III.

Bachelor of Commerce with Honours: B.Com. (Hons.)

Admission requirements: The B.Com. degree, and at least a second class pass in the final year in the subject in which the candidate wishes to take Honours.

Curriculum: One year of full-time study. The degree may be taken in Accounting, Business Administration, Economics, Economic History or Economics of Agriculture.

A candidate may be required to satisfy the examiners that he has an adequate reading knowledge of an approved language other than the official languages.

Bachelor of Economics: B.Econ.

Admission requirements: As for the B.Com. degree.

Curriculum: Three years of full-time study. The curriculum comprises eleven courses. A candidate must obtain credit in all the courses. The courses for the first year are as follows: Accounting, Economics, Mathematics and a course selected from courses offered in this Faculty. The major subjects are Economics III and one of the following: Accounting III, Computer Science III, Economics of Agriculture II, Economic History II, Mathematics III or Mathematical Statistics III or Mathematics and Statistics III.

Bachelor of Economics with Honours: B.Econ. (Hons.)

Admission requirements: The B.Econ. degree, and at least a second class pass in the final year in the subject in which the candidate wishes to take honours.

Curriculum: A candidate must attend the University for at least one year. The degree may be taken in either Economics or as a combined course in Economics, Mathematics and/or Mathematical Statistics.

Master of Commerce: M.Com.

As for the M.A. degree. See Faculty of Arts, p.25.

Doctor of Philosophy: Ph.D.

See Faculty of Arts, p.25.

Doctor of Economics: D.Econ.

As for D.Litt. degree. See p.25.

DIPLOMA AND CERTIFICATES

Diploma in Personnel Management: Dip. Pers. Man.

Admission requirements: A Bachelor's degree in any Faculty and credit in Psychology I.

Curriculum: One year. A candidate must obtain credit in all the following courses: Economics and Business Managerial Policy; Group Organisation, Interaction and Behaviour; Psychology in Industry; Principles and Practice of Personnel Management. A candidate is required to work for at least eight weeks in the personnel department of an approved business firm or other institution during the year he is studying for the Diploma.

Certificate in the Theory of Accountancy: C.T.A.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics.

Curriculum: Four years of full-time study. The curriculum consists of fifteen courses and a candidate must obtain credit in all the courses. The following courses are included in the curriculum: Accounting IV; Auditing II; Income Tax Practice; Mercantile Law II; Cost and Management Accounting; Accounts of Executors, Liquidators and Trustees; an approved course in Business Data Processing; Business Mathematics and Statistics; English or Afrikaans; an approved course in Economics.

Certificate in Secretarial Practice

Admission requirement: A Senior Certificate.

Curriculum: Two years of full-time study. A candidate must obtain credit in ten courses. The following courses are included in the curriculum: Secretarial and Commercial Practice, Shorthand, Typewriting, Business Administration and subjects chosen from, *inter alia*, the following: Afrikaans or Afrikaans/Nederlands I, English I, French, German, Psychology, Accounting, Speech and Drama.

UNIVERSITY OF SOUTH AFRICA

FACULTY OF COMMERCE AND ADMINISTRATION

Degrees

in Commerce

Bachelor of Commerce	: B.Com.
Honours Bachelor of Commerce	: Hons. B.Com.
Master of Commerce	: M.Com.
Doctor of Commerce	: D.Com.

in Accounting Science

Bachelor of Accounting Science	: B.Compt.
Honours Bachelor of Accounting Science	: Hons.B.Compt.
Master of Accounting Science	: M.Compt.
Doctor of Accounting Science	: D.Compt.

in Administration

Master of Administration	: M.Admin.
Doctor of Administration	: D.Admin.

in Business Leadership

Master of Business Leadership	: M.B.L.
Doctor of Business Leadership	: D.B.L.

Diploma and Certificate

Diploma in Market Research and Advertising
Certificate in the Theory of Accountancy

DEGREES

Bachelor of Commerce: B.Com.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A student shall not take Mathematics I unless he has passed in Mathematics in the Std 10 examination on the Higher Grade or obtained at least 60 per cent on the Standard Grade.

Curriculum: The curriculum extends over at least three years and consists of fourteen courses.

Students select one of the following fields:

- (i) General
Compulsory major subjects: Economics III and Business Economics III
- (ii) Administration
Compulsory major subjects: Economics III, Business Economics III, Industrial Psychology III
- (iii) Accounting
Compulsory major subjects: Economics III, Business Economics III, Accounting III or Accounting III (Local Government)
- (iv) Law
Compulsory major subjects: Economics III, Business Economics III, Private Law III, Roman Law I

A knowledge of Latin is essential for Roman Law.

(v) Economics

Compulsory major subjects: Economics III, Economic Analysis II.

Honours Bachelor of Commerce: Hons. B.Com.

Admission requirements: A student must hold a B.Com. degree and have passed the final course in the subject in which he wishes to proceed; or be in possession of another degree and have passed at least seven B.Com. courses, including at least Economics I and II, Business Economics I and II and Accounting I; and have passed the final course in the subject in which he wishes to proceed.

Curriculum: No candidate is admitted to the examination unless he has completed an approved curriculum during at least one year.

The degree may be conferred in the following departments: Accounting, Auditing, Business Economics, Economics, Industrial Psychology, Statistics.

A student may not take the degree in Auditing unless he has completed Accounting III; or in Accounting unless he has completed Cost Accounting and Auditing I.

Note: The degree will not be awarded to a student unless he has passed Statistics I (or an approved mathematical course).

Master of Commerce: M.Com.

Admission requirement: The degree of Hons. B.Com.

Curriculum: The degree may be conferred in the same departments as the Honours Bachelor's degree. No dissertation may be submitted until one year has elapsed after the Honours Bachelor's degree was obtained. Some departments also require written and/or oral examinations.

Bachelor of Accounting Science: B.Compt.

Admission requirement: As for the B.Com. degree.

Curriculum: The curriculum extends over four years and consists of 16 courses. A student does not take more than five courses in one year.

The curriculum includes, inter alia, the following courses: Accounting IV, Income Tax, Auditing II, Commercial Law III, Business Economics II or Economics II, Administration of Estates, Information Systems, Statistics I.

Statistics I and Administration of Estates are compulsory for students who wish to obtain the Certificate in the Theory of Accountancy.

Honours Bachelor of Accounting Science: Hons. B.Compt.

Admission requirements: The degree of B.Compt. or another degree with Accounting IV, Information Systems (or another approved course in information systems or data processing), Income Tax, Auditing II and Commercial Law III as subjects passed.

Curriculum: The one-year curriculum comprises the following five four-hour papers: Advanced Auditing, Public Audit Practice, Advanced Financial Accounting, Advanced Management Accounting, Advanced Income Tax.

A student will comply with the requirements for the Certificate in the Theory of Accountancy if he has passed Statistics I (or another approved mathematical course) and Administration of Estates and has completed the Hons. B.Compt. degree and is or has been registered with the Public Accountants' and Auditors' Board as an articled clerk.

Master of Accounting Science: M.Compt.

Admission requirement: The degree of Hons. B.Compt.

Curriculum: The examination consists of a dissertation on an approved topic. No dissertation may be submitted until one year has elapsed after the Honours Bachelor's degree was obtained.

Master of Administration: M.Admin.

Admission requirements: A student shall

- (i) hold a Bachelor's degree;
- (ii) have had at least three years' appropriate practical experience, preferably in the public sector;
- (iii) have passed Public Administration III and at least two courses in one or more of the following subjects: Economics, Industrial Psychology, African Development Administration, Political Science.

Curriculum: The curriculum consists of three parts. Part III consists of a dissertation of limited scope on an approved topic from any of the subjects taken for parts I and II.

Master of Business Leadership: M.B.L.

General Management

Admission requirements: A student must

- (i) hold a Bachelor's degree; or
have obtained the Certificate in the Theory of Accountancy and have qualified for or be in possession of the C.A. (S.A.); and
- (ii) have had at least three years' appropriate experience in an approved undertaking; provided that with the special permission of the Senate a shorter period may be accepted;
- (iii) join a study group. Should it be impossible to form a local group, a student must join an existing group elsewhere. A student's enrolment is accepted on these conditions.

Curriculum: The curriculum consists of Section A and Section B. Section B consists of (a) a dissertation on an approved topic; or a departmental examination in a specialisation field of Business Leadership and a short dissertation of limited scope; or a short dissertation of limited scope or a departmental examination and a project study which shall be planned and implemented in the work situation and (b) an assignment which shall take the form of a case study.

A student attends five study schools. Attendance at the study schools is compulsory.

Doctor of Business Leadership: D.B.L.

Admission requirement: The M.B.L. degree.

Curriculum: The examination comprises a written or oral examination and a thesis on an approved subject in Business Leadership.

Doctor of Commerce: D.Com. or

Doctor of Accounting Science: D.Compt. or

Doctor of Administration: D.Admin.

Admission requirements: A student shall hold the M.Com., the M.Compt. or the M.Admin. degree respectively.

Curriculum: The thesis shall deal with a subject in the field of Accounting, Auditing, Business Economics, Economics, Development Administration and Politics, Industrial Psychology, Political Science, Public Administration, Statistics or Transport Economics.

DIPLOMA AND CERTIFICATE

Diploma in Market Research and Advertising

Admission requirement: A student must possess a degree.

Curriculum: The curriculum extends over two years and consists of eight courses. The courses are as follows: Economics I; Business Economics I and II; Consumer Behaviour; Statistics I; Market Research A and B; Advertising.

Certificate in the Theory of Accountancy

The Certificate may be taken only by students who have already obtained credits towards the Certificate. Students who are registered as articled clerks with the Public Accountants' and Auditors' Board and wish to qualify for admission to the Board's examinations, must complete the B.Compt. and the Hons. B.Compt. degrees. See p.67.

U N I V E R S I T Y O F S T E L L E N B O S C H

FACULTY OF COMMERCE AND ADMINISTRATION

Degrees

in Commerce

Bachelor of Commerce	: B.Comm.
B.Comm. with Law subjects	
Honours Bachelor of Commerce	: B.Comm. Hons.
Master of Commerce	: M.Comm.
Doctor of Commerce	: D.Comm.

in Economic Sciences

Bachelor of Economic Sciences	: B. Econ.
Honours Bachelor of Economic Sciences	: B.Econ. Hons.
Master of Economic Sciences	: M.Econ.
Doctor of Economic Sciences	: D.Econ.

in Administration

Bachelor of Administration	: B.Admin.
Honours Bachelor of Administration	: B.Admin. Hons.
Master of Administration	: M.Admin.
Doctor of Administration	: D.Admin.

in Accounting

Bachelor of Accounting	: B.Accounting
Honours Bachelor of Accounting	: B.Accounting Hons.
Master of Accounting	: M.Accounting
Doctor of Accounting	: D.Accounting

in Business Management and Administration

Honours Bachelor of Business Management and Administration	: B. (B. and A.) Hons.
Master of Business Management and Administration:	M.B.A.
Doctor of Business Management and Administration:	D.B.A.

in Public Administration

Honours Bachelor of Public Administration	: B. in Public Administration Hons.
Master of Public Administration	: M.P.A.
Doctor of Public Administration	: D.P.A.

Diplomas

Diploma in Business Management and Administration:	Dipl. (B. and A.)
Advanced Diploma in Business Management and Administration	: Adv. Dipl. (B. and A.)

DEGREES

Bachelor of Commerce: B.Comm.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Standard Grade. For courses in which Mathematics I is offered as a subject: A pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade.

Curriculum: Three years of full-time study or four years of part-time study. The degree is offered in two fields, viz the Ordinary field and the Mathematical field. First-year subjects for both fields include, inter alia, Business Economics and Theory of Finance, Economics, Financial Accounting, Mathematics, Computer Science.

Students who take the Mathematical field, choose two of the following subjects as major subjects: Mathematics, Business Economics, Economics, Financial Accounting, Mathematical Statistics, Computer Science, Transport Economics.

For the degree of B.Comm. (Ordinary field) two of the following subjects must be chosen as major subjects: Business Economics, Economics, Financial Accounting, Industrial Psychology, Commercial Law (Commerce), Computer Science, Statistics, Sociology, Transport Economics.

To obtain admission to the H.D.E. course (see p.129), at least five of the year courses must be chosen from the following subjects of which at least one must be at third-year level and at least one at second-year level: Business Economics, Economics, Geography, Mercantile Law, Financial Accounting/Accounting and Mathematics.

Full-time students are strongly advised to gain practical experience at business firms during vacations.

B.Comm. with Law subjects

Admission requirements: As for the B.Comm. degree, but Mathematics is not a requirement. Students are strongly advised to take, inter alia, Latin for the Standard 10 examination.

Curriculum: Three years of full-time study. First-year subjects are Private Law, Economics, Business Economics, Financial Accounting, Latin, Special English or English, Afrikaans or Afrikaans-Nederlands. The first four subjects mentioned are also taken in the second year and the third-year subjects are Private Law III and Roman Law.

Honours Bachelor of Commerce: B.Comm.Hons.

Admission requirements: A B.Comm. or other approved Bachelor's degree.

Curriculum: One year of full-time study or at least two years of part-time study. The Honours degree is awarded in the following major fields: Business Economics, Industrial Psychology, Economics, Transport Economics, Mathematical Statistics and Statistics. Courses in the following major fields may also be taken for the B.Comm.Hons. degree: Sociology, Computer Science and Mathematics.

Master of Commerce: M.Comm.

Admission requirements: A B.Comm.Hons. or other approved Honours degree, or a B.Comm. or other approved Bachelor's degree.

Curriculum: Students must attend an approved curriculum of research and/or advanced study at the University or at another approved place for at least one year.

Students who hold a B.Comm. degree must pursue an approved curriculum for at least two years which may include a period of study or research of not longer than one year at another recognised place.

Students must also undertake supplementary work or study which the lecturer concerned may require and submit a satisfactory dissertation or satisfactory assignments which may be prescribed by the lecturer concerned and pass the prescribed examination in the required number of fields of study.

Bachelor of Economic Sciences: B.Econ.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). In cases where the choice of subjects includes Statistics (half course) and Mathematics (half course) a pass in Mathematics on the Standard Grade is a requirement.

Curriculum: Three years of full-time study or four years of extramural study. In the third year students choose one of the following as a major subject: Business Economics, Economics, Financial Accounting, Industrial Psychology or Geography, Commercial Law (Commerce), Statistics or Development Administration, Transport Economics or Political Science, Sociology.

Honours Bachelor of Economic Sciences: B.Econ. Hons.

Admission requirements: A B.Econ. or other approved Bachelor's degree.

Curriculum: One year of full-time study or two years of part-time study. Students may study any of the following major fields if they had taken and passed the subject concerned for the Bachelor's degree on a three-year basis: Economics, Business Economics, Transport Economics, Industrial Psychology, Political Science, Sociology, Development Administration, Geography, Statistics.

Students must pass in the examination at the end of the year.

Master of Economic Sciences: M.Econ.

Admission requirements: A B.Econ.Hons. or other approved Honours degree, or a B.Econ. or another approved Bachelor's degree.

Curriculum: Students must pursue an approved curriculum of research and/or advanced study at the University or at another approved place for at least one year (after obtaining the Honours degree); or at least two years (after obtaining the Bachelor's degree) which may include a period of study or research of not longer than one year at another approved place. See also M.Comm.

Bachelor of Administration: B.Admin.

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years of full-time study or four years of part-time study. The third year subjects are as follows: Public Administration (compulsory major subject) and one of the following: Economics, Business Economics, Industrial Psychology, Development Administration, Political Science or Transport Economics, Commercial Law (Commerce), Sociology, Financial Accounting.

Honours Bachelor of Administration: B.Admin.Hons.

Admission requirement: A B.Admin. or another approved Bachelor's degree.

Curriculum: One year of full-time study or two years of part-time study. Students must pass the examination at the end of the period of study.

Students may study in any of the following major fields, provided that they had taken and passed the specific subject on a three-year basis for the Bachelor's degree: Political Science, Public Administration, Economics, Development Administration, Sociology, Industrial Psychology, Transport Economics.

Master of Administration: M.Admin.

Admission requirements: A B.Admin.Hons. degree or another approved Honours degree, or a B.Admin. or another approved Bachelor's degree.

Curriculum: As for the M.Comm. degree.

Bachelor of Accounting: B.Accounting

Admission requirements: As for the B.Comm. degree.

Curriculum: Three years of full-time study or four years of part-time study. The third year subjects include Accounting, Auditing, Cost Accounting, Income Tax, Commercial Law (Commerce).

Honours Bachelor of Accounting: B.Accounting Hons.

Admission requirements: A B.Accounting degree or other approved Bachelor's degree.

Curriculum: The courses for the degrees of B.Accounting Hons. and M.Accounting are only offered extramurally at Bellville.

The B.Accounting Hons. degree grants admission to the qualifying examination of the Public Accountants' and Auditors' Board.

The curriculum for the Honours degree extends over two years and comprises the following courses: Accounting IV and V, Auditing II and III, Management Control and Company Law II, Income Tax II.

Master of Accounting: M.Accounting

Admission requirements: A B.Accounting Hons. degree or other approved Honours degree, or a B.Accounting or other approved Bachelor's degree.

Curriculum: As for the M.Comm. (p. 70), but students who hold a Bachelor's degree must pursue an approved curriculum of research and/or advanced study for at least three years (after obtaining the B.degree).

Honours Bachelor of Business Management and Administration: B. (B. and A.) Hons.

Admission requirements: Students must hold a Bachelor's degree and must lodge written applications for admission with the Director, Post-graduate School of Management of the University, before 1 December.

Curriculum: At least one year of full-time study or two years of part-time study.

The fields of study offered are as follows: General Management and Planning; Marketing Management; Financial Management; Personnel Management and Administration; Human Relations and Organisational Behaviour; Production Management; Information Management and Data Processing; Management Accounting; Commercial and Company Law and Secretarial Practice; Management Economics; South African Business and Management Practice; Quantitative Methods; Investigation Methods and the writing of reports.

Master of Business Management and Administration: M.B.A.

Admission requirements: A student must hold

(i) the Honours Bachelor of Business Management and Administration degree or other approved equivalent qualifications; or

(ii) an approved Bachelor's degree; or the student must have achieved an adequate standard of proficiency in his specific field of study through other means, and have gained practical experience.

Curriculum: A student must attend an approved curriculum of research and/or approved study at the University or at another approved place for at least one year after obtaining the Honours degree and submit a satisfactory dissertation, or specialise further in the Management Sciences by passing the prescribed examinations in three of the advanced fields of study, completing an interdisciplinary project and passing an oral examination

or

a student must attend an approved curriculum of research and/or advanced study for at least two years in the case of full-time study or three years in the case of part-time study (after obtaining the Bachelor's degree or after achieving a standard of proficiency) which may include a period of study or research of at least one year at another place, pass the prescribed examination and submit a satisfactory dissertation or submit satisfactory assignments and pass the prescribed written and oral examinations in the required number of fields of study.

Honours Bachelor of Public Administration: B. in Public Administration Hons.

Admission requirements: A student must hold a Bachelor's degree. He must also have gained such practical experience in public administration to serve as adequate preparation for the Honours course. Students must apply for admission in writing.

Curriculum: Students must pursue an approved curriculum of advanced study for at least two years and pass in the prescribed examinations. The course is only offered extramurally.

Master of Public Administration: M.P.A.

Admission requirements: A student must hold the degree of B. in Public Administration Hons. or other approved equivalent qualifications or hold a Bachelor's degree or have achieved an adequate standard of proficiency in his specific field of study by other means. He must also have gained such practical experience in public administration to serve as adequate preparation for the Master's degree. Students must apply for admission in writing.

Curriculum: As for the M.Comm. degree, p.70.

D.Comm., D.Econ., D.Admin., D.Accounting, D.B.A. and D.P.A. degrees

Admission requirements: A candidate must hold a Master's degree or have achieved an adequate standard of proficiency in his specific field of study by other means. Students must lodge their applications for admission to study for the Doctor's degree in writing. Each application will be considered on merit by the Senate.

Curriculum: A student must be registered for a Doctor's degree at the University for at least two years. A thesis is required from each candidate. The thesis must comprise original research by the candidate on one or other aspect in connection with his major subject.

An oral examination is generally required but exemption may be granted in special cases.

DIPLOMAS

Diploma in Business Management and Administration: Dipl. (B. and A.)

Admission requirements: At least a Senior Certificate. Students must be adequately mature. Applications for admission must be lodged in writing.

Curriculum: The particulars with regard to the course is the same as that for the B. (B. and A.) Hons. degree. See p.72.

Advanced Diploma in Business Management and Administration: Adv. Dipl. (B. and A.)

Admission requirements: The Diploma in Business Management and Administration or a student must have achieved an adequate standard of proficiency in his specific field of study by other means. He must also have gained such practical experience to serve as adequate preparation for the course.

Curriculum: The student must attend the prescribed course for at least one year and pass in the examination at the end of the year. The particulars with regard to the course is the same as that for the M.B.A. Programme. See p.72.

U N I V E R S I T Y O F T H E W I T W A T E R S R A N D

FACULTY OF COMMERCE

Degrees

Bachelor of Commerce	: B.Com.
Bachelor of Commerce with Honours	: B.Com. Hons.
Master of Commerce	: M.Com.
Doctor of Commerce	: D.Com.
Bachelor of Accountancy	: B.Acc.
Bachelor of Economic Science	: B.Econ.Sc.
Bachelor of Economic Science with Honours	: B.Econ.Sc. Hons.
Master of Economic Science	: M.Econ.Sc.
Doctor of Economic Science	: D.Econ.Sc.
Doctor of Philosophy	: Ph.D.

Diplomas and Certificate

Higher Diploma in Accountancy	: H.Dip.Acc.
Higher Diploma in Business Data Processing	: H.Dip.B.D.P.
Higher Diploma in Property Economics	: H.Dip.Prop.Econ.
Certificate in the Theory of Accountancy	: C.T.A.

DEGREES

Bachelor of Commerce: B.Com.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

- A pass in English First Language Higher Grade or a pass of at least 40 per cent in English Second Language Higher Grade
- a pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade
- a pass on the Higher Grade in one of the following subjects if Mathematics is passed on the Higher Grade, or two of the following subjects if Mathematics is passed on the Standard Grade at 60 per cent:

Bantu Language*, Biology, French, Geography, German*, Hebrew, History, Latin, Physical Science.

*If not presented in fulfilment of Group A (Languages) requirement of the Joint Matriculation Board.

Curriculum: Three years of full-time study or five years of part-time study.

The degree is offered in the General Group by either full-time or part-time study and in the Legal Group by full-time study.

General Group: The curriculum for the General Group consists of 14 courses. Students select courses from the following subjects:

Accounting; Afrikaans; Afrikaans en Nederlands; Applied Mathematics, Computer Science and Mathematical Statistics; Applied Mathematics and Computer Science; Applied Mathematics; Business Data Processing; Business Economics; Business Finance; Commercial Law; Communication Studies; Computer Science; Constitutional and Administrative Law; Cost and Management Accounting; Economic History; Economics; English; French; Geography; German, Hebrew; Industrial Psychology; Industrial Sociology; Italian; Latin; Marketing; Mathematical Statistics; Mathematics; Mathematics and Statistics; Philosophy; Political Science; Portuguese; Property Economics; Psychology; Russian; Sociology; Southern Sotho; Zulu.

Every curriculum must include - Accounting I and II; Business Economics I and II; Commercial Law; Communication Studies; Economics I and II; Mathematics and Statistics I or Mathematics I (Special) or Mathematics I; and one of the following courses: Accounting III, Applied Mathematics III, Business Data Processing II, Business Economics III, Computer Science III, Cost and Management Accounting, Economics III, Mathematics and Statistics III; and three further courses from the above-mentioned list.

Legal Group: The curriculum consists of 16 courses and includes the following subjects: Accounting, Business Economics, Economics, Introduction to the Study of Law, Law of Contract, Public International Law, Roman Law, Mathematics and Statistics or Mathematics, Constitutional and Administrative Law, Law of Corporations and Insolvency, English or Afrikaans or Latin, and two courses selected from one of the subjects listed under the General Group.

Students major in one of the following subjects: Accounting, Business Economics or Economics.

Bachelor of Commerce with Honours: B.Com.Hons.

Admission requirements: A B.Com. degree. A student must apply for admission as a candidate for the degree.

Curriculum: One year of full-time study or at least two years of part-time study. A candidate must attend and complete an Honours course in Accounting as an approved field of study or in another approved field of study or in two or more approved fields of study.

The Honours examination comprises the preparation of a satisfactory essay on an approved topic, a formal written examination and a written or oral test of the candidate's acquaintance with French or German or another approved foreign language. A candidate in the field of Accounting may be exempted from the foreign language requirement.

Master of Commerce: M.Com.

Admission requirements: A B.Com. Hons. or a B.Acc. degree. A candidate must lodge his application in writing, submitting evidence of his academic and general qualifications and indicating the line of research which he wishes to prosecute.

Curriculum: A candidate must prosecute during at least one academic year advanced study and research, under the guidance of a supervisor, on an approved subject in a field of study in which the candidate passed the Honours examination. He must also submit a dissertation and present himself for such examinations as the Senate may determine.

Bachelor of Accountancy: B.Acc.

Admission requirement: As for the B.Com. degree.

Curriculum: At least five years of part-time study.

As the requirements of the Public Accountants' and Auditors' Board have been revised, the degree of Bachelor of Accountancy has been designed to meet these requirements. The curriculum consists of 18 courses and includes Accounting I, II, III and IV; Auditing I and II; Commercial Law; Business Economics; Economics; Business Data Processing; Accounts of Trustees, Liquidators and Executors; Cost and Management Accounting; Income Tax; Communication Studies; Business Finance; Mathematics and Statistics.

Bachelor of Economic Science: B.Econ.Sc.

Admission requirement: As for the B.Com. degree except that Mathematics has to be passed on the Higher Grade.

Curriculum: Three years of full-time study. The curriculum consists of eleven courses selected from the following subjects: Applied Mathematics, Computer Science and Mathematical Statistics I; Applied Mathematics and Computer Science II; Applied Mathematics III; Business Data Processing I, II; Business Economics I, II, III; Computer Science III; Economic History I, II, III; Economics I, II, III; Mathematics I, II, III; Mathematical Statistics II, III.

The curriculum comprises

first year - five courses

second year - four courses

third year - two courses (two major subjects).

At least one of the two major subjects must be either Economics or Business Economics or Economic History.

The major subjects are the following: Applied Mathematics, Business Data Processing, Business Economics, Computer Science, Economic History, Economics, Mathematical Statistics, Mathematics.

Bachelor of Economic Science with Honours: B.Econ.Sc.Hons.

Admission requirement: A B.Com. or a B.Econ.Sc. degree.

A student must apply for admission as a candidate for the degree.

Curriculum: One year of full-time study or at least two and not more than four years of part-time study.

A candidate must attend and complete an Honours course in one or more of the following fields of study or such additional fields as may be approved by the Senate: Economics, Business Economics, Economic History.

The Honours examination comprises a formal written examination and the preparation of a long essay on an approved topic. The candidate may also be required to present himself for oral examination.

Master of Economic Science: M.Econ.Sc.

Admission requirement: The degree of B.Econ.Sc.Hons. or B.Com.Hons. See M.Com.degree.

Doctor of Philosophy: Ph.D.

Admission requirements: A candidate must hold one of the following degrees: M.Com.; B.Com.Hons. (First Class); M.Econ.Sc.; B.Econ.Sc.Hons.(First Class); M.B.A.

A candidate must lodge his application in writing, submitting evidence of his academic and general qualifications and indicating the line of research which he wishes to prosecute.

Curriculum: A candidate must prosecute full-time research for at least two academic years, and he may be required to attend advanced courses of instruction. He must present a thesis which must constitute a substantial contribution to the advancement of knowledge in the subject chosen.

Doctor of Commerce: D.Com.

Admission requirements: Any of the following may be admitted as a candidate:

- A person who has held the B.Com.Hons. degree for at least five years
- A Master of Commerce who has held the B.Com.Hons. degree for at least four years
- A Doctor of Philosophy of at least two years' standing

A person must lodge his application in writing, submitting evidence of his academic and general qualifications and indicating the subject of the work which he proposes to present for the degree.

Curriculum: A candidate for the degree must present for the approval of the Senate original published work in a field approved by the Senate. Such work shall constitute a distinguished contribution to the advancement of knowledge in that field.

Doctor of Economic Science: D.Econ.Sc.

Admission requirements: Any of the following may be admitted as a candidate:

- A person who has held any of the following degrees for at least five years: B.Com.Hons., B.Econ.Sc.Hons., B.A. Hons., in an appropriate field
- a Master of Commerce who has held the B.Com.Hons. degree for at least four years
- a Master of Economic Science who has held the B.Econ.Sc.Hons. degree for at least four years
- a Master of Arts who has held the B.A.Hons. degree for at least four years, if the proposed work relates to Economics, Applied Economics, Economic History or some related subject
- a Doctor of Philosophy of at least two years' standing.

A person must lodge his application in writing, submitting evidence of his academic and general qualifications and indicating the subject of the work that he proposes to present for the degree.

Curriculum: As for the D.Com. degree.

DIPLOMAS AND CERTIFICATE

Higher Diploma in Accountancy: H.Dip.Acc.

Admission requirement: A graduate who has been exempted from ten or more of the courses prescribed for the degree of B.Acc. (See. p.75.)

Curriculum: The student must obtain credit in the following courses: Accounting IV, Auditing II, Cost and Management Accounting, Income Tax. See also B.Acc. p.75.

Higher Diploma in Business Data Processing: H.Dip.B.D.P.

Admission requirements: The candidate must be a graduate and must have attained a standard in Mathematics and Statistics equivalent to that of Mathematics and Statistics A in the curriculum of the B.Com. degree and for the Certificate in the Theory of Accountancy and must have an adequate knowledge of COBOL (by completing the elementary COBOL course given by the University's Computing Centre).

Curriculum: Two years of part-time study. The curriculum includes such topics as Systems Analysis and Design; Advanced COBOL; Data Management; Computer Controls; Audit and Security; Business Mathematics.

Higher Diploma in Property Economics: H.Dip.Prop. Econ.

Admission requirement: Any degree of Bachelor in any faculty or a person who holds a professional qualification which the Senate has approved.

Curriculum: Not less than three years of part-time study. The curriculum includes, *inter alia*, the following qualifying courses: Accounting, Economics, Mathematics and Statistics, Law for the Property Economist, Property Economics, Commercial Law, Marketing, Business Finance.

Certificate in the Theory of Accountancy

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Five years of part-time study. The curriculum includes 17 courses. They are, *inter alia*, Accounting IV; Auditing II; Cost and Management Accounting; Company Law; Mercantile Law; Economics; English; Accounts of Trustees, Liquidators and Executors; Income Tax.

FACULTY OF BUSINESS ADMINISTRATION

Degrees

Master of Business Administration: M.B.A.

Doctor of Philosophy: Ph.D.

Diploma

Higher Diploma in Personnel Management: H.Dip.Pers.Man.

DEGREE

Master of Business Administration: M.B.A.

Admission requirements: Any of the following may be admitted as a student:

- A graduate in any faculty
- a person who, not being a graduate, holds a professional qualification
- in an exceptional case the Senate may admit a person who has satisfied the Senate that his admission as a candidate is warranted by virtue of his experience, qualifications and abilities.

Curriculum: The curriculum comprises Parts I and II and extends over sixty-four weeks of full-time study. Each part extends over at least three academic terms of eight weeks each.

A candidate may be required to undertake field projects and other work outside the University, to submit reports thereon and other technical reports, and to participate in other organized practical work during terms and vacations, in addition to his attendance at the prescribed courses of study and his participation in the work of the classes therein.

A student must submit for the approval of the Senate a report on a research project undertaken by him under the guidance of a supervisor.

DIPLOMA

Higher Diploma in Personnel Management: H.Dip. Pers. Man.

Admission requirements: As for the M.B.A. degree.

Curriculum: One academic year of full-time study.

A student may be required to undertake field projects and to participate in organized practical work during terms and vacations, in addition to his attendance at the prescribed courses of study and his participation in the class work.

Course units include, inter alia, General Management Problems and Processes; Personnel Management Systems and Practices.

A student must present himself for the examinations in all the prescribed course units.

UNDERGRADUATE SUBJECTS ACCORDING TO UNIVERSITIES: FACULTIES OF COMMERCE AND ECONOMIC SCIENCES

Accounting: All the universities	Company Law: UCT, UN, UPE
Accounts of Trustees, Liquidators and Executors: UW	Comparative African Government and Administration: UN
Actuarial Science: UCT	Computer Methods: PU for CHE
Administration of Estates: UN, UOFS, UP, Unisa	Computer Science: UCT, UN, UPE, UP, RAU, Rhodes, Unisa, US, UW
Administration of Estates and Planning: RAU	Computer Science for B.Com. students: UPE
Advanced Business Statistics: UCT	Computing and Applied Mathematics: Rhodes
Aeronautical Economics: US	Constitutional and Administrative Law: UOFS, UP, UW
African Development Administration: Unisa	Constitutional Law: UN, PU for CHE
African Economic History: UCT	Consumer Behaviour: UP
African Language: UOFS, UPE, UP, Unisa, UW	Co-operation: Unisa
Afrikaans: UN, UOFS, PU for CHE, UP, Rhodes, Unisa, US, UW	Cost Accounting: PU for CHE, Unisa, US
Afrikaans en Nederlands: UN, PU for CHE, Rhodes, Unisa, US, UW	Cost and Management Accounting: UPE, UP, RAU, Rhodes, UW
Agricultural Economics: UN, UOFS, PU for CHE, Rhodes	Costing (Management Accounting): UCT
Anthropology: UPE, UP, RAU	Customary Law: Rhodes
Applied Anthropology: UOFS	Data Processing: U
Applied Business Statistics: UCT	Development Administration: RAU, US
Applied Mathematics: UW	Distributive Trade: PU for CHE, US
Applied Mathematics and Computer Science: UW	Econometry: PU for CHE
Applied Mathematics, Computer Science and Mathematical Statistics: UW	Economic Analysis: UP, Unisa
Auditing: All the universities	Economic Framework of Business: UN
Banking: UCT, Unisa	Economic Geography: Rhodes
Bantu Administration: US	Economic History: UCT, UN, UPE, PU for CHE, Rhodes, Unisa, UW
Bantu Law and Administration: UOFS	Economic Statistics: UCT, UPE
Business Administration: UCT, UN, Rhodes	Economics: All the universities
Business Data Processing: UN, UOFS, RAU, Rhodes, UW	Economics of Agriculture: Rhodes (See also Agricultural Economics)
Business Economics: UOFS, UPE, PU for CHE, UP, RAU, Unisa, US, UW	Economics of Transport: UN (See also Transport Economics)
Business Finance: UCT, UN, UW	Economics of Underdeveloped Regions: UN
Business Law: UP	Education: UP, RAU
Business Mathematics and Statistics: Rhodes	Electronic Data Processing: UPE
Business Policies and Agreements: UN	Elementary Theory of Finance: UPE
Business Science: UCT	Elementary Theory of Finance and Statistics: Rhodes
Commercial Law: UCT, UN, UPE, UP, RAU, Unisa, US, UW	
Communication/Communication Studies: UOFS, PU for CHE, RAU, UW	

Elements of Management: UN
 English: UN, UOFS, PU for CHE, UP, Rhodes,
 Unisa, US, UW
 Estates: UN
 Farm Management: Unisa
 Financial Accounting: PU for CHE, US
 French: UW
 Geography: UPE, UP, US, UW
 German: UW
 Hebrew: UW
 History: UP
 Income Tax: UOFS, UPE, PU for CHE, UP, RAU,
 Unisa, US, UW
 Industrial and Organizational Psychology:
 UPE
 Industrial and Personnel Psychology: PU for
 CHE
 Industrial Law: UPE, PU for CHE, Unisa
 Industrial Psychology: UN, UOFS, RAU,
 Unisa, US, UW
 Industrial Sociology: UCT, UOFS, PU for
 CHE, UW
 Informatics: UP
 Information Systems: Unisa
 Insolvency: UCT
 Insurance: UCT, PU for CHE
 International Business: UN
 International Politics: UP
 Interpretation of Statutes: UOFS, UP
 Introduction to Computer Science: UN
 Introduction to Computing: UCT
 Introduction to Legal Science and
 History of Law: UPE
 Introduction to Management Accounting: UCT
 Introduction to South African Law: UN
 Introduction to Systems & Electronic Data
 Processing: UCT
 Italian: UW
 Labour Law: UOFS, UP
 Language and Communication: UN
 Latin: UN, UOFS, PU for CHE, RAU, Rhodes,
 Unisa, US, UW
 Law of Taxation: UN
 Legal Theory: Rhodes
 Local Government Accounting: Unisa
 Macro-economics: UPE
 Management Accounting: UN, PU for CHE
 Marketing: UCT, UN, UP, UW
 Mathematical Economics: PU for CHE
 Mathematical Statistics: UOFS, UP, RAU,
 Rhodes, US, UW
 Mathematics: All the universities
 Mathematics and Statistics: Rhodes, UW
 Mathematics for Economists: UPE
 Mathematics for Economists and Theory of
 Finance: UPE
 Mercantile Law: UOFS, UPE, PU for CHE, RAU,
 Rhodes, Unisa, US, UW
 Micro-economics: UPE
 Money and Banking: UOFS, PU for CHE
 Municipal Administration: UOFS
 Numerical Analysis and Computation: UCT
 Operations Research: UCT, UPE
 Optimisation: PU for CHE
 Personnel Management: UCT, UP
 Philosophy: UCT, UN, UP, UW
 The Political Economy of Southern
 Africa: UN
 Political Science: UCT, UN, UOFS, UP,
 RAU, US, UW
 Population and Labour: UN
 Portuguese: UW
 Private Law: UOFS, UPE, PU for CHE, RAU,
 Unisa, US
 Professional Communication: UCT
 Property Economics: UW
 Psychology: UCT, UN, UPE, Rhodes, UW
 Public Administration: UN, UPE, UP,
 Unisa, US
 Public International Law: UN, UP
 Public Sector Accounting: UN
 Roman-Dutch Law: UP
 Roman Law: UN, UPE, PU for CHE, RAU,
 Unisa, US
 Roman Law and History of Law: UOFS
 Russian: UW
 Sake-Afrikaans: UCT
 Shorthand and Typewriting: US
 Social Anthropology: UCT, UN
 Social Work Special: UPE
 Sociology: UCT, UN, UPE, RAU, Rhodes,
 US, UW
 Southern Sotho: UOFS
 Special Accounts: US
 State Administration: UOFS
 Statistical Methods: UPE, RAU, US
 Statistics: UCT, UN, UOFS, UPE, PU for
 CHE, UP, Unisa, US
 Statistics for Scientists: US
 Structure and Interpretation of Accounts:
 UCT
 Systems & Electronic Data Processing:
 UCT
 Taxation: UN
 Taxation and Estate Duty: UCT
 Theory of Finance: UPE, US
 Transport Administration and Management:
 RAU
 Transport Economics: UOFS, RAU, Unisa,
 US
 Xhosa: UPE
 Zulu: UOFS

VOCATIONAL SERVICE

Note: a. Since this book deals primarily with undergraduate study, vocational service based mainly on post-graduate study, is discussed in a few exceptional cases only.

b. Various subjects are offered in more than one faculty while other subjects and/or fields of study either involve post-graduate study or are specifically discussed under the vocationally oriented courses in Chapter 6. For reference to a particular subject or field of study it will thus be necessary to consult the INDEX OF CAREERS AND/OR FIELDS OF STUDY on p. 225 beforehand.

c. Also read the section "CHOICE OF A FIELD OF STUDY" in Chapter 1.

The choice of a suitable field of study and major subjects in the commercial and economic sciences is based largely on the knowledge of all the most important facets and the occupational value of that particular field. Gathering information in good time will thus contribute considerably towards preventing disappointment at a later stage.

The object of the curricula is generally of a twofold nature, viz a broad background study of the field of the economic sciences on the one hand, and study in a particular main field on the other. Post-graduate study for a degree or diploma provides for specialization, which lays the foundation for promotion to high-level occupations. The various economic subject fields have, in addition, become more specialized so that aspects of, for instance, Mathematics, Computer Science, Psychology, Communication, Law, Sociology, et cetera, have either been directly involved or are combined meaningfully with the economic subject fields. A qualification in one or other of the economic and related fields does not only give access to a wide variety of occupational fields in the public and private sector but also creates opportunities for advanced and interesting work.

Some examples of this are the following:

Accounting and Auditing: The accountancy profession plays an indispensable rôle in all types of business concerns. In the course of time, qualified persons in this field have moved from the position of ordinary bookkeeper to that of the specialized leader and financial adviser. For persons who have not been trained professionally but who hold a degree such as B.Com. or B.Admin. with Accounting as a major in combination with subjects such as Cost Accounting, Auditing, Commercial Law, Income Tax, Business Economics and Economics, there is a particularly wide variety of opportunities in the occupational field. They can become teachers in commercial subjects or enter the business world as accountants, auditors, credit managers, secretary-accountants, cost accountants, et cetera, in the employ, for example, of commercial and industrial undertakings, municipalities, financial institutions, mines, companies, banks, building societies, insurance companies and many others. They are also employed by government departments such as those of Finance, the Treasury, Agricultural Economics and Marketing and Labour to be trained as professional officers. Certain concerns experience a considerable demand for persons who have at least a B.Com. degree, as a result of the divergence of activities in their financial divisions. It has, for many years now, been impossible to satisfy this demand. By displaying exceptional initiative, drive and capacity for work, persons can, in the course of time, progress to managerial posts and posts in an executive capacity. However, post-graduate study is essential for the accountant who wishes to reach the top.

More advanced study in Accounting can lead to admission to the qualifying examination of the Public Accountants' and Auditors' Board. Success in this examination, as well as the completion of a period of service as an articled clerk in the office of a public accountant and auditor, is a prerequisite for registration as a chartered accountant (C.A.). The title "C.A." is acknowledged throughout the world as a highly specialized professional qualification. This qualification opens the door to highly paid positions. The chartered accountant can operate on his own in a private practice or in partnership with other registered accountants. For example, in the Republic all public companies, banks and building societies must make use of the services of a public accountant and auditor. Otherwise, he can reach a position of prestige in a large company such as that of director, general manager, accountant, internal auditor, secretary or cost accountant. Those persons who also possess the other qualities for top leadership can rise to the position of managing director or chairman. More information concerning the C.A. qualification may be obtained directly from the Public Accountants' and Auditors' Board, P.O. Box 10119, Johannesburg 2000, or from any firm of public accountants and auditors.

As the business world becomes more complicated and many-sided, there is a corresponding increase in the demand for trained manpower with a proper grasp of commerce and industry. There are virtually unlimited opportunities for persons with analytical ability, the capacity to think logically and sound judgement. They are also generally highly respected.

Apart from the opportunity to become a professional officer in a government department (as mentioned above), graduates are also given preference when candidates are considered for the following posts in the Public Service:

- **Administrative assistant (General Administration):** Graduates in possession of an appropriate B.A., B.Admin. or B.Com. degree are appointed in the entry grade.

Also see Administrative Assistant, p. 35.

- **Auditor:** The main purpose of a government auditor is to ensure that public funds are appropriated with care, accuracy and efficiency. Auditing is done by the Controller and Auditor-General, the various provincial auditors and their staff. The Public Service recommends that persons who are interested in this field should take the same course as suggested for an accountant. After his appointment the newcomer is not left to himself, but is thoroughly instructed in the duties of an auditor.

With the ever increasing activities of the Public Service and the concomitant spending of public money, there are excellent promotional opportunities for an able auditor. At present the promotion cycle is the following: Assistant Auditor, Auditor, Senior Auditor, Assistant Chief Auditor, Chief Auditor.

- **Departmental Accountant (Financial Administration):** Although the Treasury must ensure that financial obligations are fulfilled according to regulations, each government department also has its own financial branch which is responsible for disbursement and recoveries. The Public Service recommends that the accountant should have a suitable degree with the following subjects: Accounting as one major and one or more of the following as the other major(s): Business Economics, Economics, Commercial Law, Industrial Psychology, Cost Accounting, Roman-Dutch Law, Public Administration, Statistics, Mathematical Statistics. (The remaining subjects can be included to advantage as subsidiary subjects).

The uniform basis upon which government finances are administered in the Public Service makes it possible for the accountant to compete for senior positions in other government departments. The present avenue of promotion is as follows: Assistant Accountant, Accountant, Senior Accountant, Assistant Chief Accountant, Chief Accountant.

- **Stores Administrator (Stores Administration):** The duties of the stores administrator in the Public Service are mainly concerned with the purchase and control of and the accounting for stores and equipment. After entering the service, the new official is trained in the work which he has to perform. The following subjects may be included in the degree course: Economics, Accounting, Cost Accounting, Statistics. Stores sections exist in various departments, with the result that an official's opportunities are not limited to one department only. As in other sections of the Public Service, meritorious work is adequately rewarded.

Also consult Tertiary Training for particulars on the National Diploma (State Accounts and Finance) and the National Diploma (Public Administration).

B.Com. (Law): The B.Com. degree which includes law subjects does not only provide basic training in economic as well as legal subjects, but can also be rounded off with an LL.B. It is therefore a preparation for business and legal practice with prospects of appointment to various executive posts in commerce and industry as well as financial bodies such as insurance companies.

Also see Law, p.173.

Business Administration (MBA) for senior managerial personnel: This provides an outstanding opportunity for businessmen and businesswomen who are already practising or already have a bachelor's degree to expand and give academic substance to their knowledge, ability and background in respect of business affairs such as organization, planning, taking the lead, co-ordination and control.

The task of providing guidance and of controlling and co-ordinating the work of a large group of employees with a view to maximum economic results, demands the highest qualities of leadership. The managerial profession does not only include general managers but also

- Agricultural Economics and Marketing: For some posts: One or more from Economics, Business Economics, Agricultural Economics, Accounting. For other posts: Accounts and at least one course in Auditing and Mercantile (Commercial) Law;

In the government departments listed below, the activities of economists vary according to the functions of each department and the requirement for appointment as professional officers is a recognized Bachelor's degree with major and other subjects as indicated in this order:

Although an increasing number of persons tend to specialise in a particular field, economists are not restricted by specialization. A degree in economic and related sciences offers an excellent preparation for a wide range of careers in the Public Service and commerce and industry. Economics is also one of the subjects offered by all the universities as a major or subsidiary subject for a B.A. degree.

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Various subjects such as Business Economics have developed from Economics, the mother of all economic sciences. Economics is an analytical-developed from Economics, the mother of all economic sciences. Economics is an analytical-

These principles are used to explain how the national economy operates in all its micro and macro-economic facets, to identify problems and to formulate corrective measures. Problems such as pricing, inflation, unemployment, poverty, taxation, monetary aspects, international trade and economic relations are studied. Business Economics, in its turn, concentrates on the undertaking and how it should be guided to ensure the greatest possible remunerativeness, that is profit in proportion to capital investment, over the long term. Functions of the undertaking which are involved are those of general management, marketing management, financial management, the personnel function, administrative function and public relations. Business Economics consequently has a strong practical bias.

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- Commerce: One or more of : Business Economics, Economics, Marketing, Statistics, Accounting;
- Finance: For some posts: Economics. For other posts: One of Economics, Accounting, Business Economics, Money and Banking;
- Forestry: For some posts: Business Economics, Economics or Money and Banking. For other posts: A B.Sc.degree in Forestry, with Forestry Economics as a subject;
- Industries: For some posts: Economics and/or Business Economics and one or more courses in Accounting, Statistics or Mercantile (Commercial) Law. For other posts: Business Economics and at least two courses in Accounting and one in Cost Accounting;
- Labour: Business Economics and at least two courses in Accounting;
- Mines: For assistant mineral economist: One or more of Economics, Business Economics, Geology, Metallurgy, Mining Engineering, Mathematical Statistics. For mineral economist: A four-year university degree or two appropriate bachelor's degrees or an honours degree with one or more of the above-mentioned subjects, and five years' appropriate experience. (Further information on this career can be obtained from the Director, Minerals Bureau, Private Bag X4, Braamfontein 2017);
- Planning and the Environment: Economics and/or Business Economics; courses in one or more of the following is necessary: regional economics, urban economics, location economics, land economics, environmental economics.

Other bodies employ persons who are qualified in Economics and related fields as economic advisers, financial consultants, researchers and so on to interpret general economic trends for the concern; to forecast production, markets and prices and to assist in the planning of the concern as a whole. Such employers are, *inter alia*, the IDC, the HSRC, Iscor, Sasol, the Railways, the Federated Chamber of Industry, the Association of Chambers of Commerce, commercial banks, building societies, insurance companies, market agents and other undertakings in commerce and industry.

Since transport is essentially an integral part of the production process, Transport Economics is an important subject or specialized field of study for the B.Com. degree. The universities which offer it regard it as an opportunity to provide students with the basic background knowledge of transport within the framework of their knowledge as gleaned, in particular, in the subject fields of Economics and Business Economics. Employment opportunities in this field will be found, for example, in the Department of Transport (various branches), the Railways, the various shipping and other companies which are concerned with the delivery of goods.

No intelligent young person who is in possession of a degree with the appropriate subject combination and who tackles his task with dedication and a true sense of duty need fear that he will not make any progress. However, the labour market gives preference to post-graduate students. The demand for these persons to occupy executive posts will increase still further in future as a result of South Africa's large-scale industrial development and considerable resources. Post-graduate study is also a prerequisite for appointment as a lecturer at a university. When planning his or her course, a prospective teacher of Economics and other commercial subjects should bear in mind the requirements of the educational authority concerned.

Also see Agricultural Economics, p.137.

Industrial and Personnel Psychology: This science is related to such subject fields as Psychology, Sociology, Economics and Business Economics. It concerns itself with the study of man in the job situation and the maximum utilization of labour as a production factor. As a result of the vital rôle of the personnel (employees) in the attainment of success, any undertaking is constantly seeking methods to motivate employees and to guide them to their optimum achievement (highest productivity). Knowledge of human conduct (behaviour) in various industrial situations has consequently become indispensable to any business administrator.

Persons with this training are employed in commerce and industry, government departments and other large undertakings such as the Railways, Iscor, Sasol, the CSIR, the Department of Posts and Telecommunications, co-operative societies, the mines, insurance companies, building societies, municipalities and banks with a view to being trained as personnel, employment, training, personnel research, organization development, organization and method or general personnel officers. They can advance from these posts to personnel managers, managerial advisers and even personnel directors.

Today there is increasing recognition of the value of the services of one or more personnel managers in an undertaking, particularly where optimum utilization of available labour is concerned. The duties of a personnel manager, though diverse in nature, are extremely interesting. In a large concern, however, it is possible that a person may be responsible for only one specialized section, for example training.

Appointment as a personnel manager will be the fruit of years of hard work as well as a period of intensive in-service training. A university degree such as B.A., B.Com., B.Econ., B.Sc., B.P.L. or B.A. (Soc. Sc.) with major subjects such as Industrial and Personnel Psychology, Psychology, Sociology, Social Work, Economics etc. would definitely be of inestimable value for accelerated promotion. It provides that extremely useful background and knowledge which are necessary when personnel managers have to deal with affairs such as the selection and placement of personnel, group relationships, motivation and morale, satisfaction derived from working conditions, planning and co-ordination, safety measures and the prevention of accidents, and so forth.

Marketing: The tempo of economic development in a country can only be properly maintained if the business world is orientated towards marketing. The rise of marketing as one of the managerial functions is also attributed to a new and more scientific approach to all aspects of selling (marketing).

The acceptance by the business world of the value of increased turnover as a result of effective marketing creates more and more opportunities for employment in various specialized fields such as those of sales, advertising, public liaison, marketing research, commercial art, price determination, distribution, promotion of sales, after-sales service, product development and efficient administration. For graduates who have gradually gained the necessary experience and who possess ambition, insight, initiative, a capacity for work and other essential characteristics, a career in this field can lead to the highest posts in management. Many business enterprises have adopted the policy of appointing their top men from the ranks of marketing officials.

Public Administration: In addition to the few diploma courses which can be taken in this field, Public Administration, as in the case of Economics, Mathematics, Psychology and many other subjects, is offered at most universities in more than one faculty, for example for the B.A. degree, where it can be combined with Political Science, Economics, languages (particularly foreign languages), Bantu Law and Administration, History, Sociology, law subjects and so on. As regards the B.Admin. degree, it can be combined effectively with subjects such as Economics, Political Science, Industrial Psychology, Accounting, et cetera.

Degrees and diplomas in this field make particular provision for the training of organizing and administrative officials who are employed by all government departments (as senior administrative assistants); the provincial administrations; municipalities and other public bodies such as the agricultural produce and research boards, the Railways, the Postal Services, the SABC, the IDC and Iscor. It is also an extremely useful subsidiary subject for a career in journalism or law.

Post-graduate qualifications are essential to provide for the demand for professional officials such as engineers, architects, medical practitioners and others who, besides their professional work, must fulfil administrative and supervisory functions such as those of chief engineer, chief architect, hospital superintendent etc. Also see Administrative Assistant, p. 35 and p. 81.

Secretarial field: The higher ranks in the secretarial profession are mainly accessible to those persons who possess recognized professional qualifications and who have acquired membership of the secretarial organizations. Every company, for example, must appoint a secretary and this person occupies an extremely responsible position as chief administrative and executive officer. With his specialized knowledge of the Companies Act, he is an important member of the managerial team and it generally happens that he is also appointed as director.

Apart from his other duties, the secretary is an important link between the directors on the one hand, and, for example, the shareholders, office personnel, bankers, auditors and the public on the other. This function ensures that his work is interesting and pleasant. He must be able to handle important matters intelligently and responsibly. His status is high and he is remunerated accordingly.

The growth of industrial organizations, the annual registration of a large number of new companies and the tendency towards the forming of groups on the part of companies result in the fact that the secretary, with his specialized training, has a dynamic function to fulfil in the business world of today.

Also consult Tertiary Training for particulars on various secretarial courses.

Statistics and Economics: These fields give the student basic training in a mathematical-statistical approach to economic problems and theories. An increasing demand for persons trained in a combination of mathematical and economic sciences is arising on a wide front in South Africa, with a view to the collection, processing and interpretation of data.

The econometrist and statistician are in demand in research institutions and industries, with research laboratories such as the CSIR, HSRC, SABS, Iscor, the Chamber of Mines, Sasol, factories, etc; transport and communication; various government departments especially the Department of Statistics; insurance companies; some universities; computer firms and firms rendering services such as management consultation and market research.

Also see Statistics, p.113 and Computer Science, p.110.

Diploma courses: The attention of candidates who cannot or do not wish to take a degree course, is drawn to the diploma courses which are offered at a few universities. These courses generally provide training of a specialized nature.

Information on diploma courses in commerce and administration which can be taken outside the university is supplied in the HSRC publication Tertiary training outside universities and career opportunities.

CHAPTER 4

FACULTIES OF SCIENCE

UNIVERSITY OF CAPE TOWN

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Bachelor of Science (Honours)	: B.Sc. (Hons.)
Master of Science	: M.Sc.
Doctor of Science	: D.Sc.
Doctor of Philosophy	: Ph.D.

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

- A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade.
- A pass in either Physical Science or Biology on the Higher Grade or at least 50 per cent on the Standard Grade.
- A pass in Mathematics with at least 50 per cent on the Higher Grade is required for entry into Mathematics I.

Curriculum: Three years of full-time study. The curriculum contains at least eight qualifying courses* including

- at least one major subject chosen from Group I below;
- Mathematics I or the half course Mathematics Ia;
- at least six qualifying courses chosen from among those listed in Groups I, II and III below;
- at least four senior courses of which at least three must be chosen from Groups I, II and III;
- remaining courses which may be chosen from
 - . among those listed in Groups I, II and III;
 - . courses in subjects approved for the B.A. degree;
 - . Accounting A or Accounting B;
 - . other courses as may in special cases be approved by the Board of the Faculty of Science.

GROUP I Science Majors

Applied Mathematics, Biochemistry, Botany, Chemistry, Chemistry (Geochemistry option), Computer Science, Geology, Geography, Mathematics, Microbiology, Physics, Statistics, Zoology.

GROUP II Other Science Courses

Animal Biology, Astronomy, Astrophysics, Celestial Dynamics, Computational and Statistical Applied Mathematics, General Biology, Genetics, Marine Geology, Molecular Biology, Numerical Analysis and Computation, Physical Oceanography, Plant Biology.

GROUP III Approved courses in other faculties

Archaeology (Arts), Physiology (Medicine), Psychology (Social Science), Human Biology (Medicine), Environmental Resource Management (School of Environmental Studies), Chemical Engineering courses (Engineering), Metallurgy and Materials Science courses (Engineering), History and Philosophy of Science (Arts).

A candidate, in order to enter senior courses in a subject, must have attended and completed the prerequisite courses, e.g. the prerequisite courses for Chemistry III are Chemistry IIA and Mathematics Ia and Ib.

* The term "qualifying course" means either a full course or two half courses.

Bachelor of Science (Honours): B.Sc. (Hons.)

Admission requirements: A candidate may, with the permission of the Senate, proceed to the degree in any approved subject other than Astronomy, Geochemistry, Immunology, Materials Science, Molecular Biology, Theoretical Physics and Virology if he holds the B.Sc. degree with the subject in which he proposes to proceed to Honours as a major subject.

A candidate who proposes to proceed to Honours in Astronomy must have completed Physics III; for Geochemistry he must have completed Geology III and Chemistry (Geochemistry Option) III; for Theoretical Physics he must have completed Applied Mathematics III and Physics III; for Immunology and Virology he must have completed Microbiology III and Genetics III; for Molecular Biology he must have completed the third-year courses in Genetics, Microbiology and Biochemistry; and for Materials Science he must have majored in Physics, Chemistry or Applied Sciences.

Curriculum: One year for full-time study and not more than two years for part-time study.

The degree is conferred in any one of the following subjects: Applied Mathematics, Archaeology, Astronomy, Biochemistry, Botany, Chemistry, Computer Science, Geochemistry, Geography, Geology, Immunology, Materials Science, Mathematics, Mathematical Statistics, Microbiology, Molecular Biology, Operations Research, Physical Oceanography, Physics, Physiology, Psychology, Theoretical Physics, Virology, Zoology.

The course will, in general, contain only advanced work in the selected subject, though in certain cases some part of the work may be done in a related subject.

A candidate who fails the Honours examination will not be allowed to rewrite the examinations.

Master of Science: M.Sc.

Admission requirements: A candidate must either hold the B.Sc. (Hons.) degree; or be a graduate in Engineering who has completed the Electrical Engineering B course and passed in sufficient fourth-year options in Physics courses.

Curriculum: The degree is conferred in any one of the following subjects: Applied Mathematics, Archaeology, Astronomy, Biochemistry, Botany, Chemistry, Clinical Psychology, Computer Science, Environmental Studies, Geochemistry, Geography, Geology, Immunology, Mathematics, Mathematical Statistics, Microbiology, Operations Research, Photogeology, Physical Oceanography, Physics, Physiology, Psychology, Theoretical Physics, Virology, Zoology.

A candidate must attend the University for at least one academic year. The degree in Theoretical Physics normally requires two years, and that in Physics one and a half years of attendance. Candidates in the field of Clinical Psychology are required to register for a minimum of two years.

The degree may be conferred after the satisfactory completion of a written examination, or after the acceptance of a thesis, or by both procedures; and in all cases an oral examination may be required.

Doctor of Science: D.Sc.

Admission requirements: A candidate must be a Bachelor in one of the Faculties of Arts, Science, Medicine and Engineering of not less than five years' standing.

Curriculum: Graduates from any other university must pursue an approved course of work under the supervision of the University for a period of not less than two years.

Every candidate for the degree must submit published work, which constitutes an original and important contribution to learning.

Candidates may be required to present themselves for examination, conducted orally or otherwise, on the subject of the work presented.

Doctor of Philosophy: Ph.D.

See Faculty of Arts, p.9.

UNIVERSITY OF NATAL

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Bachelor of Science (Honours)	: B.Sc. Hons.
Master of Science	: M.Sc.
Bachelor of Science in Chemical Technology	: B.Sc. Chem. Tech.
Master of Science in Chemical Technology	: M.Sc. Chem. Tech.
Doctor of Philosophy	: Ph.D.
Doctor of Science	: D.Sc.

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes of at least 40 per cent on the Higher Grade or 50 per cent on the Standard Grade in both Mathematics and a natural science subject.

Curriculum: Not less than three years of full-time study and not less than four years of part-time study.

Credits are obtained by passing the examinations associated with a course. Courses designated as I or II are based on a maximum of 12 credits. Courses designated as III are based on a maximum of 16 credits.

A candidate must obtain at least 110 credits of which at least 98 must be in courses in subjects chosen from the list below; provided that at least 32 of these credits must be derived from courses designated as III. These must be completed simultaneously and at least 16 of these credits must be obtained in one subject from the list below:

Applied Chemistry (III); Applied Mathematics (I, II, III); Applied Physics (III) ($\frac{1}{2}$ course); Biochemistry (II, III); Biological Science A (I, II, III); Biological Science B (I, II, III); Biology (I) (Terminal); Biology in Human Affairs (I); Biometry (I); Botany (I, II, III); Chemistry (I, II, III); Computer Science (I, II, III); Economics (I, II, III); Entomology (II, III); Genetics (Sc.) (II, III); Geography (I, II, III); Geology (I, II, III); Introduction to Computer Science (I) ($\frac{1}{2}$ course); Introduction to Chemical Process Technology (II) ($\frac{1}{2}$ course); Introduction to Sample Survey Methods (I) ($\frac{1}{3}$ course); Mathematics (I, II, III); Mathematics B (I) ($\frac{1}{2}$ course); Mathematical Statistics (II, III); Microbiology - Plant Pathology (II, III); Multiple Regression and Correlation (III) ($\frac{1}{2}$ course); Physics (I, II, III); Physics (I) (Terminal); Psychology (I, II, III); Sample Survey Methods (II) ($\frac{1}{2}$ course); Service Electronics (II) ($\frac{1}{2}$ course); Soil Science (II, III); Statistics (I, II, III); Theoretical Chemistry (III); Zoology (I, II, III).

The Roman numerals in brackets indicate the level at which courses are available.

12 credits towards the minimum of 110 may be obtained in one of the following courses, all of which are first courses (I):

Afrikaans, Afrikaans en Nederlands, Biblical Studies, Classical Civilisation, Classical Hebrew, Economic History, English, French or Introductory French, German or Introductory German, Greek, Hebrew or Introductory Hebrew, History, History of Art, Jewish Studies, Latin, Philosophy, Prehistory of Southern Africa, Social Anthropology, Sociology, Survey, Theology, Zulu.

Any other course that may be approved by the Senate.

Bachelor of Science (Honours): B.Sc. Hons.

Admission requirement: The B.Sc. degree. The Senate may refuse to admit a student to an Honours course in any subject if the standard of proficiency of the student in the subject concerned is not sufficiently high.

Curriculum: A candidate must attend the University for at least one academic year, and must pursue a course of advanced study in the subject in which he has completed, during the B.Sc. curriculum, all prerequisite courses for entry to the Honours degree.

A candidate may be required to complete a course in any prescribed ancillary subject and to pass a test in a foreign language. He must present himself for all parts of the final examination at one and the same time. No candidate may present himself for the final examination more than once.

Master of Science: M.Sc.

Admission requirement: The B.Sc.Hons. degree.

Curriculum: A candidate must prosecute advanced study, or research, or both, under the guidance of a supervisor for at least one year.

The examination consists of two or more written papers, or of a dissertation showing acquaintance with the methods of research, or of such a dissertation together with one or more written papers.

Bachelor of Science in Chemical Technology: B.Sc. Chem. Tech.

Admission requirements: The B.Sc. degree with 40 credits in Chemistry, 24 credits in Physics and 24 credits in Mathematics; or the degree of B.Sc. in Engineering with 40 approved credits in Chemistry, 24 approved credits in Physics and 24 approved credits in Mathematics. The 24 credits in Physics may be waived in the case of a candidate with appropriate experience.

Curriculum: One academic year for a candidate who holds a B.Sc. degree and two academic years for a candidate with a B.Sc. Eng. degree.

A candidate must pursue a course of approved advanced study and he may be required to pass a test in a foreign language. He must present himself for all parts of the final examination at one and the same time and may not present himself for the final examination more than once.

Master of Science in Chemical Technology: M.Sc. Chem. Tech.

Admission requirement: The B.Sc. degree in Chemical Technology.

Curriculum: A candidate must attend the University for not less than one academic year and must pursue a course of advanced study in Chemical Technology. He may be required to take a course in any prescribed ancillary subject and may have to pass a test in a foreign language. He must present himself for all parts of the examination at one and the same time and may not present himself for the final examination more than once.

Doctor of Philosophy: Ph.D.

Admission requirements: A candidate must be either a Master of Science or Master of Science in Chemical Technology of not less than two years' standing; or a Bachelor of Science (Honours) or Bachelor of Science in Chemical Technology of not less than three years' standing.

Curriculum: A candidate is required to pursue an approved course of special study or research on some subject connected with the mathematical, physical, natural or applied sciences, and to submit a thesis embodying the results of his special study or research. This thesis must make a distinct contribution to the knowledge or understanding of the subject and afford evidence of originality shown either by the discovery of new facts or by the exercise of independent critical power.

Doctor of Science: D.Sc.

Admission requirements: A candidate must be a Bachelor of Science (Honours) of not less than five years' standing.

Curriculum: A candidate must submit a thesis or published work which must be a record of original and independent research carried out by the candidate on some subject connected with the mathematical, physical, natural or applied sciences, and falling within the scope of the studies represented at the University. At least part of the work of the thesis must already have been published.

A thesis must be a work of distinction in its field and a substantial contribution to the advancement of learning.

A candidate may be required to present himself for examination on the subject of his thesis and on the whole field of study in which it falls.

UNIVERSITY OF THE ORANGE FREE STATE

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Honours Bachelor of Science	: B.Sc. (Hons.)
Master of Science	: M.Sc.
Master of Science (Clinical Psychology)	: M.Sc. (Clinical Psychology)
Master of Science (Counselling Psychology)	: M.Sc. (Counselling Psychology)
Doctor of Philosophy	: Ph.D.
Doctor of Science	: D.Sc.

Diploma

Post-graduate Diploma in Geohydrology

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 40 per cent on the Standard Grade, as well as a pass in Physical Science and/or Biology on the Standard Grade at least, except in the case of a student enrolling for Mathematics I. In the latter case he must have passed in Mathematics on the Higher Grade or obtained at least 50 per cent on the Standard Grade.

A student who wishes to register for the B.Sc. degree is strongly advised to take Physical Science for the Std 10 examination.

Curriculum: Three years of full-time study. The curriculum normally comprises the following number of courses: First year - 8 semester courses; second year - 6 semester courses; third year - 6 semester courses. The curriculum must include at least two approved major subjects in each of which the prescribed number of semester courses must be completed.

The major subjects are chosen from the following: Applied Mathematics, Biochemistry, Botany, Chemistry, Computer Science, Entomology, Genetics, Geochemistry, Geography, Geohydrology, Geology, Guidance Psychology, Mathematical Statistics, Mathematics, Microbiology, Physical Education, Physics, Physiology, Psychology, Statistics, Zoology.

In addition to his major subjects a student must include in his curriculum such ancillary subjects which the University may prescribe. A curriculum must be compiled in accordance with the regulations regarding the grouping of subjects and the requirements of the particular field of study.

A student who wishes to qualify as a secondary school teacher after obtaining his B.Sc. degree must include in his curriculum for the degree, such school subjects and courses as may be determined by the regulations for the Higher Diploma in Education.

Honours Bachelor of Science: B.Sc. (Hons.)

Admission requirements: A B.Sc. degree or the status thereof. The subject of an Honours degree course must be one which the student has completed for the ordinary Bachelor's degree. The Senate may refuse to admit a student to the course if the standard of proficiency of the student in the subject concerned is not sufficiently high.

Curriculum: Each candidate must pursue an approved course of study as a registered student of the university for at least one year.

Subjects in which the degree may be conferred: Applied Mathematics, Astronomy, Biochemistry (Chemistry III is a prerequisite for the Honours course in Biochemistry), Botany, Chemistry, Computer Science, Entomology, Food Science, Genetics, Geochemistry, Geography, Geohydrology, Geology, Hydrology, Mathematical Statistics, Mathematics, Microbiology, Physics, Physiology, Psychology, Nutritional Science, Statistics, Zoology.

A student is required to sit for a university examination at the end of the course and to pass the whole examination at one and the same time. A student may only present himself twice for the final examination.

Master of Science: M.Sc.

Admission requirements: A B.Sc. (Hons.) degree. A student must satisfy the head of the department concerned that he has sufficient knowledge of the subject to be able to prosecute the work for the degree.

Curriculum: A student may not be admitted to the Master's degree before at least two years have passed since his admission to the ordinary Bachelor's degree.

The M.Sc. degree may be conferred in the following divisions: Applied Mathematics, Astronomy, Biochemistry, Botany, Chemistry, Clinical Psychology, Entomology, Genetics, Geochemistry, Geography, Geohydrology, Geology, Mathematical Statistics, Mathematics, Microbiology, Physics, Physiology, Psychology, Statistics, Zoology.

An examination consists of a written examination or a dissertation or both. If the department considers it necessary, an additional oral examination may be conducted.

Doctor of Philosophy: Ph.D.

Admission requirement: The M.Sc. degree.

Curriculum: No student may be admitted to the Doctor's degree before a period of two years, exclusively devoted to research work at the University or other approved institution, has elapsed.

The student must submit a thesis which constitutes an original contribution to the existing knowledge of the chosen subject. Each thesis is prepared under the guidance of a promoter/assistant-promoter.

Doctor of Science: D.Sc.

Admission requirements: The D.Sc. degree may only be awarded to a person who fulfils the following requirements:

- Already holds a doctor's degree attained by means of a thesis.
- Has published comprehensive works of a high standard in his branch of study for a considerable period.

Curriculum: A candidate applies to the Registrar. The application must include copies of his publications and a statement of the applicant's personal contribution to works of which he was joint-author.

UNIVERSITY OF PORT ELIZABETH

FACULTY OF SCIENCE

Degrees

Baccalaureus Scientiae	: B.Sc.
Baccalaureus Scientiae (Educationis)	: B.Sc. (Ed.)
Baccalaureus Scientiae Honores	: B.Sc.Hons.
Magister Scientiae	: M.Sc.
Magister Scientiae in Textile Science	: M.Sc. in Textile Science
Philosophiae Doctor	: Ph.D.
Philosophiae Doctor in Textile Science	: Ph.D. in Textile Science
Doctor Scientiae	: D.Sc.

DEGREES

Baccalaureus Scientiae: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics of at least 40 per cent on the Higher or the Standard Grade.

Additional requirements: For admission to the following courses a candidate must have obtained the standard indicated in each case:

- Mathematics or Mathematical Statistics: A pass in Mathematics on the Higher Grade or at least 40 per cent on the Standard Grade.

- Mathematics for Economists: A pass in Mathematics on the Standard Grade.

Curriculum: Three years of full-time study. An approved curriculum consists of not less than nine two-semester courses, of which not less than three must be on second-year level and not less than two must be major courses on third-year level selected from the following: Applied Mathematics, Biochemistry, Electronic Data Processing, Fundamental Biology, Botany, Business Economics, Chemistry, Economics, Geology, Mathematical Statistics, Mathematics, Operations Research, Statistical Methods, Physics, Zoology, Computer Science.

Baccalaureus Scientiae (Educationis): B.Sc. (Ed.)

Admission requirements: As for the B.Sc. degree. All prospective student teachers shall be selected.

Curriculum: Four years of full-time study. A student takes one of the following curricula:

- Curriculum 1: Physics and Chemistry as major subjects
- Curriculum 2: Mathematics as one of the major subjects
- Curriculum 3: Biological Sciences.

All three of the curricula include the following subjects: Method of Physical Science, Educational Practice, Pedagogics, Sports Coaching or Sports Coaching and School Organizations.

The degree allows admission to post-graduate study in the Faculties of Education and Science.

See also p.122.

Baccalaureus Scientiae Honores: B.Sc.Hons.

Admission requirements: A B.Sc. degree. A candidate should have passed a subject at third-year level before proceeding with the Honours course in that subject.

Curriculum: A candidate may be admitted to an Honours course in any of the following subjects and may be required to complete as additional work a course or courses in any other prescribed subject: Applied Mathematics, Biochemistry, Botany, Chemistry, Computer Science, Geology, Mathematics, Mathematical Statistics, Operations Research, Physics, Zoology.

The curriculum for an Honours degree extends over at least two consecutive semesters and the examination consists of not less than four papers, oral and/or written.

Magister Scientiae: M.Sc.

Admission requirement: A B.Sc. Hons. degree.

Curriculum: As for the M.A. degree, Faculty of Arts, p.15.

Magister Scientiae in Textile Science

Admission requirements: A candidate must hold one of the following minimum qualifications:

- B.Sc. (Textiles) degree
- Diploma in Textile Engineering equivalent to a B.Sc. Hons. degree
- B.Sc. (Hons.) degree in Chemistry, Physics, Mathematics or Mathematical Statistics.

Curriculum: One of the following fields may be selected for research: Textile Chemistry, Textile Physics, Mechanical Processing, Textile Engineering.

All candidates should be employed by a well established textile laboratory having the necessary research facilities.

See also Curriculum for the M.A. degree, p.15.

Philosophiae Doctor in Textile Science: Ph.D. in Textile Science

Admission requirements: A candidate must hold one of the following minimum qualifications:

- M.Sc. degree in Chemistry, Physics or Textile Engineering with at least two years experience in the textile research field
- M.Sc. (Textiles) degree.

Curriculum: As for Doctor's degrees, Faculty of Arts, p.15.

Philosophiae Doctor: Ph.D.

As for Ph.D., Faculty of Arts, p.15.

Doctor Scientiae: D.Sc.

The degree is awarded upon application, to candidates who are in possession of a doctorate. The candidate is required to submit reprints of his research publications to prove that he is an authority in his field.

P O T C H E F S T R O O M U N I V E R S I T Y F O R C H R I S T I A N H I G H E R
E D U C A T I O N

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Honours Bachelor of Science	: Hons. B.Sc.
Master of Science	: M.Sc.
Doctor of Science	: D.Sc.
Bachelor of Science for teachers in a technical field	: B.Sc. (Ed.)
Bachelor of Science in Operations Analysis	: B.Sc.
Bachelor of Science (Pedology)	: B.Sc. (Ped.)
Honours Bachelor of Science (Pedology)	: Hons. B.Sc. (Ped.)
Master of Science (Pedology)	: M.Sc. (Ped.)
Doctor of Science (Pedology)	: D.Sc. (Ped.)

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade, or passes in a natural science subject, preferably Physical Science, and Mathematics on the Standard Grade.

Additional admission requirements to courses

- Mathematics: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade.
- Industrial Chemistry: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade provided that a natural science subject, preferably Physical Science, was passed on the Standard Grade at least.
- Physical Education: A student must be medically fit.

Curriculum: Three years of full-time study. The curriculum includes at least 9 courses. For degree purposes a student receives recognition for not more than three courses in the year in which he enrolls for the final examination in his major subjects, and for not more than four courses in any other year. A curriculum includes at least two major subjects in each of which two or three courses must be completed.

Major subjects with three courses

Applied Mathematics, Botany, Chemistry, Computer Science, Geography, Geology, Industrial and Personnel Psychology, Mathematics, Pedology, Physical Education, Physics, Physiology, Psychology, Zoology.

Major subjects with two courses

Biochemistry, Industrial Chemistry, Microbiology, Theory of Statistics.

For each major subject there are courses in ancillary subjects which a candidate has to complete, e.g. if a student takes Chemistry as a major subject, he has to complete at least one course in Physics and Mathematics. Industrial Chemistry may only be taken together with Chemistry as a major subject.

Students who major in Chemistry and Industrial Chemistry for the B.Sc. degree are required to work in approved chemical factories during vacations.

Bachelor of Science with Economic subjects: B.Sc.

Admission requirements: As for the ordinary B.Sc. degree.

Curriculum: Three years of full-time study. One of the following curricula must be taken:

- (i) Statistical - Economical field
- (ii) Computer Science - Accounting field
- (iii) Accounting - Mathematical field.

The degree grants admission to Hons. B.Sc., M.Sc. and D.Sc. degree study in the B.Sc. subjects taken up to third-year level.

Honours Bachelor of Science: Hons. B.Sc.

Admission requirement: A B.Sc. degree.

Curriculum: A student must attend an approved course at the University for at least one year.

The degree may be completed in one of the following subjects: Applied Mathematics, Biochemistry, Botany, Chemistry, Clothing, Computer Science, Dietetics, Electrotechnics, Entomology, Geography, Geology, Hygiene, Industrial and Personnel Psychology, Industrial Pharmacy, Industrial Sociology, Mathematics, Microbiology, Pedology, Pharmacology, Physical Education, Physics, Physiological Chemistry, Physiology, Plant Biochemistry, Psychology, Nutritional Science, Statistics, Zoology.

There are certain prerequisites which have to be fulfilled, e.g. Plant Biochemistry may only be taken by students who completed Botany and Chemistry as major subjects for the B.Sc. degree.

A student is required to sit for a university examination at the end of the course and to pass in all parts of the course at one and the same time. He may present himself only once for the final examination.

Master of Science: M.Sc.

Admission requirement: The Hons. B.Sc. degree. An M.Sc. degree in Plant Biochemistry may be taken directly after the B.Sc. degree provided that Chemistry III and Botany I were completed.

Curriculum: A student must attend an approved course or courses of study or research or both at the University for at least one academic year after obtaining the Hons. B.Sc. degree or two years after a B.Sc. degree. The subjects in which the degree may be taken are the same as those for the Hons. B.Sc. degree. The examination consists of examination papers or one or more examination papers and a dissertation or paper in the field of the subject concerned. A dissertation must prove that the candidate is acquainted with the methods of research.

Doctor of Science: D.Sc.

Admission requirement: An M.Sc. degree.

Curriculum: The degree will only be conferred after the candidate has pursued an approved course or courses of study or research or both at the University for at least two academic years.

The degree may be taken in the same subjects as those prescribed for the Hons. B.Sc. degree. The degree may also be taken in the Industrial Chemistry subjects. See p.170.

The examination comprises at least a thesis which includes results of the candidate's study and research.

A thesis will not be accepted if it is not a positive contribution to the knowledge and understanding of the subject and affords evidence of originality shown either by the discovery of new facts or by the exercise of an independent critical ability.

Bachelor of Science for teachers in a technical field: B.Sc. (Ed.)

Admission requirements: As for the B.Sc. degree.

Curriculum: Four years of full-time study. The curriculum consists of the following subjects: Mathematics I, Applied Mathematics I, Physics I, Chemistry I, Techniques I and II, Technical Design I and II plus one of the following: Electrotechnics I and II, Mechanics I and II, Building I and II. In his fourth year the student takes the H.D.E. (post-graduate) course. See p.123.

Students are required to do eight weeks practical work at the industries.

Bachelor of Science in Operations Analysis: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade.

Curriculum: Four years of part-time study. The course is offered only extramurally at Vanderbijlpark.

The compulsory subjects are Operations Analysis III, Mathematics III and Computer Science II.

Bachelor of Science (Pedology): B.Sc. (Ped.)

Admission requirement: The B.Sc. degree with Pedology as one of the major subjects.

Curriculum: The curriculum extends over one year and comprises a study of Advanced Pedology.

Honours Bachelor of Science (Pedology): Hons. B.Sc. (Ped.)

Admission requirement: The B.Sc. (Ped.) degree.

Curriculum: One year. The degree is offered in two fields:

- Regional - pedological field
- Pedological - chemical field.

Master of Science (Pedology) and

Doctor of Science (Pedology)

As for the M.Sc. and D.Sc. degrees respectively.

U N I V E R S I T Y O F P R E T O R I A

FACULTY OF MATHEMATICS AND SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Bachelor of Science (Educationis)	: B.Sc. (Ed.)
Bachelor of Science (Honours)	: B.Sc. (Hons.)
Master of Science	: M.Sc.
Doctor of Science	: D.Sc.

in Biophysics

Bachelor of Science in Biophysics (Honours)	: B.Sc. (Biophysics) (Hons.)
Master of Science in Biophysics	: M.Sc. (Biophysics)
Doctor of Science in Biophysics	: D.Sc. (Biophysics)

in Wild Life Management

Bachelor of Science in Wild Life Management (Honours)	: B.Sc. (Wild Life Management) (Hons.)
Master of Science in Wild Life Management	: M.Sc. (Wild Life Management)
Doctor of Science in Wild Life Management	: D.Sc. (Wild Life Management)

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes in Mathematics and Physical Science on the Higher Grade or at least 50 per cent on the Standard Grade.

Additional admission requirements in respect of certain courses

- A candidate will not be admitted to the following courses unless he complies with the above-mentioned requirements: Biochemistry, Biological Science, Botany, Chemistry, Entomology, Genetics, Geology, Metallurgy, Microbiology, Physics, Physiology or Zoology.

- Computer Science, Applied Mathematics, Mathematics or Mathematical Statistics: A candidate will not be admitted to these courses unless he passed Mathematics on the Higher Grade or obtained at least 50 per cent on the Standard Grade.

- For Biological fields of study Biology is recommended as a matriculation subject.

Curriculum: Three years of full-time study. Each curriculum must include at least nine qualifying courses. No candidate will be allowed to choose more than four courses in the first year of study, four in the second and three in the third year of study.

A candidate must compile his curriculum from the following subjects:

Applied Mathematics, Biochemistry, Biological Science, Biology, Botany, Chemistry, Computer Science, Entomology, Genetics, Geography, Geology, Mathematical Statistics, Mathematics, Metallurgy, Microbiology, Physics, Physiology, Zoology.

Each curriculum must include at least two major subjects. There are certain requirements with regard to the major subjects which have to be fulfilled: e.g. (i) Biochemistry as a major subject may only be offered together with Chemistry as the second major subject. (ii) Genetics as a major subject may only be taken with either Zoology or Entomology or Botany or Mathematical Statistics as the second major subject.

Bachelor of Science (Educationis): B.Sc. (Ed.)

Admission requirements: As for the B.Sc. degree.

Curriculum: Four years of full-time study. The courses are chosen from the following recognized school subjects: Biology or Biological Science, Botany, Chemistry, Geography, Mathematics, Physics, Physiology, Zoology.

At least one second-year course and one third-year course must be a school subject.

In the fourth year the candidate takes educational subjects such as Pedagogics III, School Organization and Administration, School Practice, Subject Didactics.

Bachelor of Science (Honours): B.Sc. (Hons.)

Admission requirements: The B.Sc. or B.Sc. (Ed.) degree. A candidate must fulfil all the requirements set out under the syllabuses of the subjects concerned: Provided that for admission to the B.Sc. (Meteorology) (Hons.) the degree of B.Sc. (Meteorology) is not a prerequisite.

Curriculum: At least one year of full-time study. The degree is conferred in the following subjects: Applied Mathematics, Biochemistry, Botany, Chemistry, Computer Science, Engineering Geology, Entomology, Genetics, Geography, Geology, Mathematical Statistics, Mathematics, Metallurgy, Meteorology, Microbiology, Physics, Plant Physiology, Water Environmental Studies, Zoology; and the B.Sc. (Hons.) in Wild Life Management.

Master of Science: M.Sc.

Admission requirement: A B.Sc. (Hons.) degree.

Curriculum: The minimum period of study is one year. If admission to the course does not follow after a B.Sc. (Hons.) degree, the minimum period of study is two years. The Master's degree is conferred in the same fields of study as a B.Sc. (Hons.) degree, as well as the M.Sc. (Wild Life Management), in Wild Life Management.

The degree is awarded on the strength of a dissertation and an examination or on the strength of an examination only.

Before a candidate may enter for the Master's examination, he must have a reading knowledge of French or German or another modern foreign language.

Bachelor of Science in Biophysics (Honours): B.Sc. (Biophysics) (Hons.)

Admission requirements: A B.Sc. degree with Physics III or a B.Sc. (Eng.) degree with Physics 3FF and supplementary Physics.

Curriculum: One year. The curriculum comprises the following subjects: Theoretical Physics, Experimental Physics, Biophysics, Physiology.

Candidates who wish to qualify for registration with the SA Medical and Dental Council must, in addition to the B.Sc. (Biophysics) (Hons.) degree, gain practical experience in clinical hospital physics as prescribed by the said Council.

Master of Science in Biophysics: M.Sc. (Biophysics)

Admission requirements: A B.Sc. (Biophysics) (Hons.) or a B.Sc. (Hons.) in Physics or a B.Sc. (Eng.) with Physics 3FF and supplementary Physics.

Curriculum: A minimum period of eighteen months for candidates with a B.Sc. (Biophysics) (Hons.) otherwise two years.

Also see M.Sc.

Doctor of Science: D.Sc.

Admission requirement: A student must hold a Master's degree or be admitted to the status thereof.

Curriculum: A candidate for the degree must submit a thesis which deals with a topic on one of the subjects prescribed for the M.Sc. degree with the exception of Meteorology. The doctoral examination is conducted either orally or written or both and it covers the contents of the thesis as well as those sections of the subject on which the thesis is based.

A Doctor's degree may be awarded at least four years after all the requirements for the Bachelor's degree have been fulfilled or at least two years after fulfilment of the requirements for the Master's degree.

Doctor of Science in Biophysics: D.Sc. (Biophysics)

Admission requirement: M.Sc. (Biophysics) degree.

Curriculum: See D.Sc. degree.

R A N D A F R I K A A N S U N I V E R S I T Y

FACULTY OF SCIENCE

Degrees

Bachelor of Science in each of the following curricula:

Biological Sciences	: B.Sc.
Earth Sciences	: B.Sc.
Mathematical Sciences	: B.Sc.
Physical Sciences	: B.Sc.
Teacher Training	: B.Sc. (Ed.)
Honours Bachelor of Science	: B.Sc. Hons.
Master of Science	: M.Sc.
Magister Philosophiae	: M.Phil.
Doctor of Science	: Ph.D.
Doctor Philosophiae	: D.Phil.

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with at least 40 per cent in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade.

Additional admission requirements in respect of certain courses

- Mathematics, Mathematical Statistics: Candidates who have passed Mathematics on the Standard Grade will only in exceptional cases be admitted to the course in Mathematics after a test set by the Department of Mathematics has been passed.

- Mathematical Methods: A pass in Mathematics of 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Three years' full-time study or four years' part-time study. Each curriculum must consist of at least 18 semester courses. A curriculum includes either two primary major subjects or one primary plus two secondary major subjects. One reinforced major subject may be taken instead of a primary major subject. (See Faculty of Arts p.21.)

A student registers for a Bachelor's degree under a specific curriculum group and his registration and course adjustments must be approved by the chairman of the curriculum group.

The curriculum consists of courses in the following subjects: Biochemistry, Biology, Botany, Chemistry, Computer Science, Education, Geography, Geology, Human Anatomy, Human Physiology, Logic, Mathematical Methods, Mathematical Statistics, Mathematics, Mineral Economics, Physics, Psychology, Statistical Methods, Theoretical Physics, Zoology.

Theory of Science A and B are compulsory and additional to the minimum of 18 semester courses for the B.Sc. degree.

Bachelor of Science (Education): B.Sc. (Ed.)

Admission requirements: As for the B.Sc. degree.

Curriculum: Four years' full-time study. (See Faculty of Arts p.22)

The curriculum consists of at least 27 semester courses, besides Biblical Instruction, and is compiled as follows: Education I, II and III; Subject Didactics of two school subjects; Teaching Practice; 16 semester courses including two major subjects and chosen according to the regulations of a curriculum group of the Faculty. (See also p.22)

The degree grants admission to post-graduate study for the B.Sc. Hons. and/or B.Ed. degree.

See also p.125.

Magister Philosophiae: M.Phil.

Admission requirements: A student may be admitted if his proposed study is of such a multidisciplinary or interdisciplinary character that it does not fall exclusively under one faculty, and provided that he holds an Honours degree which with or without other qualifications provides adequate grounding for the proposed study for a Master's degree.

Curriculum: As for the M.A. degree. See p. 22.

B.Sc.Hons., M.Sc. and Doctor's degrees

See Faculty of Arts, B.A.Hons., M.A. and Doctor's degrees, p. 22.

R H O D E S U N I V E R S I T Y

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Bachelor of Science with Honours	: B.Sc. (Hons.)
Master of Science	: M.Sc.
Doctor of Philosophy	: Ph.D.
Doctor of Science	: D.Sc.

Diploma

Diploma in Leather Science (Post-graduate): Dip. Leather Sc.

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with an F symbol in Mathematics on the Higher Grade, or an E symbol in Mathematics on the Standard Grade.

Additional requirements in respect of certain courses

- Chemistry IA: A pass in either Physical Science or Chemistry or Physics with an F symbol on the Higher Grade or an E symbol on the Standard Grade.
- Mathematics IA: A pass in Mathematics with an E symbol on the Higher Grade or a D symbol on the Standard Grade.
- Physics IA: A pass in Physical Science or Physics with an F symbol on the Higher Grade or an E symbol on the Standard Grade.

Curriculum: Three years of full-time study. A candidate must obtain credit in not less than nine courses.

A candidate must obtain credit in all the required courses in at least two subjects, to be known as major subjects, which must be selected from the following:

(a) Major subjects with three courses

Chemistry, Computer Science, Geography, Geology, Mathematics, Physics, Plant Science, Psychology, Zoology.

(b) Major subjects with two courses

Applied Chemistry, Applied Chemistry (Geol), Applied Mathematics, Chemistry (Biol), Entomology, Mathematical Statistics, Microbiology.

A curriculum may contain courses in any of the above-mentioned subjects which have not already been chosen as major subjects; and any of the following courses: Biological Science I, Biological Science II, Statistics, Computing and Applied Mathematics.

The ninth course may be chosen from the following subjects: Afrikaans, English, Economics, French, German, Italian, Journalism, Logic, Philosophy, Xhosa or any other modern language.

Bachelor of Science with Honours: B.Sc.(Hons.)

Admission requirements: The B.Sc. degree with at least a second class pass in the final year in the subject in which the candidate wishes to take Honours.

Curriculum: A candidate must attend the University for not less than one academic year and pursue a course of advanced study in one of the following subjects: Applied Mathematics, Chemistry, Computer Science, Electronics, Entomology, Geography, Geology, Ichthyology, Mathematical Statistics, Mathematics, Microbiology, Operations Research, Physics, Plant Science, Psychology, Zoology.

The subject for the Honours course must be one which the candidate has completed as a major subject for the B.Sc. degree. Operations Research is an approved exception.

A candidate must write all parts of the examination at one time and will not be permitted to present himself for the Honours examination more than once in the same subject.

Master of Science: M.Sc.

Admission requirement: The B.Sc. (Hons.) degree.

Curriculum: A candidate must attend an approved course of study or research at the University for one year.

The examination for the degree consists of a thesis on an approved subject, and/or such written or oral examination as may be prescribed.

Doctor of Philosophy: Ph.D.

See Chapter 2, Faculty of Arts, p. 25.

Doctor of Science: D.Sc.

Admission requirement: The M.Sc. degree.

Curriculum: A candidate shall not be admitted to the degree until at least five years after admission to the B.Sc.(Hons.) degree or until at least four years after admission to the M.Sc. degree.

A candidate must submit, for the approval of the Senate, six copies of published work dealing with some subject falling within the scope of the studies represented in the University.

DIPLOMA

Diploma in Leather Science (Post-graduate)

Admission requirements: The B.Sc. degree with Chemistry as a major subject. A candidate must obtain the permission of the Board of the Faculty, on the recommendation of the Director of the Leather Industries Research Institute.

Curriculum: One year of full-time study. A candidate must obtain credit in all the following courses: Principles of Leather Manufacture, Methods of Leather Manufacture, Analytical Chemistry (Leather), Physical Chemistry (Leather), Practical Chemistry (Leather).

A candidate must take examinations in each of the prescribed courses and prepare an original thesis.

U N I V E R S I T Y O F S O U T H A F R I C A

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Honours Bachelor of Science	: Hons.B.Sc.
Master of Science	: M.Sc.
Doctor of Philosophy	: Ph.D.

Diploma

Diploma in Datametrics

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade.

A student who is registered for modules or courses for which practical work is prescribed, must do practical work during the year in an approved laboratory. It is the student's own responsibility to find a suitable laboratory and supervisor for his practical work except in the case of Physics and Computer Science.

Curriculum: The degree must be obtained within ten years of a student's first registration for the degree.

A course unit is known as a module. A student receives credit for each module passed. The subjects in which modules may be taken are as follows:

Applied Mathematics, Astronomy, Biology, Botany, Chemistry, Computer Science, Geography, Geology, Information Systems, Mathematics, Microbiology, Operations Research, Physics, Physiology, Physiological Chemistry, Psychology, Statistics, Zoology.

The curriculum consists of thirty modules composed as follows:

(i) At least 24 modules must be taken in the above-mentioned subjects. At least 16 of these 24 modules must be taken on second level or higher level and of these at least 8 must be on third level or higher level.

(ii) Not more than 6 modules, or the equivalent weighting in courses, may be taken in subjects from the curricula of first Bachelor's degrees of other faculties.

A student must not take more than 12 modules per year.

The modules which may be taken in Biology, for example, are as follows:

<u>Module</u>	<u>Description</u>
BIO 101	Introductory Biology
BIO 102	Histology, Physiology and practical
BIO 103	Morphology, Taxonomy, Ecology and practical

The prerequisite for Biology is Physical Science or Biology for Std 10.

Honours Bachelor of Science: Hons.B.Sc.

Admission requirements: A Bachelor's degree or an equivalent qualification and proof of the candidate's proficiency in the subject concerned.

Curriculum: At least one year. The curriculum consists of ten modules. The degree may be conferred in the following subjects: Applied Mathematics, Chemistry, Computer Science, Geography, Information Systems, Mathematics. Operations Research, Physics, Psychology, Statistics.

Master of Science: M.Sc.

Admission requirements: An Honours Bachelor's degree or equivalent qualification and proof of the student's proficiency in the subject concerned.

Curriculum: The degree may be conferred in the same subjects as the Hons. B.Sc. degree. The curriculum consists of either a dissertation on an approved subject; or five modules and a dissertation; or at least ten modules. In Chemistry the curriculum consists of a written examination and a dissertation.

Doctor of Philosophy: Ph.D.

Admission requirement: A Master's degree.

Curriculum: The degree will not be awarded until two years have elapsed after the completion of the Master's degree. The curriculum consists of a thesis. In Chemistry the curriculum consists of two written examinations and a thesis.

DIPLOMA

Diploma in Datametrics

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade.

Curriculum: The diploma must be obtained within five years of a student's first registration for the diploma.

The subjects in which modules may be taken are as follows: Accounting, Computer Science, Information Systems, Operations Research, Psychology, Statistics.

UNIVERSITY OF STELLENBOSCH

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Honours Bachelor of Science	: B.Sc. Hons.
B.Sc.Hons. with Operations Analysis as the major field of study	
B.Sc. Hons. with Biophysics as the major field of study	
Master of Science	: M.Sc.
M.Sc. (Counselling Psychology)	
M.Sc. (Clinical Psychology)	
Doctor of Science	: D.Sc.
Doctor of Philosophy	: Ph.D.

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes in Mathematics and Physical Science of which at least one must be on the Higher Grade. For all courses in which Mathematics I is offered as a subject, a pass in Mathematics on the Higher Grade or at least a C symbol on the Standard Grade is required.

Students who intend to take a course in Chemistry and/or Physics are strongly recommended to take Physical Science for the Std 10 examination. Should a student wish to take Botany and/or Zoology, he is strongly recommended to take Biology, besides Physical Science, for the Std 10 examination.

Curriculum: Three years of full-time study. The curriculum normally consists of nine year courses. The subjects which are taken only during the first and/or second years are known as ancillary subjects and the two subjects taken in the third year are major subjects.

The following subjects are major subjects which may also lead to post-graduate study if the requirements are fulfilled:

Applied Mathematics, Biochemistry, Botany, Chemistry, Computer Science, Dietetics, Entomology, Genetics, Geochemistry, Geography, Geology, Mathematical Statistics, Mathematics, Microbiology, Physics, Physiology, Plant Pathology, Psychology, Statistics, Zoology.

Honours Bachelor of Science: B.Sc.Hons.

Admission requirements: The B.Sc. degree and a written application for admission to the course concerned.

Curriculum: Students must pursue the prescribed course at the University for at least one year and pass in the required examination.

B.Sc. Hons. with Operations Analysis as the major field of study

Admission requirements: A Bachelor's degree with at least one of the following subjects as a major subject:

Mathematics, Computer Science, Applied Mathematics, Mathematical Statistics, Statistics

OR

a Bachelor's degree in Engineering.

Curriculum: The curriculum comprises a study of various subjects, for example, Probability Theory and Stochastic Processes, Inventory Control and Production Control, Linear and Non-linear Programming, Simulation and Numerical Methods.

B.Sc. with Biophysics as the major field of study

Admission requirements: A B.Sc. degree with Physics III and Chemistry II is required for admission to the physical orientated course. Students must offer at least Physiology I (or another approved biological subject).

For admission to the biological orientated course a B.Sc. degree with at least one biological major subject, as well as Physics I, Mathematics I and either Biochemistry I or an M.B., Ch.B. degree, is required. Students must offer at least Physics II.

Curriculum: 18 months. The course is differentiated into two major fields of study, viz (i) for more physically orientated students and (ii) for more biologically orientated students. Each student selects 6 divisions. The divisions comprise, inter alia, Molecular Biology, Photochemistry and Photobiology, Radiochemistry and Radiation Biology, Radiological Physics, Nuclear Physics.

Master of Science: M.Sc.

Admission requirements: The Honours degree or the Bachelor's degree and a written application for admission to the course concerned.

Curriculum: A student must pursue an approved curriculum of research and/or advanced study for at least one year (after obtaining the Honours degree) at the University or other approved place and submit a satisfactory dissertation

OR

a student must pursue an approved curriculum of research and/or advanced study for at least two years (after obtaining the Bachelor's degree) which may include a maximum period of one year's study or research at another recognized place. In addition, he is required to pass the prescribed examination and submit a satisfactory dissertation.

M.Sc. (Counselling Psychology)

Admission requirements: A B.Sc. Hons. degree with Counselling Psychology. Candidates must already be employed in posts where they do psychological counselling.

Curriculum: As for the Post-graduate Diploma in Counselling Psychology, but on a more advanced level. (See Faculty of Arts p. 29.) A dissertation must be submitted.

M.Sc. (Clinical Psychology)

Admission requirements: A B.Sc. Hons. degree and written application for admission to the course.

Curriculum: See M.A. (Clinical Psychology) p. 29.

Doctor of Science: D.Sc.

Admission requirements: The M.Sc. degree or another degree or qualification of an adequate standard.

Curriculum: A candidate must be registered as a student for the Doctor's degree at the University for at least three years and at least seven years must have elapsed after obtaining his Master's degree before he may be admitted to the Doctor's degree. He must do advanced original research and/or creative study in the scientific field and

must submit original work(s) - already published - of a high standard which deals with a central theme showing a substantial and positive contribution towards the enrichment of scientific knowledge.

He must pass an oral examination should it be required.

A candidate who already holds the degree of Doctor of Philosophy (Ph.D.) must be registered at the University for at least one academic year.

Doctor of Philosophy: Ph.D.

Admission requirement: An M.Sc. degree or other proof of adequate ability in the particular field of study.

Curriculum: A candidate must be a registered student for the degree for at least two years. A thesis is required which must comprise original research by the candidate on one or other problem in connection with his major subject.

UNIVERSITY OF THE WITWATERSRAND

FACULTY OF SCIENCE

Degrees

Bachelor of Science	: B.Sc.
Bachelor of Science in Education	: B.Sc. (Education)
Bachelor of Science with Honours	: B.Sc.Hons.
Master of Science	: M.Sc.
Doctor of Philosophy	: Ph.D.
Doctor of Science	: D.Sc.

Diploma

Diploma in Computer Science

DEGREES

Bachelor of Science: B.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

- A pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade.

- A pass on the Higher Grade in one of the subjects in List A below if Mathematics has been passed on the Higher Grade, or if Mathematics has been passed on the Standard Grade, either two of the subjects in List A below or one of the subjects in List A and one of the subjects in List B below:

List A

Biology
Geography
Physical Science
Physiology

List B

French
German
Hebrew
History
Latin

Curriculum: Three years of full-time study.

A student must include in his curriculum either all the courses offered in two major subjects, in which event his curriculum need comprise no more than nine courses; or all the courses offered in only one major subject, in which event his curriculum must comprise not fewer than ten courses of which at least four are at second or third-year level.

The major subjects in which three courses are offered are the following:

Applied Mathematics, Archaeology, Botany, Chemistry, Computer Science, Geography, Geology, Mathematical Statistics, Mathematics, Physics, Psychology, Zoology.

The major subjects in which two courses are offered are the following:

Anatomy, Biochemistry, General Anatomy, Genetics, Histology, Micro-Anatomy, Microbiology, Physiological Chemistry, Physiology.

The major subject in which one course is offered is Geophysics.

A student must include in his curriculum such courses ancillary to his major subjects as are determined by the Senate.

A student must include in his curriculum at least one course in one of the following subjects: Anatomy (including Micro-Anatomy) I, Biochemistry, Botany, Chemistry, General Anatomy (including Histology), Genetics, Geography, Geology, Geophysics, Microbiology, Physics, Physiological Chemistry, Physiology (Dental), Physiology (Medical), Physiology (Science), Psychology, Zoology.

An approved curriculum must include one of the courses listed in (a); provided that, by permission of the Senate, one of the courses listed in (b) may be substituted.

(a) English I, Political Ideas and Institutions, Philosophy of Science.

(b) Accounting, African Government I, Afrikaans, Afrikaans en Nederlands I, a Bantu language, Biblical and Religious Studies I, Classical Life and Thought I, Economic History I, Economics I, Fine Art I, French I, German I, Greek I, Hebrew I, History I, History and Appreciation of Music, History of Art I, History of Education, History of Music I, Italian I, Latin I, Legal Theory & Institutions I, Philosophy I, Phonetics and Linguistics I, Political Science I, Portuguese I, Russian I, Social Anthropology I, Sociology I.

A student who selects Archaeology as a major subject must spend ten days on field work outside Johannesburg as part of the requirements for each of the first and second qualifying courses.

A student who selects Geology as a major subject must spend a minimum of two months in practical work of a geological nature approved by the Senate, normally during December and January at the end of the second year of study.

Bachelor of Science in Education: B.Sc. (Education)

Admission requirements: As for the B.Sc. degree.

Curriculum: Four years of full-time study.

The first three years of study are similar to that for the B.Sc. degree with the addition of Education IA, IB and II. The fourth year of study includes, inter alia, the following courses: Education III; courses in the methodology of an approved teaching subject in which the student has obtained credit in the third course, and in the methodology of an approved teaching subject in which he has obtained credit in at least the second course; a course in Advanced Study in a subject in which the student has completed the third course; practical teaching for not less than nine weeks. See also p. 131.

Bachelor of Science with Honours: B.Sc.Hons.

Admission requirements: A candidate must have obtained credit in all the qualifying courses for the B.Sc. degree.

A person who has completed all the requirements for the degree of B.D.S. or M.B., B.Ch. may be admitted as a candidate for the Honours course in Pharmacology.

Except in the case of Palaeontology or Pharmacology, the Honours course selected must be in a major subject completed by the candidate for the B.Sc. degree.

Curriculum: One year of full-time study or two years of part-time study.

The degree may be awarded in a course selected from one of the following subjects:

Anatomy, Applied Mathematics, Archaeology, Biochemistry, Botany, Chemistry, Computer Science, Experimental and Theoretical Physics, Experimental Physiology, Genetics, Geography, Geology, Geophysics, Histology, Mathematical Statistics, Mathematics, Micro-Anatomy, Microbiology, Palaeontology, Pharmacology, Physiological Chemistry, Psychology, Zoology.

A candidate may be required to satisfy the Senate that he has sufficient knowledge of an approved foreign language to read the scientific publications in his subject in that language.

A candidate who fails an Honours examination may be permitted to re-present himself for the Honours examination not earlier than one year after the examination he failed and be required to re-attend the course or parts of the course prior to such re-examination.

Master of Science: M.Sc.

Admission requirements: A B.Sc.Hons. or a B.Sc. (Ind.Chem.) or a B.Phil. in Environmental Science.

A person who wishes to be admitted as a candidate for the degree must lodge his application in writing with the Registrar, submitting evidence of his academic and general qualifications and indicating the line of research which he wishes to prosecute.

Curriculum: A candidate must prosecute during not less than one academic year advanced study or research or both, under the guidance of a supervisor appointed by the Senate. He must present a dissertation on an approved subject, and, if required by the Senate, present himself for an examination or test, oral or written or both, in regard to the subject of his dissertation.

Doctor of Philosophy: Ph.D.

Admission requirements: An M.Sc. degree or by permission of the Senate a B.Sc.Hons. or a B.Phil. in Environmental Science.

A person who wishes to be admitted as a candidate must lodge his application in writing with the Registrar, submitting evidence of his academic and general qualifications and indicating the line of research which he wishes to prosecute.

Curriculum: A candidate must prosecute full-time research on a subject under the guidance of a supervisor either in the University or in an institution deemed to be part of the University for this purpose, for at least two academic years. He may be required to attend advanced courses and to pass an examination in such courses.

Every candidate must present for the approval of the Senate a thesis which must constitute a definite contribution to the advancement of knowledge in the subject chosen, and he may be required to present himself for an examination or test, oral or written.

Doctor of Science: D.Sc.

Admission requirements: A candidate must lodge his application in writing with the Registrar submitting evidence of his academic and general qualifications and indicating the subject of the work which he proposes to present for the degree.

Any one of the following may be admitted as a candidate:

- A person who has held any of the following degrees for at least five years:
 - . Bachelor of Science with Honours
 - . Bachelor of Science in Soil Conservation (if he has passed an examination of Honours standard)
 - . Bachelor of Arts with Honours, provided the proposed work relates to Geography, Mathematical Statistics, Mathematics or Psychology
- a Master of Science who has held the degree of Bachelor of Science with Honours for at least four years
- a Master of Arts who has held the degree of Bachelor of Arts with Honours for at least four years, provided the proposed work relates to Geography, Mathematical Statistics, Mathematics or Psychology
- a Doctor of Philosophy of at least two years' standing.

Curriculum: A candidate must present for the approval of the Senate original work in an approved field. The work, which must have been published, must constitute a distinguished contribution to the advancement of knowledge in that field.

DIPLOMA

Diploma in Computer Science

Admission requirements: A candidate must hold the degree of Bachelor in any faculty and must satisfy the Senate that he has attained a standard in Mathematics equivalent to that of the second year level for a degree.

Curriculum: Two years of part-time study. The curriculum comprises an integrated selection of topics such as Third Qualifying Course in Computer Science, Honours Course in Computer Science, Third Qualifying Course in Applied Mathematics, and so forth.

SUBJECTS FOR B.SC. OFFERED IN THE FACULTIES OF SCIENCE

Note: Consult Chapter 6 for subjects in the vocationally oriented courses.

Afrikaans: UN, Rhodes	Guidance Psychology: UOFS
Afrikaans en Nederlands: UN	Hebrew: UN
Anatomy: UW	Histology: UW
Animal Biology: UCT	History: UN
Applied Chemistry: UN, Rhodes	History and Philosophy of Science: UCT
Applied Mathematics: All the universities	History of Art: UN
Applied Physics: UN	Human Anatomy: RAU
Archaeology: UCT, UW	Human Biology: UCT
Astronomy: UCT, Unisa	Human Physiology: RAU
Astrophysics: UCT	Industrial and Personnel Psychology: PU for CHE
Biblical Studies: UN	Industrial Chemistry: PU for CHE
Biochemistry: UCT, UN, UOFS, UPE, PU for CHE, UP, RAU, US, UW	Information Systems: Unisa
Biological Science: UN, UP, Rhodes	Introduction to Chemical Process Technology: UN
Biology: UN, UOFS, UP, RAU, Unisa	Introduction to Computer Science: UN
Biology in Human Affairs: UN	Introduction to Sample Survey Methods: UN
Biometry: UN	Italian: Rhodes
Botany: All the universities except Rhodes	Jewish Studies: UN
Business Economics: UPE	Journalism: Rhodes
Celestial Dynamics: UCT	Latin: UN
Chemical Engineering courses: UCT	Logic: RAU, Rhodes
Chemistry: All the universities	Machine Drawing: PU for CHE
Chemistry (Geochemistry Option): UCT	Marine Geology: UCT
Classical Civilization: UN	Mathematical Methods: RAU
Classical Hebrew: UN	Mathematical Statistics: UN, UOFS, UPE, UP, RAU, Rhodes, US, UW
Computational and Statistical Applied Mathematics (CASAM): UCT	Mathematics: All the universities
Computer Science: All the universities	Metallurgy: UP
Computing and Applied Mathematics: Rhodes	Metallurgy and Materials Science courses: UCT
Descriptive Geometry: PU for CHE	Micro-Anatomy: UW
Dietetics: US	Microbiology: UCT, UOFS, PU for CHE, UP, Rhodes, Unisa, US, UW
Economic History: UN	Microbiology - Plant Pathology: UN
Economics: UN, UPE, Rhodes	Mineral Economics: RAU
Education: RAU	Molecular Biology: UCT
Electronic Data Processing: UPE	Multiple Regression and Correlation: UN
English: UN, Rhodes, UW	Numerical Analysis and Computation: UCT
Entomology: UN, UOFS, UP, Rhodes, US	Operations Research: UPE, Unisa
Environmental Resource Management: UCT	Pedology: PU for CHE
French: UN, Rhodes	Philosophy: UN, Rhodes
Fundamental Biology: UPE	Philosophy of Science: UW
General Anatomy: UW	Physical Education: UOFS, PU for CHE, US
General Biology: UCT	Physical Oceanography: UCT
Genetics: UCT, UN, UOFS, UP, US, UW	Physics: All the universities
Geochemistry: UOFS, US	Physiological Chemistry: Unisa, UW
Geography: All the universities except UPE	Physiology: UCT, UOFS, PU for CHE, UP, Unisa, US, UW
Geohydrology: UOFS	
Geology: All the universities	
Geophysics: UW	
German: UN, Rhodes	
Greek: UN	

Plant Biology: UCT
 Plant Pathology: US
 Plant Science: Rhodes (See also Botany)
 Political Ideas and Institutions: UW
 Prehistory of Southern Africa: UN
 Psychology: UCT, UN, UOFS, PU for CHE,
 RAU, Rhodes, Unisa, US, UW
 Sample Survey Methods: UN
 Service Electronics: UN
 Social Anthropology: UN
 Sociology: UN
 Soil Science: UN

Statistical Methods: UPE, PU for CHE, RAU
 Statistics: UCT, UN, UOFS, Rhodes, Unisa,
 US
 Survey: UN
 Theology: UN
 Theoretical Chemistry: UN
 Theoretical Physics: RAU
 Theory of Statistics: PU for CHE
 Xhosa: Rhodes
 Zoology: All the universities
 Zulu: UN

VOCATIONAL SERVICE

Note: a. Since this book deals primarily with undergraduate study, vocational service based mainly on post-graduate study, is discussed in a few exceptional cases only.

b. Various subjects are offered in more than one faculty while other subjects and/or fields of study either involve post-graduate study or are specifically discussed under the vocationally oriented courses in Chapter 6. For reference to a particular subject or field of study it will thus be necessary to consult the INDEX OF CAREERS AND/OR FIELDS OF STUDY on p.225 beforehand.

c. Also read the section "CHOICE OF A FIELD OF STUDY" in Chapter 1.

It should be emphasized that students should be very selective as regards their choice of subject combination in their field of interest, particularly as far as major subjects are concerned. With a view to career possibilities, they should also make use of the guidance services of the school and university, since many occupational fields also demand intimate knowledge of certain other subjects.

The following are some of the career possibilities which arise from the most important major subjects:

Astronomy: Although interest in astronomy has greatly increased in recent times owing to the exploration of space, prospective students are nevertheless advised to include in their courses as many of the subjects such as Mathematics, Applied Mathematics, Physics, Statistics and Computer Science as possible, with a view to a possible change of career. However, prospects for the astronomer have improved considerably over the past few years and developments may cause a considerable rise in the demand for astronomers of high standing.

There are opportunities for employment as research or technical officers at the South African Astronomical Observatory, Cape Town (previously known as the Republic Observatory, Johannesburg, and the Royal Observatory, Cape Town), which is administered by the CSIR as a national research institute, as well as at the Boyden Observatory in Bloemfontein and the Leiden Observatory Southern Station at Hartbeesport.

The work of a modern astronomer mainly involves short-term projects and candidates should be in possession of at least an honours degree to make any form of progress. A B.Sc. degree with Physics as a major and as many of the above-mentioned subjects as possible as subsidiaries, will be a good starting point. Only from honours level and above should one concentrate on Astronomy.

Biochemistry: Biochemistry is actually, as the name indicates, the chemistry of biological systems, which means the study of the very great variety of chemical processes or reactions which are continually taking place in the life of any living creature. As a science therefore it is the study of living organisms from a molecular point of view.

Since Biochemistry forms a link between the physical (exact) sciences such as Chemistry, Physics, etc., and the biological sciences such as Botany, Zoology, Physiology and Microbiology, training with Biochemistry as one of the majors offers the particular opportunity of making a choice between careers existing in any of these fields. At present there is a need for highly trained biochemists, and the number of institutions employing graduates for research in the fields of, for example, nutrition and diseases of people and animals, agriculture, water purification and industry in general is increasing rapidly.

Some of the organizations employing biochemists are, inter alia, the research institutes and units of the CSIR, the SA Medical Research Council and the AEB; the SABS; large hospitals and municipalities; universities (Faculties of Medicine, Science and Agriculture); the CATES; industries responsible for the production of food, drink, pharmaceutical products, cosmetics, textile, fertilizers, insecticides and weed-killers, cattle remedies and cattle-feed, vitamin concentrates and so forth. Not only is research undertaken in most of the industries but there are also opportunities for the development of new products and the chance of promotion to managerial posts. Biochemists are also employed by the government departments such as Agricultural Technical Services, Plural Relations and Development, and Health.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Biochemistry).

Biology: The biologist studies and does research into the origin, derivation, development, anatomy, distribution and other basic characteristics of flora and fauna and the relation between plant and animal life.

Although some universities offer Biology as a separate subject, biologists usually specialize in one or other section within the two main fields, namely Botany and Zoology. The occupational field for the biologist will consequently be much the same as that for Zoologists discussed on p.118 and for botanists below.

Botany: The science of living creatures (organisms) is known as Biology. The two main branches of this science are Zoology and Botany. The latter is the science which has the living plant as subject-matter and when regarded from a scientific, practical and utilitarian point of view, it is a comprehensive, vital and interesting field of study.

With a suitable second major or subsidiaries from, for example, Zoology, Chemistry, Biochemistry, Microbiology, Geography, Geology, Physiology, Physics and Mathematics and eventual specialization, the trained botanist should be able to find a remunerative occupation in one or more of the following lines: Plant morphology (form and structure of plants); plant taxonomy (classification of plants); plant physiology (life processes and activities of plants); plant genetics (heredity in plants); plant ecology (relationship between plants and their environment); plant pathology (plant diseases and the combating thereof); economic botany (use and economic importance of plants), and so forth.

The Department of Agricultural Technical Services supplies various services which contribute to the conservation and functional utilization of the country's flora. Thus the Botanical Research Institute employs botanists (professional officers) for the activities of the sections National Herbarium, Flora Research, Botanical Survey, Economic Botany, and Data Processing. In addition to the work of this Institute, a considerable amount of botanical research is also done by other institutes and regional organizations, particularly in connection with pasture, agronomy, horticulture and plant physiology.

There are also employment prospects for teachers of Biology and Botany at secondary schools and, with advanced study, for lecturers at universities; for professional officers at the agricultural experimental stations; for researchers at the SABS, the CSIR and the oceanographic research institutes; for officers in the service of the National Parks Board, the Nature Conservation Divisions of the different provinces, private concerns such as fertilizer companies, manufacturers of phytopathological preventatives and nurseries. There are fairly numerous posts available to persons in possession of a B.Sc. degree, but candidates with post-graduate training are given preference.

Chemistry: On commencing his studies it is certainly not always possible or desirable that a student should immediately choose a particular branch of chemistry for a life-long study. There are far too many interesting fields within the major branches and innumerable new developments in industry which must first be investigated or discovered.

Chemistry is traditionally subdivided into three main sections, namely Organic, Inorganic and Physical Chemistry, but in the course of time Analytical Chemistry, Biochemistry, Theoretical Chemistry, Nuclear Chemistry and Polymer Chemistry also developed into full-fledged sections. Each of these comprises a number of specialized fields, each with its own design and career possibilities. Depending on the objectives to be realised, Chemistry as a major can be combined meaningfully with quite a number of other natural science subjects.

The career opportunities for graduates are virtually unlimited, mainly because Chemistry is such a basic component of modern society.

- Research: Research projects are normally centralized as far as is possible and the following bodies, which take the lead in this, also offer numerous job opportunities:

- . The CSIR in the field of utilization of natural resources, the building trade, water utilization, nutrition, etc. Different research units of the CSIR also serve certain industries, for example the timber, ceramics, sugar, leather, paint, fishing, wool and other industries;
- . The AEB at Pelindaba, which undertakes research in connection with atomic energy;
- . The Fuel Research Institute for the study of the properties of coal, of prospecting for oil and of the inflammable properties of automobile fuels;
- . The National Institute for Metallurgy for the recovery of metals which are difficult to come by, such as berillium, niobium and tantalum for use in rockets and jet engines;
- . The Government Agricultural Research Institutes for the study of water and soil chemistry, fertilizers, industrial products, pest control, cattle-feed, phytochemistry, and so forth;
- . The Medical Research Council (MRC) (various research institutes);
- . Research units attached to universities.

- Chemists who have the correct subject combination are employed as professional officers by various government departments and their activities vary from one department to the other, such as, for example, that of Commerce (inspectors of explosives); Industry (various fields); Health (analytical chemists: medicine and food analysis and forensic chemistry); Agricultural Technical Services (posts attached to various research institutes); Plural Relations and Development (various fields); Mines (analytical chemists) and the Treasury (South African Mint).

- The consulting chemist and chemist in testing services who undertake testing and research for other producers who do not have chemists in their employ, for example the SABS.

- There are excellent opportunities for chemists, production leaders and research or development officers in industry and bodies such as Iscor, Sasol, Phoscor, CSIR, SABS, oil refineries, explosives and chemical industries, Sappi and other paper-mills, synthetic rubber producers, sugar-mills, coal washing plants and refining installations, power stations, National Chemical Products, mining companies, municipalities and the Railways.

- Training of chemists is of increasing importance in order to provide for the growing demand and thus vacancies still arise for teachers in secondary schools and for lecturers at universities and colleges for advanced technical education.

Also see Chemical Engineering, p.159.

Also consult Tertiary Training for particulars on the National Diploma for Technicians which may be obtained in the various fields of Chemistry.

Computer Science: As in every technologically advanced country, the computer industry in the RSA has been growing very rapidly during the past fifteen years. The most important manufacturers of computers are all represented in the Republic and at least one thousand computers are already being used by, for example, universities, the public sector, scientific research bodies and commerce and industry. There is already a great shortage of qualified personnel and the demand is increasing in relation to the development of this industry.

Employers who offer careers in electronic data processing in South Africa can be divided into the following four main groups:

- Companies which manufacture computers;
- concerns in commerce and industry which use computers;
- the public sector which is already making extensive use of computers (quite a number of government departments, the provincial administrations, the SA Railways, the CSIR, the HSRC, and so forth);
- undertakings, known as service bureaux, which provide computer services and time to concerns which cannot justify their own computer.

Each of these groups offers careers in electronic data processing in a number of possible fields such as those of operators, programmers, systems analysts, technicians, data processing managers and marketing representatives. There is thus opportunity for students in commerce, the mathematically inclined, those with a natural science background and persons with a primary interest in the computer itself. The choice of a particular field will be largely determined by the candidate's qualification, interest and aptitude. Completing one or more aptitude tests is a prerequisite.

A specialized knowledge of the activities of computers can be gained in practice or by means of intensive instruction courses by supply companies or other bodies. However, the computer scientist is one who is pre-eminently able to evaluate the wider implications of automation and to utilize the computer's potential to the utmost. University training equips students with the necessary background knowledge in a very wide field and the course consequently includes much more than mere programming.

Graduates who have a degree with Computer Science as a subject are subjected to aptitude tests in the Public Service and subsequently appointed as programmers. The existing stages of promotion in a programming section are: Assistant Programmer, Programmer, Senior and then Chief Programmer.

Also consult Tertiary Training for particulars on the National Diploma (Electronic Data Processing and System Analysis).

Entomology (the study of insects): Whereas Entomology used to be a subsection of Zoology, it has developed today into a specialized science with several subdivisions. Thus it offers opportunities for specialization in fields such as the identification and classification of insects or a study of the anatomy, physiology or behaviour of insects. The specialized knowledge of the entomologist is invaluable in many fields, but particularly in the field of agriculture.

Entomologists normally work as researchers in, for example, museums, the government departments of Plural Relations and Development and Agricultural Technical Services (various research institutes and regional organizations), the SABS, the CSIR (several research institutes), the Medical Research Institute, Onderstepoort and the private sector, as technical advisers to spray firms, co-operatives, various large producers of fruit, sugar, timber etc.; as marketing representatives in firms which manufacture and distribute insecticides and spraying equipment. There are also posts as lecturers at universities or colleges and as teachers of agriculture and biology. There is also the possibility of acting as a consulting entomologist in private practice.

Genetics (Theory of heredity): Of all the biological sciences, Genetics is perhaps the most penetrating. In this subject a study is made of the underlying causes of the hereditary similarities and differences in biological aspects between organisms related by descent. Genetics is therefore concerned with the way in which living organisms reproduce their own kind.

Research posts for geneticists in plant culture (for the improvement of various cereals, fruit, vegetables, flowers, sugar-cane, tobacco, garden and forest trees etc.) and in animal husbandry (for the upgrading of large and small stock, poultry, fur-bearing animals, etc.), exist at the various research institutes and experimental farms throughout the country under the control of the Department of Agricultural Technical Services or the Department of Forestry, as well as with large semi-private and private organizations. Geneticists are also employed by the Department of Plural Relations and Development, the National Parks Board, agricultural colleges and universities. There is an increasing demand for geneticists in medical schools and large hospitals, to undertake research in, for example, cytogenetics and biochemical genetics, and to qualify themselves as human geneticists for genetic guidance and consultation.

Geography: A characteristic of this subject is that practically all the universities offer it as a major subject for B.A., B.Sc. or a degree in the economic sciences. The undergraduate courses are, in all the cases, not planned to offer specialized professional training. Students who wish to become practising geographers will consequently have to be prepared to undertake advanced post-graduate study. The broad educational spectrum covered by courses in Geography can easily be adapted to the requirements of many careers. However, it is obvious that a discreet choice of major and subsidiary subjects will, in this case, be a highly decisive factor in the achievement of success.

A large percentage of students enter the teaching profession, whereas others, particularly those with post-graduate training, take up posts in the Public Service (sectors such as meteorology, hydrography, soil survey, soil utilization survey); in the service of municipal, provincial or other government institutions in the field of environmental conservation, cartography or town and regional planning; in journalism, the foreign service, tourist industry and commerce and industry. The subject is of particular value for Defence Force officers.

Geology (including Geophysics and Palaeontology): Geoscience as such currently has many divisions and includes advanced research and its practical application to many facets of modern society. Within these various areas of research and application the geologist, geophysicist and palaeontologist contribute, each in his own specialized field, to the welfare of man. The geologist, who may specialize in various fields, makes use of his training in Geology, Chemistry, Geochemistry, Geography, Physics, Statistics and Mathematics in the various techniques employed in the geological mapping and exploration of the country, the discovery and evaluation of mineral deposits, and research concerning engineering projects and physical planning. The geophysicist makes use of his knowledge of Physics, Geology, Mathematics and Geophysics in the search for mineral deposits and underground water and also in determining the suitability of sites for planned construction projects. The palaeontologist, with his knowledge of Zoology, Botany, Palaeontology and Geology, undertakes the unravelling of the historical development of life and applies this knowledge to the correlation of rock formations with conditions of sedimentation.

In a country such as South Africa where the economy is largely dependent on mineral production, it is obvious that a subject such as Geology plays an important role. It offers an opportunity for study and work in the open to persons who are fond of life in the fresh air. However, it also offers sufficient opportunity for research in a laboratory with modern equipment.

The Department of Mines employs graduates who have already reached an Honours level, as geologists, palaeontologists or geophysicists in one of the six divisions of the Geological Survey Branch. Other government departments which employ graduates are those of Water Affairs, Agricultural Technical Services, Planning and the Environment and some of the provincial administrations.

Most geologists, however, are employed by mining groups as field explorers or mine geologists. The remainder are attached to universities as lecturers, to scientific bodies or institutes such as the CSIR, museums and the Bernard Price Institute for Geophysical Research at the University of the Witwatersrand. Some are employed to do geological work for concerns such as Sasol, Iscor, SOECOR, other large industries and civil engineering firms. A few act as private consultants.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Geology).

Hydrology: Hydrology comprises a study of the whole hydrological cycle, the respective laws governing each component of the cycle and the techniques of utilizing the various components of the cycle for the benefit of man. Broadly speaking, it is consequently the hydrologist's task to try and ensure the optimal utilization of the country's water resources.

The most important employer is the Department of Water Affairs. The Scientific Services Branch of the Department is functionally divided into three main divisions, namely Geohydrology, Applied Hydrology and Hydrological Research, each employing hydrologists, assistant hydrologists, technicians and civil engineers.

Hydrology is not a major for a first B.degree and candidates must be in possession of a B.Sc.(Hons.) degree with one or more of the following as principal field of study:

Basic fields of study: Hydrology, Mathematics, Applied Mathematics, Physics

Geohydrology: Geohydrology, Geology, Geophysics, Engineering Geology, Geochemistry

Applied Hydrology: Computer Science, Operations Research, Statistics, Civil Engineering

Hydrological Research: Chemistry, Soil Physics, Microbiology, Botany, Zoology, Geography.

A four-year degree in forestry, agriculture or engineering is also a suitable qualification. Persons with a three-year degree in the fields indicated above are eligible for appointment as assistant hydrologists.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Hydrology) and the National Diploma for Technicians (Draughtsmanship: Hydrography).

Mathematical Sciences: The mathematical sciences such as Mathematics, Applied Mathematics, Statistics and Mathematical Statistics, are indispensable as auxiliary sciences of most of the natural, engineering, commercial and several other sciences. Hence the time when a candidate with mathematical qualifications was dependent on teaching only is long past. Owing to developments and an expanding labour field, the demand for people trained in Mathematics is still increasing.

- Statistics: On the one hand Statistics depends very largely on Mathematics and Probabilism; on the other hand there are various sciences which depend on Statistics, such as actuarial science (insurance etc.) and operational analysis (the aim of which is to bring about efficiency in industrial processes and commercial concerns). Many sciences also use statistical methods as an essential aid, for instance the biological sciences (biometrics), psychological and sociological sciences (psychometrics and sociometrics), economic sciences (econometrics), etc. Computer Science also is closely related to Statistics.

With a view to career possibilities, the broad scope of the fields in which Statistics can be applied (Statistics, Mathematical Statistics, and so forth) can briefly be indicated by a few examples:

- . In the field of agriculture, the statistician has the task of interpreting data arising from experiments with matters such as the influence of fertilizers, soil conservation methods, soil fertility, types of seed etc. on the yield; the effect of nutrients, feed mixtures, inherited traits etc. on the production of beef breeds.
- . The handling of statistical problems in the sphere of other biological sciences such as zoology and botany, medicine and dietetics, physiology, etc.
- . The contribution of statistical methods, for example in respect of the measurement of intelligence, behaviour, compilation of scales etc., for the human sciences such as psychology, education and sociology.
- . The use of statistical methods has also become indispensable in the extensive field of the economic sciences, industrial concerns, engineering problems, mining, finance and so on.
- . Statisticians also occupy themselves with the study and improvement of methods to find better mathematical descriptions for the phenomena which appear in their fields of application.

Tasks connected with the career which include, for example, scientific planning of experimental surveys, the analysis of data, the drawing of conclusions and the possible making of decisions, are therefore interesting and stimulating to the statistician.

Statisticians are also employed as research officers or routine workers, for example to do statistical work, operational analysis or computer work for a large variety of bodies such as insurance and investment corporations; industries such as Iscor, Sasol and others with research laboratories; mining; transport and communication; the AEB; the CSIR; the HSRC and other semi-government institutions; the MRC; NIPR (CSIR); universities and wherever numerical data must be processed and interpreted.

The following government departments, which also offer good prospects of promotion, employ statisticians who hold appropriate approved Bachelor's degrees with major and subsidiary subjects as indicated:

Labour (Statistics as a major subject, or with Mathematics and Statistics as subjects)

Planning and the Environment (Statistics as a major)

Plural Relations and Development (Statistics as a major subject, or with Mathematics and Statistics as subjects)

Education and Training (Statistics as a major subject, or with Mathematics and Statistics as subjects)

Statistics (One or more of the following as majors: Economics, Econometrics, Business Economics, Accounting, Statistics, Mathematics, Mathematical Statistics)

Industries ((i) A course in one of the following: Mathematics, Statistical Methods and Statistics, Economics or Accounting; (ii) Mathematics or Mathematical Statistics as a major; desirable subsidiaries: Zoology, Botany, Chemistry, Physics)

Agricultural Economics and Marketing (One or more of the following major subjects: Economics, Business Economics, Agricultural Economics, Accounting, Statistics)

Agricultural Technical Services (Biometrics or Mathematics and Mathematical Statistics as majors).

- Mathematics and Applied Mathematics: Apart from the demand for mathematicians with Pure or Applied Mathematics as major subjects, one of these two subjects is a prerequisite for specialization in, for example, Physics, Chemistry, Engineering, Astronomy, Economics and even Biology, Psychology and many others. In the choice of an occupational sphere, the student should also bear in mind the fact that the subjects Mathematics, Applied Mathematics and Physics are closely related to each other as regards field of study and methods. In many cases knowledge of Statistics is a requirement or at least a recommendation.

Mathematicians are, for example, employed by the bodies and government departments as indicated under Statistics above. Furthermore, as well known, there is a considerable shortage of mathematics teachers in the secondary schools. There is also a demand for lecturers especially with post-graduate training, at the universities and other tertiary training institutions. Various concerns employ mathematicians for training as actuaries.

- Actuary: In order to qualify as an actuary, a series of examinations must be passed. Tuition takes place by means of correspondence courses. There are two professional bodies which set actuarial examinations, viz the Institute of Actuaries with headquarters in London, and The Faculty of Actuaries with headquarters in Edinburgh. These two bodies jointly control The Actuarial Tuition Service in London, which deals with all tuition matters. There is a local centre of this tuition service in Johannesburg and another in Cape Town.

Prospective actuaries can first complete a B.Com, B.Sc. or even a B.A. degree and then continue with studies in order to become actuaries. However, the most important requirement is that their university course should include at least two years of Pure Mathematics, and if possible, also an introduction to Statistics, Accounting and Economics. Although university study is of great help in passing the actuarial examinations, it is nevertheless not a requirement. After leaving school, a candidate may enter the service of an insurance company or a firm of consulting actuaries and immediately commence with his actuarial studies.

The University of Cape Town offers an actuarial field of study for the B. Business Science degree, which provides partial exemption from the actuarial examinations.

The particular training an actuary receives definitely gives access to a wide variety of other fields. Actuaries are few and far between and chief managerial posts are within their grasp, even while they are still studying.

Most actuaries are employed by life assurance companies which also offer exceedingly favourable prospects of promotion. Others act as consultants in the service of, for example, building societies and other financial institutions; trading companies, industries, mines, the Railways, municipalities and so forth. The expansion of commerce and industry entails that more and more actuaries are being appointed in the private sector. Some government departments appoint actuaries in a full-time or in a consulting capacity.

More information may be obtained from the Honorary Secretary, The Actuarial Association of South Africa, P.O. Box 4464, Cape Town 8000.

Metallurgy: Metallurgists, are concerned with the science and technology of metals and can generally be divided into three groups, viz extractive metallurgists, who process ore and extract and refine the metal; the manufacturing metallurgists, who process metals into alloys and change these into various useful forms, and the physical metallurgists, who are concerned with the physical characteristics of processed metals and alloys as well as their behaviour when in use.

For research work which has to be undertaken, particularly in extractive metallurgy, the National Institute for Metallurgy, Johannesburg, serves as a research centre for practically the whole of the South African mineral industry. The work of this Institute is managed by various sections. Some mining companies undertake research work in their own laboratories, while the Chamber of Mines has a large research organization in Johannesburg.

For more information in connection with employment, training and so forth, intending students in this field are referred to the following bodies, which also represent the most important employers: The Chamber of Mines, the individual mining groups, Iscor, the National Institute for Metallurgy, the Atomic Energy Board and the Universities of Pretoria and the Witwatersrand.

Also see Metallurgical Engineering, p.161.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Metallurgy), the National Diploma for Technicians (Extractive Metallurgy) and the National Diploma in Physical Metallurgy.

Microbiology and Virology: Important basic knowledge is obtained through these two fields of study on microscopical organisms, including their biochemistry, genetics and ecology. This knowledge is applied to good advantage to combat human, animal and plant diseases and to protect food, clothing, wood and other organic matter against microbial decay.

There are various fields of specialization in Microbiology and sometimes the names of these originate from the type of organism that is being studied. Thus Virology has to do with viruses, Bacteriology with bacteria, etc. The lines of specialization also serve as a key to a possible occupational field, for example, general microbiology, agricultural microbiology, industrial microbiology, medical and veterinary microbiology, marine microbiology and geobiology. Graduates in these fields mainly qualify for work as researchers in industries, municipalities and research institutions such as the CSIR, SABS and the Medical Research Council, of which various research units and institutes are established in different parts of the country. Microbiological research is also undertaken by the various research institutes of the Department of Agricultural Technical Services. The Department of Health employ virologists at the Vaccine Institute in Pinelands, Cape Town, in connection with the manufacturing of vaccines. Prospective virologists should select their majors from Virology, Biology, Microbiology, Biochemistry, Biophysics, Physics or Chemistry. Microbiologists and virologists can also obtain employment as laboratory technicians in medical schools and hospitals, and with appropriate subject combinations they can also choose teaching as a profession. However, post-graduate training is necessary for appointment to a lecturing post at a university. Moreover, research constitutes the backbone of the study of Microbiology and the microbiologist must remain a student if he wishes to be successful in his career.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Microbiology).

Nature Conservation: Organized institutions in the RSA employ qualified persons to render professional services in connection with the conservation of the country's fauna and flora. Some of these organizations concentrate on protection and research in respect of fauna, others more exclusively as regards flora. Graduates are employed as professional officers. They must be in possession of a B.Sc. degree and must be prepared to continue with appropriate post-graduate studies and research.

These bodies are the government departments of Water Affairs (Division of Water Research), Industries (Division Sea Fisheries), Agricultural Technical Services (Division Soil Protection/National Herbarium) and Forestry; the departments of nature conservation of the provincial administrations; the National Parks Board; the Oceanographic Research Institute, Durban; the CSIR; the Natal Herbarium, Durban; the Moss Herbarium, University of the Witwatersrand; the Compton Herbarium, Newlands, Cape; the Bolus Herbarium, University of Cape Town and a number of museums scattered throughout the country.

Also consult Tertiary Training for particulars on the National Diploma in Nature Conservation and Management.

Oceanography and Marine Biology: Oceanography is the study of the sea - including life in it, the ocean floor and the air above the ocean. It is a compound of various subject fields which require the co-ordinated services of divergent kinds of scientists who, as a result of their particular interest in the sea and its environs, are closely associated with each other. Here one thinks, for example, of marine geologists, chemists, physicists, biologists and meteorologists who, in turn, are dependent on mathematicians, engineers, technologists and technicians to assist in various fields in compiling and processing data.

Because of this wide range of subject fields involved, the specialized training of an oceanographer actually starts only when he has obtained a B.Sc. degree, or preferably, a B.Sc. (Hons.) degree in ordinary science subjects. Apart from Botany, Zoology, Chemistry, Geology, Physics or Microbiology as one of the majors, these subjects should also include Mathematics and, in addition, a carefully chosen combination of subsidiaries. A degree in engineering offers an excellent basis for specialization in certain aspects of physical oceanography. (The University of Cape Town is at present the only South African university which offers a degree specifically in Oceanography). Oceanographic work, however, is not restricted to persons with a degree specifically in Oceanography. Generally oceanographic knowledge is acquired in practice.

Marine Biology and Oceanography are not synonymous terms. Marine Biology is a specialized branch of Oceanography comprising a study of plant and animal life in the sea. To sum up, one can state that this field of research involves all aspects of modern biological sciences such as taxonomy, biochemistry, physiology, ecology, life history, behavioural and environmental studies.

Since it is not possible to obtain a degree in Marine Biology, candidates have to take a B.Sc. degree with Zoology and Botany as majors. Suitable subsidiaries will be Physiology, Chemistry, Physics, Geology and Geography, while Mathematics and Statistics will be of great value.

Oceanographers and marine biologists are employed by the Department of Industries. The major part of their time is spent in modern laboratories at the headquarters of the Sea Fisheries Branch at Sea Point, Cape Town. They have the opportunity to specialize in fields such as chemical oceanography, physical oceanography, fisheries biology and biological oceanography, statistics, and marine mammals.

Other bodies which employ marine experts are the following: The South African Museum, Cape Town; Fisheries Development Corporation, Cape Town; Cape Department of Nature Conservation, Cape Town; National Research Institute for Oceanology, Stellenbosch; Port Elizabeth Snake Park and Oceanarium, Port Elizabeth; Department of Ichthyology, Rhodes University; East London Museum, East London; Natal Museum, Pietermaritzburg; Oceanographic Research Institute, Durban; Board of Curators for National Parks, Pretoria; The South-West Africa Fisheries Office, Walvis Bay.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Oceanography).

Ornithology: At present no specific training for the study of birds is offered in South Africa. Ornithologists are therefore appointed from among the members of qualified zoologists. The requirement for appointment is normally a B.Sc. degree with Zoology as a major in combination with subjects such as Botany, Entomology, Geography, Geology, etc. However, an Honours or Master's degree will be a strong recommendation.

Job opportunities for ornithologists are extremely limited and only really dedicated persons with particular talent and interest in this field may hope to obtain a position and achieve success in such a career. They are employed, for example, by the National Parks Board, the provincial administrations, the Department of Agricultural Technical Services and some museums.

Physics: Man has the urge to rule over nature, and to do this, he must know nature. Physics comprises the study of inanimate nature and all phenomena in this connection in order to get to know the fundamental principles thereof. It extends from phenomena of astronomical dimensions, such as in space, to others which are inconceivably minute and which, for example, may be observed in the nuclei of atoms. As an auxiliary to Physics, Mathematics is indispensable. Mathematics provides an exact rounding off to the physical investigation. Simultaneously, Mathematics obtains additional significance since it is applied to real things. Physics also combines well with subjects such as Chemistry, Geology, Geography, Zoology, Botany and Applied Mathematics.

The particularly wide field covered by Physics, together with a judicious combination of major and subsidiary subjects will not only lay the foundation for the choice of an interesting career, but will also serve as an incentive for post-graduate study and research which are both absolutely imperative in this science. There is a great demand for physics teachers in all the education departments; for atomic and nuclear physicists or other research officers in the service of the CSIR, the AEB and some universities; for researchers employed by, for example, Iscor, Sasol, A.E.C.I., the mines and other industries such as textile and wool processing, oil companies, oceanographic institutes and companies which sell scientific instruments. The developing electronic industry

creates particular opportunities for research, development and production in, for example, television, radar, automation, as well as the design and operation of high-speed computers. There is also an increasing demand for physicists and biophysicists in hospitals and related institutions.

In the Public Service graduates are employed as professional officers by departments such as those of Health (radiation inspectors), Industry (physical oceanographers), Agricultural Technical Services (professional officers), Labour (inspectors of occupational safety).

Geophysics is a branch of Physics which deals with the whole earth, including its hydrosphere and atmosphere. It embraces disciplines such as seismology, geomagnetism, gravitation, meteorology, etc. Geophysical methods are applied in the search for and the identification of structures in the earth which are important in finding mineral deposits, oil and subsurface water and in the field of civil engineering. For this purpose geophysicists are chiefly employed by the Geological Survey Division of the Department of Mines. However, the minimum qualification required for appointment is a B.Sc.(Hons.) or an equivalent four-year degree in Geophysics or Physics.

For the top students and for those who have completed advanced studies in Physics and Geophysics, there are possibilities as lecturers at universities or as researchers employed by the CSIR or, for example, the Bernard Price Institute for Geophysical Research at the University of the Witwatersrand.

Also consult Tertiary Training for particulars on the National Diploma for Technicians in various fields of Physics.

Physiology: Physiology is a biological science which embraces a study of the normal functions of living creatures, particularly of man. It contributes particularly to a knowledge of the normal functions of the human body and consequently also indirectly to deviations and diseases of humans. In actual fact it is an applied science of life which forms the basis for further training in medicine, veterinary science, pharmacology, pharmacy and other specialized fields in medicine and paramedical services such as physiotherapy, occupational therapy, nursing and hospital dietetics. In the context of the natural sciences Physiology is important for training in dietetics, home economics and physical education and it also serves as a preparatory course for advanced research in many applied fields.

A career with this biological science as a major, in combination with subjects such as Chemistry, Physics, Mathematics, Zoology, Microbiology, Psychology, Biochemistry, Botany, Physical Education and Dietetics, can be found mainly in two directions, viz teaching and research. Physiology is of great value in the teaching of Biology and some secondary schools offer it as a separate subject. At higher educational institutions and technical colleges there is a demand for lecturers with advanced training in Physiology.

Various laboratories which undertake biological research employ physiologists, for instance the Chamber of Mines' Human Sciences Laboratory, the Central Medical Laboratory of the Defence Force at Voortrekkerhoogte, the Medical Research Council and the CSIR's laboratories for human nutrition research and physiological chemistry etc., the Atomic Energy Board's section for Human Sciences for research in connection with radiation, Iscor's laboratory for Industrial Hygiene, etc. The NIPR of the CSIR has a Physiological Psychological programme, in which persons who have Physiology and Psychology as subjects can do valuable work in connection with neuro-physiology and sensory-motor studies. Physiologists also work as laboratory technicians in medical schools, hospitals, universities and pathology laboratories.

There are also good occupational prospects for physiologists in the Department of Agricultural Technical Services, especially for veterinary research at Onderstepoort and other agricultural research institutes in connection with animal nutrition, meat and wool production, plant poisoning problems and the physiology of insects.

Also see Animal Physiology under Agriculture p.137.

Textile Science: The Textile industry in South Africa is an important source of future growth and job opportunities. Owing to its phenomenal expansion, this powerful industry offers wonderful opportunities for men and women trained as textile technologists.

The prospects are obvious. Textile scientists are received with open arms, particularly by textile manufacturers in the following sections, for example: scouring, carbonising, carding and combing, drawing and spinning, knitting, weaving, dyeing and finishing and quality control. Graduates are also employed by, for example, the Wool and Textile Research Institute of the CSIR and the test laboratories of the SABS.

Also consult Tertiary Training for particulars on the National Certificate for Technicians in the fields of Knitting, Spinning and Weaving.

Water Purification and Recovery: One of the methods of combating a possible shortage of water in South Africa is by purifying it for re-use. However, purification processes require highly specialized knowledge and the application of advanced techniques. Consequently there is a demand for persons with, inter alia, appropriate university qualifications which can be utilized in the field of water purification and recovery. For example, the National Institute for Water Research (CSIR) appoints persons with B.Sc. degrees in subjects such as Chemistry, Botany and Zoology as technical officers. In order to be able to work at a research level, one must have a four-year degree, such as an honours, engineering or agricultural degree, etc. There is therefore ample scope for biologists, botanists, zoologists, chemists, chemical and civil engineers, biochemists and microbiologists.

Also consult Tertiary Training for particulars on the National Diploma in Water Purification Technology.

Zoology: Zoology in itself embraces such a wide field of study that, for the sake of convenience, it is divided into a number of basic subsections such as Morphology, Anatomy, Histology, Physiology, Taxonomy, Embryology, Palaeontology, Zoography, Ecology and others. Other specialized fields of study such as, for example, Entomology and Genetics have developed into completely separate subjects. Because of the varied fields of study in Zoology, students with this subject as a major can consequently enter interesting fields. For many of the fields of employment and particularly for research posts, the subject which is taken with Zoology as a major is an important factor and, together with some subsidiaries, it should be carefully considered. Botany, Chemistry, Physiology, Geology, Biochemistry and Microbiology are some of the subjects which combine very effectively with Zoology.

Zoologists generally have the opportunity of choosing from a variety of occupational fields. Some of these are primarily concerned with laboratory work, while others require work in open air. Examples of some of the employers are the following: All the education departments; the medical research institutes; the CSIR; the SABS; Onderstepoort; museums, divisions for nature conservation, game reserves, zoos and fisheries; oceanographic institutes; industries such as the manufacturers of fertilizers, insecticides and cattle remedies; the National Parks Board, and numerous larger and smaller private firms with interests in zoological products. In the Public Service graduates also have an opportunity of choosing from among various professional fields in the departments of Industries, Agricultural Technical Services and Plural Relations and Development.

Lately employers have been giving increasing preference to candidates with post-graduate training - the higher the qualification, the better the prospects of an appointment and promotion to higher posts. Usually there is such a dire need of highly trained zoologists that a large number of students who have completed an honours degree, are appointed to positions even before they have rounded off their training.

CHAPTER 5

TEACHER TRAINING

UNIVERSITY OF CAPE TOWN

(a) Secondary teachers' courses

Higher Diploma in Education (Post-Graduate): Secondary: One year after an approved Bachelor's degree with at least two teaching subjects. In one of the teaching subjects three courses must have been completed and in the other, at least two courses.

Higher Diploma in Education (Technical): Secondary: One year of full-time study after one of the following:

- A degree in Engineering, Pure Science or Applied Science
- Higher National Diploma for Technicians (four-year course)
- National Diploma for Technicians (three-year course)
- a recognized equivalent of any one of the above.

This Diploma is intended for prospective teachers in technical high schools.

Higher Diploma in Education (Commerce): Secondary: Four years of full-time study after a Senior Certificate or an equivalent certificate. The course, which is given in collaboration with the Cape College for Advanced Technical Education, provides training for secondary school teachers of commercial subjects.

Higher Diploma in Education (Home Economics): Secondary: Four years of full-time study after a Senior Certificate or an equivalent certificate. The course, which is given in collaboration with the Cape College for Advanced Technical Education, provides training for secondary school teachers of Home Economics.

Bachelor of Arts (Art) - B.A. (Art): Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). In their fourth year students are admitted to the course for the Higher Diploma in Education (Post-Graduate): Secondary. See also FINE ARTS p.162.

Bachelor of Music - B.Mus. (Music Education): Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Candidates must have attained a standard in Music equivalent to Grade VI of one of the music-examining bodies. In their fourth year students are admitted to the course for the Higher Diploma in Education (Post-Graduate): Secondary. See also MUSIC. p.189.

(b) Primary teachers' courses

Bachelor's degree in Primary Education - B.Prim. Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional requirements as for the B.A. degree, p. 7.

Higher Diploma in Education (Post-Graduate): Primary: One academic year after an approved university degree including prescribed school subjects. This Diploma is intended for Arts or Science graduates who wish to teach in the primary school.

(c) Primary and/or secondary teachers' courses

Teacher's Licentiate Diploma in Music: Four years after a Senior Certificate. Additional admission requirements as for B.Mus. (Music Education), p.189.

Special Endorsement in Music for holders of the Primary Teacher's Certificate: One year after a Senior Certificate and a Primary Teacher's Certificate.

Teacher's Diploma in Ballet: Three years after a Senior Certificate.

Specialist Teacher's Diploma in Speech and Drama: One year after

- a B.A. degree including at least two courses in Drama; or
- a B.A. degree including three courses in English or in Afrikaans, and remaining courses predominantly in the humanities and a qualification in Speech and Drama or practical experience and studies to the satisfaction of the Head of the Department.

Special Endorsement in Speech and Drama for holders of Primary Teachers' Certificates: Special one-year course after a Senior Certificate and the Primary Teacher's Certificate.

(d) Other teachers' courses

Diploma in Specialized Education: Special Class: One academic year after an approved three-year teacher's certificate.

Diploma in Specialized Education: Clinical Remedial Teaching: One academic year after an approved three-year teacher's certificate and at least two years' teaching experience in schools.

Diploma in Specialized Education: The Handicapped in Speech and Hearing: One academic year after an approved three-year teacher's certificate.

Diploma in Specialized Education: The Deaf and the Partially Hearing: One academic year after a Senior Certificate and an approved three-year teacher's certificate.

Diploma in Teaching Physiotherapy: See PHYSIOTHERAPY p.206.

Diploma in Teaching Radiography: See RADIOGRAPHY p.210.

Diploma in Nursing Education: See NURSING p.197.

UNIVERSITY OF NATAL

(a) Secondary teachers' courses

Higher Diploma in Education (Post-graduate) or the University Education Diploma (Post-graduate): One year after an approved degree containing the requisite number of school subjects.

University Education Diploma (Non-Graduate): One year after a student has completed courses of study towards an approved degree, in such a manner that all the requirements of the degree may be fulfilled by one further year of study.

The University Education Diploma (Non-Graduate) may be converted into the Higher Diploma in Education (Post-graduate) or the University Education Diploma (Post-graduate) on completion by the candidate of the remaining requirements for such diplomas.

Higher Diploma in Education: Four years of full-time study after a Senior Certificate and a pass in both official languages with at least a pass in the first language on the Higher Grade; and a pass in one further subject, excepting the official languages, on the Higher Grade. The curriculum must be completed in one of the following fields of study: Art, Commerce, Industrial Arts, Home Economics, Technical.

This Diploma is offered by the University in conjunction with the Natal College for Advanced Technical Education, Durban.

Higher Diploma in Education: Four years of full-time study after a Senior Certificate with a pass in the first language on the Higher Grade and a pass in the second language either on the Higher Grade with an F symbol or on the Standard Grade with an E symbol; and another subject passed on the Higher Grade. The curriculum must be completed in one of the following fields of study: Arts, Science.

This Diploma is offered in conjunction with the Edgewood College of Education, Pinetown.

Higher Diploma in Education (Technical): Two years of part-time study after

- a Senior Certificate including both official languages with at least one passed on the Higher Grade, or at least four subjects at NIC III level plus the two official languages with at least one passed on the Higher Grade, and

- a National Diploma in a specialist direction or equivalent.

This Diploma is offered in conjunction with the Natal College for Advanced Technical Education.

Higher Diploma in Education (Post-school): Two years of part-time study after

- a Senior Certificate including both official languages, with at least one passed on the Higher Grade, or other equivalent qualifications, and

- an approved three-year education diploma that includes at least two school subjects of at least second-year degree level, or a National Diploma in a specialist direction or equivalent.

This Diploma is offered in conjunction with the Natal College for Advanced Technical Education.

(b) Other teachers' courses

Diploma in Specialized Education (Remedial Education): One year of full-time study or two years of part-time study after

- a degree plus an approved education diploma; or
- an approved education diploma requiring at least three years of training and in addition two years of approved teaching experience.

University Diploma in Nursing Education: See NURSING p.198.

UNIVERSITY OF THE ORANGE FREE STATE

(a) Secondary teachers' courses

Higher Diploma in Education (Post-graduate) - H.D.E. (Post-graduate): One year of full-time study or 18 months (3 semesters) of part-time study after a recognized degree which must also include approved subjects.

Higher Diploma in Education (Non-graduate) - H.D.E. (Non-graduate): Four years of full-time study after a Senior Certificate or equivalent, with or without Matriculation exemption, and passes in both official languages. This Diploma is offered in the following fields: General; Physical Science; Physical Education; Industrial Arts and/or Technical Drawing; Home Economics; Art Education; Commercial subjects; Dramatic and Theatrical Art; School Librarianship. For some of these fields there are additional admission requirements, mainly concerning school subjects passed.

Bachelor of Agriculture - B.Agric.: Three years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). It is strongly recommended that prospective B.Agric. students take Biology for the Std 10 examination.

This degree grants admission to the H.D.E. post-graduate course for the professional training of prospective teachers. See also AGRICULTURE p.135.

Bachelor of Science in Home Economics Education - B.Sc. in Home Economics Ed.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or 40 per cent on the Standard Grade and a pass in Physical Science and/or Biology on the Standard Grade. See HOME ECONOMICS/DOMESTIC SCIENCE p.169.

Bachelor of Music (School Music option) - B.Mus. (School Music): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). See also MUSIC p.189.

(b) Secondary and/or primary teachers' courses

UOFS Teacher's Diploma in Music: Four years after a Senior Certificate. See also MUSIC p.192.

UOFS Teacher's Licentiate in Music: Three years after a Senior Certificate. See also MUSIC p.192.

(c) Other teachers' courses

Post-basic Diplomas in Nursing include, inter alia, Post-Basic Diploma in Nursing Education: See NURSING p.198.

Tertiary Education Diploma in Physiotherapy: See PHYSIOTHERAPY p.206.

UNIVERSITY OF PORT ELIZABETH

(a) Secondary teachers' courses

Baccalaureus Scientiae (Educationis) - B.Sc. (Ed.) and

Baccalaureus Commercii (Educationis) - B.Com. (Ed.)

Each of the curricula of the above-mentioned degrees is a four-year integrated academic and professional degree course which fulfils all the requirements for the degree concerned as well as the requirements for the training of teachers for secondary schools. The admission qualifications for the above-mentioned degrees are the same as for the degree concerned. See B.Sc. p.92 and B.Com. p.53.

Higher Diploma in Education (Post-graduate) - H.D.E. (Post-graduate): One year after an approved Bachelor's degree of a recognized university which includes the minimum number of approved school subjects.

Higher Diploma in Education - H.D.E.: Four years after a Senior Certificate with passes in both official languages on the Higher Grade; and a pass in one further subject, apart from the official languages, on the Higher Grade. This Diploma may be obtained with the following endorsements: Human Sciences; Natural Sciences (in the field of Physical and Mathematical Sciences or in the field of Biological Sciences); Economic Sciences; Physical Education; Woodwork and Metalwork; School Music; Typing, Snelsskrif and Shorthand. For some of the specialized fields there are additional admission requirements mainly concerning subjects passed in the Standard 10 examination.

Higher Diploma in Education (Technical) - H.D.E. (Technical): One year of full-time study after one of the following:

- An approved degree; or

- a Senior Certificate or equivalent qualification* and a qualification equivalent to Std 10 + 3 which includes two school subjects on a second-year degree level. (Technical subjects relating to the candidate's specialist post may be included.)

Provisional admission may be granted by the Senate to immigrants who have resided in the Republic for less than four years and who have not yet fulfilled the language requirements.

* A four-subject NTC III plus the two official languages of which one must be passed on the Higher Grade, and English Language (excluding English Literature) must be one; Abitur, etc. shall be regarded as equivalent.

Bachelor's degree in Woodwork and Metalwork: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Woodwork or Metalwork or Technical Drawing on the Standard Grade.

(b) Secondary and/or primary teachers' courses

Baccalaureus Artium (Educationis) - B.A. (Ed.): A four-year integrated academic and professional degree course which fulfils all the requirements for the B.A. degree as well as the requirements for the training of teachers. There are three curricula, namely Junior Primary Teaching, Senior Primary Teaching and Secondary Teaching.

The admission qualifications are the same as for the ordinary B.A. degree p.14.

Baccalaureus Musicae (Music Education) - B.Mus. (Music Education): Four years of full time study. See MUSIC p.189.

Diploma in Musical Education: Three years of full-time study after Standard 10. See also MUSIC p.192.

(c) Primary teachers' course

Diploma in Education - D.E. Three years after a Matriculation Certificate or a Senior Certificate if he has passes in both official languages on the Higher Grade; passes in two of the following subjects, at least one of which must be on the Higher Grade: Physiology or Biology, Science, Agricultural Science or Agriculture, Mathematics or Commercial Mathematics, Accountancy, Technical Drawing, History, Geography, Music,

Art, Biblical Studies, Literature, Needlework, Woodwork and/or Metalwork, Domestic Science, Economics, Functional Mathematics, Functional Science; and offers two other subjects in the final examination.

There are two curricula, namely Junior Primary Teaching and Senior Primary Teaching.

(d) Other teachers' courses

Diploma in Special Education - D.S.E. (Special classes for the mentally handicapped): Two years of part-time study or one year of full-time study after one of the following:

- A degree and a post-graduate secondary teacher's diploma
- a degree and a lower secondary teacher's diploma
- a lower secondary teachers' diploma
- a three-year primary teacher's certificate
- any three-year teaching qualification which the Senate recognizes for the purpose.

Baccalaureus Curationis (Institutionis et Administrationis) - B.Cur. (I. et A.): See NURSING p.197.

Diploma in Nursing Education and Community Health Nursing - Dip. N.E.: See NURSING p.197.

POTCHEFSTROOM UNIVERSITY FOR CHRISTIAN HIGHER EDUCATION

(a) Secondary teachers' courses

Bachelor of Science (Domestic Science) (Education) - B.Sc. (Dom.Sc.Ed.): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade, or alternatively, a pass in Mathematics and in a science subject, preferably Physical Science, on the Standard Grade. See also HOME ECONOMICS/DOMESTIC SCIENCE p.169.

Bachelor of Science (Technical Education) - B.Sc. (Ed.): Four years of full-time study. See Faculty of Science p.95.

Higher Diploma in Education (post-graduate) - H.D.E. (post-graduate): One year after an approved degree of a recognized university which includes the minimum number of prescribed school subjects.

Higher Diploma in Education (post-graduate) (Guidance) - H.D.E. (post-graduate) (Guidance): One year after a B.A., B.Sc. or B.Comm. (Industrial Psychology) degree with a major in Psychology and which also includes two school subjects of which one must be at least on second-year level and the other at least on first-year level. One course in Sociology or Social Work is recommended for the B.A. degree.

Higher Diploma in Education (post-graduate) (School Librarianship): One year after a Bachelor's degree which complies with the school requirements as stipulated by the Committee of Heads of Education, and which includes Library and Information Science I and II in the curriculum.

Higher Diploma in Education (Secondary) - H.D.E. (Sec.): Four years after a Senior Certificate. This Diploma is offered with the following curricula: Human Sciences, Pure Sciences, Economic Sciences (including Typing and Shorthand), Music, Domestic Science, Industrial Arts, School Librarianship, Fine Arts. For some of these fields there are additional admission requirements, mainly concerning school subjects passed.

Potchefstroom University Teacher's Licentiate in Music: Three years after a Matriculation Certificate or a Senior Certificate.

A student must satisfy the Head of the Department of Music in a practical and theoretical test that his standard is high enough to attend the course with profit. He must have passed Music as a subject for the Std 10 examination or have obtained the advanced standard of the University of South Africa in the chosen practical subject.

(b) Primary teachers' course

Higher Diploma in Education (Primary) - H.D.E. (Prim.): One year after an approved three-year teacher's diploma or a degree approved for teaching purposes which includes the required school subjects.

(c) Other teachers' courses

Diploma in Nursing Education (graduate): One year after a degree in Nursing which includes a course in Anatomy.

UNIVERSITY OF PRETORIA

(a) Secondary teachers' courses

Bachelor of Arts (Education) - B.A. (Ed.)

Bachelor of Commerce (Education) - B.Com. (Ed.)

Bachelor of Science (Education) - B.Sc. (Ed.)

Each of the curricula of the above-mentioned three degrees is a four-year integrated academic and professional degree course which fulfils all the requirements for the degree concerned as well as the requirements for the training of teachers for the secondary school.

The admission requirements for all three of the above-mentioned degrees are the same as for the degree concerned. See B.A. p.18 , B.Com. p.59 and B.Sc. p.96.

Bachelor of Agriculture (Education) - B.Sc. (Agric.) (Ed.): See AGRICULTURE p.135.

Bachelor of Science in Domestic Science (Education) - B.Sc. (Dom.Sc.) (Ed.): See HOME ECONOMICS/DOMESTIC SCIENCE p.169.

Bachelor of Arts (Education) (Art) - B.A. (Ed.) (Art): See FINE ARTS p.162.

Bachelor of Arts (Education) (Music) - B.A. (Ed.) (Music): See MUSIC p.190.

Higher Diploma in Education (Post-graduate): One year of full-time study after a Bachelor's degree which either includes the minimum number of courses in approved school subjects or is recognized for teaching purposes irrespective of the subject combination.

Higher Diploma in Education (Post-graduate) (Extramural): An extramural course extending over three semesters. Only candidates who are employed in a permanent capacity and who have fulfilled the admission requirements for the one-year full-time post-graduate course for secondary teaching will be admitted to the extramural course.

Higher Diploma in Education: Four years of full-time study after a Matriculation Certificate or a Senior Certificate with Afrikaans and English as subjects passed. This Diploma is offered with the following endorsements: General, Commercial subjects, Commercial subjects Secretarial, Home Economics, Music, Physical Education, Technical Education, Woodwork and Metalwork.

With the exception of two cases, there are additional admission requirements for each endorsement (specialized fields) mainly concerning subjects passed in the Std 10 examinations.

(b) Secondary and/or primary teachers' course

Diploma in Music (Individual Teaching): Three years of full-time study after a Senior Certificate. See MUSIC p.192.

(c) Primary teachers' courses

Bachelor of Arts (Education) (Senior Primary) - B.A. (Ed.) (Senior Primary) and

Bachelor of Arts (Education) (Junior Primary) - B.A. (Ed.) (Junior Primary)

Each of the curricula of the above-mentioned two degrees is a four-year integrated academic and professional degree course which fulfils all the requirements for the B.A. degree as well as the requirements for the training of teachers for primary schools.

The admission requirements are the same as for the ordinary B.A. degree, p.18.

(d) Pre-Primary teachers' course

Bachelor of Arts (Education) (Pre-Primary) - B.A. (Ed.) (Pre-Primary): The curriculum is a four-year integrated academic and professional degree course which fulfils all the requirements for the B.A. degree as well as the requirements for the training of pre-primary teachers.

The admission requirements are the same as for the ordinary B.A. degree, p.18.

At the beginning of her first year of study a candidate must do a practical test in the Faculty of Education in order to assess whether her instrumental proficiency (piano) justifies her admission to the course in Infant Music.

(e) Other teachers' courses

Diploma in Orthopedagogics: One extended year after

- a Bachelor's degree with Psychology or Sociology or Social Work or Occupational Therapy as a major subject; or

- the B.A. (Log.) degree of this University; or

- other qualifications which the Faculty Council may regard as adequate for admission.

This Diploma is not recognized for teaching purposes.

Teachers' Diploma in Occupational Therapy: See p.201.

Teachers' Diploma in Physiotherapy: See p.206.

Diploma in Nursing Education: See p.197.

Bachelor of Nursing (Instruction and Administration) - B.Cur. (I. et A.): See p.197.

(f) Tertiary teachers' course

Tertiary Diploma in Education (Extramural): Two semesters of part-time study after

- a Bachelor's degree; or

- a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) plus another qualification which together with the appropriate experience justifies, in the discretion of the Senate, admission to the course.

RAND AFRIKAANS UNIVERSITY

(a) Secondary teachers' courses

B.A. (Education) - B.A. (Ed.)

B.Bibl. (Education) - B.Bibl. (Ed.)

B.Com. (Education) - B.Com. (Ed.)

B.Sc. (Education) - B.Sc. (Ed.)

Each of the curricula of the above-mentioned four degrees is a four-year integrated academic and professional degree curriculum which fulfils all the requirements for the degree concerned as well as the requirements laid down by the Committee of Heads of Education for the training of teachers for secondary schools.

The admission requirements are the same as for the ordinary degree concerned. For B.A. see p.21 , B.Bibl. p.178 , B.Com. p. 62 and B.Sc. p. 98.

Post-graduate Higher Diploma in Education - H.D.E. (Post-graduate): Two semesters of full-time study after an approved Bachelor's degree which includes the minimum number of subjects for teaching purposes as stipulated by the Committee of Heads of Education.

Post-graduate Higher Diploma in Education (Technical): As for the H.D.E. (Post-graduate) provided that at least one of the subject didactics must be in a technical field.

Four-year Higher Diploma in Education - H.D.E.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate with Afrikaans and English as subjects passed. This Diploma may be obtained in the following fields: Languages and Human Sciences; Commercial field (academic subjects); Commercial field (subjects requiring dexterity); Physical Education; Librarianship.

For each of these fields there are additional admission qualifications, mainly concerning pass marks in particular subjects in the Standard 10 examinations.

One-year Higher Diploma in Education (Technical) - H.D.E. (Technical): One year after a Senior Certificate or equivalent qualification and a three-year diploma which includes at least two school subjects (technical subjects) on second-year level, e.g. motor mechanics, electricity, radio mechanics, woodworking, plumbing, and welding and metal work.

(b) Other teachers' courses

Bachelor of Nursing Instruction and Administration - B.Cur. (Ed. et Adm.): See p.197.

Diploma in Nursing Instruction: See p.197.

RHODES UNIVERSITY

(a) Secondary teachers' courses

Higher Diploma in Education (Post-Graduate): One year after an approved degree with certain specified courses included in the curriculum for that degree.

Higher Diploma in Education: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). The curriculum for the Diploma shall be arranged in accordance with certain provisions with regard to the courses to be followed.

Rhodes University Licentiate Diploma in Music - R.U.L.M.: Three years after a Senior Certificate, or providing that the Board of the Faculty, on the recommendation of the Head of the Music Department, is satisfied as to the candidate's suitability to take the course.

The Diploma may be awarded as a diploma for performers, or for teachers, or for choir-masters, or for church organists.

(b) Primary teachers' courses

Diploma in Education: Three years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). There are two curricula, namely for Senior Primary Teaching and Junior Primary Teaching.

Higher Diploma in Education (Post-Graduate) (For senior primary teachers): One year after a Bachelor's or higher degree which includes courses in certain prescribed school subjects.

UNIVERSITY OF SOUTH AFRICA

(a) Secondary teachers' courses

Higher Diploma in Education (Post-graduate) - H.D.E. (Post-graduate): One or two years after an approved degree which includes the required number of courses in the approved school subjects and a teachers' diploma recognized by the Senate; or

two years after the above-mentioned degree without a diploma: provided that the completion of the H.D.E. (Post-graduate) shall be subject to at least twenty weeks' satisfactory experience as a teacher or a lecturer at a teachers' training college in a South African Education Department or in a teachers' training section of a university.

Further Diploma in Education:

At least two years after a recognized three-year teacher's diploma. A student must be employed as a teacher in a South African Education Department.

Higher Diploma in Education (Technical) - H.D.E. (Technical): A student shall

- hold a Senior Certificate or an equivalent qualification;
- have passed the two official languages at Std 10 level and at least one on the Higher Grade; provided that an immigrant who has been resident in the Republic for less than four years and has not yet complied with this requirement, may be admitted provisionally;
- hold a qualification evaluated by the Committee of Heads of Education as M + 3 (Category C) and which include two recognized school subjects.

The curriculum extends over at least two years.

(b) Tertiary teachers' course

Diploma in Tertiary Education - D.T.E.: A student must hold at least a Bachelor's degree. The Diploma will not, however, be issued until a student has completed at least two years' appropriate experience in an institution providing training at tertiary level.

The examination consists of two parts which may be written separately or simultaneously.

(c) Secondary and/or primary teachers' courses

Certificate in School Library Science: (Note: This Certificate does not comply with the criteria for the evaluation of South African qualifications for purposes of employment in Provincial Education Departments).

A student must hold

- A lower diploma in Library Science; or
- a teacher's certificate; or
- a university degree.

The curriculum extends over at least one academic year.

Diploma in Special Education (School Library Science): At least one academic year after

- an approved three-year or four-year teacher's diploma; or
- an approved degree and an approved post-graduate education diploma; or
- an approved combined education degree.

(d) Pre-primary teachers' courses

Higher Diploma in Education (Pre-Primary) - H.D.E. (Pre-Primary) and

Higher Diploma in Education (Post-graduate Pre-Primary) - H.D.E. (Post-graduate Pre-Primary): At least two years after

- A recognized teacher's diploma issued after a three-year teacher's training course; or
- a degree which includes the required number of courses in the approved school subjects, and at least one course in each of the official languages and at least one course in Education or at least one course in each of two of the following: Sociology, Psychology, Logopedics, Social Work.

Diploma in Nursery Education - D.N.E.

(Note: This Diploma does not comply with the criteria for the evaluation of South African qualifications for purposes of employment in Provincial Education Departments.)

The curriculum extends over at least two years after

- a recognized two-year teacher's diploma for admission to which a Senior Certificate was required; or
- a degree with three courses in one and at least one course in another of the following subjects: Psychology, Sociology, Social Work, Education, Philosophy; or
- a degree, or a diploma for which a Senior Certificate was a prerequisite, in nursing, speech therapy, physiotherapy, occupational therapy, radiography or Social Work.

(e) Other teachers' courses

Diploma in Specialized Education - D.S.E.

A. Special Education

Special education for the epileptic, the cerebral palsied, the visually handicapped and the aurally handicapped.

The curriculum extends over at least two years after

- an approved teachers' diploma issued after a three-year teacher's training course; or
- a degree and an approved teacher's diploma; or
- an approved four-year teacher's diploma; or
- an approved combined education degree.

B. Remedial Education

The curriculum extends over at least two years after

- an approved teacher's diploma issued after a three-year teacher's training course; or
- a degree and an approved teacher's diploma; or
- an approved four-year teacher's diploma; or
- an approved combined education degree,

and

- at least three years' teaching experience.

Bachelor of Arts in Nursing - B.A. (Cur.) : See p.196.

Diploma for Therapists (Special Education) - D.T.S.E.: At least two years after either an appropriate degree or an appropriate three-year diploma in Physiotherapy, or Occupational Therapy, or Speech Therapy by virtue of which the South African Medical and Dental Council has approved registration with the Council as a physiotherapist, or an occupational therapist, or a speech therapist.

Certificate in Special Education - C.S.E.

(Note: This Certificate is not recognized for salary purposes by the Department of National Education or the Provincial Education Departments. Teachers in the employment of, or who intend seeking employment with the Administration of Coloured Affairs, the Department of Indian Affairs or the Department of Education and Training should enquire from these Departments about the recognition for salary purposes which they will receive for the possession of the C.S.E.)

Special education for epileptics, the cerebral palsied, the visually handicapped and the aurally handicapped.

The curriculum extends over at least two years after a recognized teacher's diploma issued after a two-year teacher's training course for admission to which a Senior Certificate was required.

UNIVERSITY OF STELLENBOSCH

(a) Secondary teachers' courses

Bachelor of Agricultural Education - B.Agricultural Education: See AGRICULTURE p.136.

Bachelor of Arts in Fine Arts (Educationis) - B.A. in Fine Arts (Ed.): See FINE ARTS p.163.

Bachelor of Home Economics (Educationis) - B. Home Economics (Ed.): See HOME ECONOMICS/
DOMESTIC SCIENCE p.169.

Bachelor of Science in Home Economics (Educationis) - B.Sc. Home Economics (Ed.): See
HOME ECONOMICS/DOMESTIC SCIENCE p.170.

Bachelor of Music (Educationis) - B.Mus. (Ed.): See MUSIC p.189.

Higher Diploma in Education (Secondary - Music) - H.D.E. (Secondary - Music): Four years
of full-time study after a Matriculation Certificate or a Senior Certificate, provided
that the candidate has obtained

- a pass mark in Music of at least 50 per cent on the Higher Grade or 60 per cent
on the Standard Grade in the Standard 10 examination, or

- a pass in the Grade VII Examination (University of South Africa) in the practical
major subject, with a standard in Harmony equivalent to Grade VI (University of South
Africa), or

- a pass mark in the entrance examination, equivalent to the above-mentioned exami=
nations in the practical major subject and in Harmony.

This Diploma may be obtained in the following specialized fields: Teaching of an Instru=
ment or Singing; School Music.

Teachers' Licentiate in Music: Three years. Admission requirements are the same as
that for the H.D.E. (Secondary - Music).

Higher Diploma in Education (Secondary) (Post-graduate) - H.D.E.: One year after a Bache=
lor's degree of a recognized university which includes the minimum number of prescribed
school subjects.

Higher Diploma in Education (Secondary) - H.D.E. (Secondary): Four years of full-time
study after a Matriculation Certificate or a Senior Certificate with

- an average of at least 50 per cent;

- a pass in both official languages with at least a pass in the first language on the
Higher Grade; and

- a pass in one other subject, with the exception of the official languages, on the
Higher Grade.

Students who wish to specialize in Natural Sciences must hold a Matriculation Certifi=
cate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics.

This Diploma may be obtained in the following specialized fields: Human Sciences and
Languages; Natural Sciences; Commerce; Physical Education; Home Economics and
Needlework. The Commercial field is also offered extramurally.

H.D.E. (Secondary) (Commerce) (C.C.A.T.E.): This course extends over four years and is
offered in co-operation with the Cape College for Advanced Technical Education. Stu=
dents attend the CATE in Cape Town for the first three years and in the fourth year they
follow the course in the Faculty of Education at the University.

The admission requirements are the same as that for the H.D.E. (Secondary) (Commerce).

H.D.E. (Secondary) (Woodwork - Metalwork): A four-year diploma course offered in co-ope=
ration with the Teachers' College Paarl.

H.D.E. (Secondary) (Agriculture): A four-year diploma course offered in co-operation with the Teachers' College Oudtshoorn.

(b) Primary teachers' courses

Bachelor's degree course in Primary Education (General Field): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with at least one of Mathematics or Commercial Mathematics or Functional Mathematics (Mathematics Practical); and a satisfactory standard in both the official languages in the final examination in Std 9 and the June examination in Std 10.

A pass in Mathematics and a science subject on the Standard Grade in the Matriculation examination is required for admission to Mathematics III (Ed.) and Natural Science III (Ed.), respectively.

Bachelor's degree course in Primary Education with specialization in Physical Education: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Also see Bachelor's degree course in Primary Education (General Field).

Bachelor's degree course in Primary Education with specialization in School Music: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption), provided that the candidate

- obtained at least a 60 per cent pass mark in Music (Examination subject) in Std 8; or

- passed the Grade VI (Intermediate) Examination in piano of the University of South Africa; or

- sat for an entrance examination in piano equivalent to the above-mentioned examinations.

A satisfactory standard in both the official languages must have been obtained in the final examination in Std 9 and in the June examination in Std 10.

Bachelor's degree course in Primary Education with specialization in School Guidance: Four years. The following are admitted:

- Students who have passed the second year of study for the Bachelor's degree course in Primary Education (General Field); or in the case of students from other training institutions who qualify for admission to the third year of study for the B. degree course in Primary Education (General Field); and

- on written application are admitted to the course by the Senate, or by the Executive Committee acting for the Senate.

Not more than 15 students are admitted to this course annually.

Higher Diploma in Education (Primary) (Speech and Drama) - H.D.E. (Primary) (Speech and Drama): One year after an approved Primary Teachers' Diploma. Persons who have already studied Speech Training as an intensive specialized field for the Primary Teachers' Diploma are not admitted.

Higher Diploma in Education (Primary) (School Music) - H.D.E. (Prim.) (School Music): One year after an approved three-year Primary Teachers' Diploma. Students must pass an entrance examination in Piano in which the standard of Grade VII of the University of South Africa is required. Candidates who obtained a pass during the preceding year in the Grade VII or higher examination in Piano of UNISA or the Associated Board of Royal Schools of Music or who hold the B.Mus. degree or the B.A. (Mus.) degree, are exempted from the aforementioned entrance examination.

Diploma in Specialized Education (School Librarianship): One year after

- an approved three-year or four-year teachers' diploma; or
- an approved degree followed by an approved teachers' diploma; or
- an approved integrated teaching degree.

Students who have already specialized in School Librarianship are not admitted.

(c) Other teachers' courses

Diploma in Specialized Education (Clinical Remedial): One year of full-time study after successful completion of at least a three-year teachers' training course; at least three years' teaching or other adequate experience and admission to the course on written application to the Senate.

Diploma in Specialized Education (Mentally Retarded): One year after

- the Higher Primary Teachers' Diploma of this University or another three-year teachers' diploma or certificate which can be regarded as equivalent thereto; or

- a degree and the Higher Diploma in Education (H.D.E.) of this University or equivalent qualifications.

Diploma in Specialized Education (Mentally Retarded) (Post-graduate): Three years after a recognized degree with Psychology as a major subject as well as a teachers' certificate, or other qualifications approved by the Senate for this purpose. Candidates must already be employed as school psychologists and/or teachers of retarded children.

Candidates must attend intensive courses of two weeks each at the University of Stellenbosch twice a year.

Teachers' Diploma in Occupational Therapy: See p.201.

Diploma in Nursing Education: See p.197.

UNIVERSITY OF THE WITWATERSRAND

(a) Secondary teachers' courses

Bachelor of Arts in Education - B.A. (Education)

Bachelor of Science in Education - B.Sc. (Education)

Each of the curricula of the above-mentioned degrees is a four-year integrated academic and professional degree curriculum which fulfils all the requirements for the degree concerned as well as the requirements laid down by the Committee of Heads of Education for the training of teachers. The admission requirements are the same as for the ordinary degree concerned. For B.A. see p.30 and for B.Sc. see p.104.

Higher Diploma in Education (Post-graduate) - H.Dip. Ed. (P.G.): One year of full-time study or two years of part-time study after an approved degree which includes a suitable combination of school teaching subjects.

Higher Diploma in Education - H.Dip. Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption): Provided that the Senate may, until further notice, grant admission to a person who is not so qualified but who holds an approved Senior Certificate.

Every curriculum shall include, either

- four courses in one of the following practical subjects, one course in each year of the curriculum:

- . Home Economics
- . Industrial Arts
- . Instrumental Music Performance
- . Physical Education
- . Typewriting

or

- four or three courses, as the case may be, in two of the following academic subjects:

- . Accounting
- . Business Economics
- . Mercantile Law.

A candidate shall not be admitted to the first course in a practical subject unless he has passed an initial practical test in that subject.

University Education Diploma - U.E.D. (P.G.): A person who has not passed in Afrikaans at the matriculation standard as laid down by the entry requirements for the H.Dip.Ed. (P.G.), but who in all other respects has satisfied the requirements may be admitted as a candidate for the U.E.D. The rules applicable to the H.Dip.Ed. are applicable to the U.E.D.

(b) Secondary and/or primary teachers' courses

Licentiate in Music - L.M.: Three years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). See also MUSIC p.193.

(c) Other teachers' courses

Diploma in Education of the Deaf: Two years after

- a recognized teacher's diploma obtained after not less than two years' study after having obtained a Matriculation Certificate or a Senior Certificate (Matriculation Exemption); and

- the curriculum for the teacher's diploma must have contained an approved course in Psychology and courses in spoken English and spoken Afrikaans.

Diploma in Remedial Education - Dip. Rem. Ed.: Two years of part-time study after a degree and at least three years' experience in teaching.

Diploma in Specialized Education - Dip. Spec. Ed.: Two years of part-time study after

- a degree and a recognized teacher's diploma and at least two years' experience in teaching; or

- a recognized teacher's diploma and a Senior Certificate (Matriculation Exemption) and at least five years' experience in teaching.

Diploma in Nursing Education - D.N.Ed.: See p.197.

Diploma in Physiotherapy Education - D.P.E.: See p.206.

POST-GRADUATE DEGREES

Bachelor of Education (Baccalaureus Educationis): B.Ed. (All the universities)

Admission requirements: A Bachelor's degree, a teacher's diploma and at least two years' teaching experience. Some universities require more teaching experience, others none at all.

Curriculum: One year of full-time study or two years of part-time study. The curriculum comprises different specialized fields.

Master's degree

Master of Education (Magister Educationis): M.Ed. (All the universities)

Doctor's degrees

Doctor of Philosophy: Ph.D. (UCT, Natal, Rhodes, Wits)

Doctor of Literature: D.Litt. (Natal, Rhodes)

Doctor of Education (Doctor Educationis): D.Ed. (UOFS, UPE, PU for CHE, UP, RAU, US, Unisa, Wits)

VOCATIONAL SERVICE

These days teachers work under very pleasant circumstances. Modern school buildings are spacious, attractive, convenient and equipped with a multitude of modern aids. School halls form part of the equipment of virtually every school, while many schools have swimming pools, fine sports fields and even school buses. The remuneration of teachers compares very favourably with that in other fields for which a similar degree of training is required.

Teachers usually start off as assistants. Those who are competent and conscientious, who have initiative and the capacity for organization and leadership can, in the course of time, progress to positions such as those of head of department, deputy principal and principal. Other professional posts in the various education departments, such as those of subject inspectors, inspectors, planners, researchers, personnel attached to the psychological and guidance services and so forth, are also filled from the ranks of the teachers' corps.

The conscientious and successful teacher always remains a student who immerses himself in his work, keeps abreast of changes and reforms, particularly in his own subject, and always tries to let the child share in his own wealth of knowledge and wisdom. For this reason, further study is strongly emphasized. Not only is the deepening of subject knowledge desirable, but also the attainment of advanced educational qualifications such as the B.Ed. degree and other degrees and diplomas.

In this era of frenetic scientific and technical development, both formal and formative education are undergoing a reformation, growth and change as regards learning content, methods, procedures and approach. The profession offers bright and dynamic young people manifold and exciting challenges.

Also consult Tertiary Training for the training of teachers outside universities.

CHAPTER 6

VOCATIONALLY ORIENTED FIELDS OF STUDY

INTRODUCTORY

In this chapter attention is devoted to vocationally oriented study. All the degrees, diplomas and certificates which may be obtained in a particular field, as well as the universities offering these courses, are mentioned. However, the discussions are, with a few exceptions, limited to the undergraduate qualifications. The regulations for the majority of post-graduate qualifications are approximately the same as those that are applicable in the faculties mentioned in the foregoing chapters.

Attention is also drawn to the desirability of consulting the INDEX OF CAREERS AND/OR FIELDS OF STUDY beforehand for a specific career or field of study.

AGRICULTURE

Universities: Natal, Orange Free State, Pretoria, Stellenbosch

Degrees

Bachelor of Science in Agriculture: B.Sc. Agric. (UN, UOFS)
Bachelor of Agriculture: B.Sc. (Agric.) (UP)
Bachelor of Science in Agriculture: B.Sc. in Agriculture (US)
Bachelor of Agriculture: B. Agric. (UOFS)
Bachelor of Agriculture (Education): B. (Agric.) (Ed.) (UP)
Bachelor of Agricultural Education: B. Agricultural Education (US)
Bachelor of Agricultural Management: B.Agric. Mgt. (UN) or B.Agricultural Management (US)
Bachelor of Science in Agriculture (Honours): B.Sc. Agric. (Hons.) (UOFS)
Bachelor of Agriculture (Honours) B.Agric. (Hons.) (UOFS)
Bachelor of Agriculture (Honours): B.Sc. (Agric.) (Hons.) (UP)
Baccalaureus Honores Institutionis Agrariae: B.Inst. Agrar. (Hons.) (UP)
Honours Bachelor of Science in Agriculture: B.Sc. Agric. Hons. (US)
Honours Bachelor of Agricultural Management: B.Agricultural Management Hons. (US)
Master of Science in Agriculture: M.Sc. Agric. (UN, UOFS, US)
Master of Agriculture: M.Agric. (UOFS)
Master of Agriculture: M.Sc. Agric. (UP)
Magister Institutionis Agrariae: M.Inst. Agrar. (UP)
Master of Agricultural Management: M.Agricultural Management (US)
Doctor of Science in Agriculture: D.Sc. Agric. (UN, US)
Doctor of Philosophy: Ph.D. (UN, UOFS)
Doctor of Science: D.Sc. (UOFS)
Doctor of Agriculture: D.Sc. (Agric.) (UP)
Doctor Institutionis Agrariae: D.Inst. Agrar. (UP)
Doctor of Philosophy (Agriculture): Ph.D. (Agriculture) (US)
Doctor of Philosophy (Agricultural Management): Ph.D. (Agricultural Management) (US)

Diploma

Higher Diploma in Education (Secondary) (Agriculture): H.D.E. (Secondary) (Agriculture) (US) See p. 130.

DEGREES

Bachelor of Science in Agriculture: B.Sc. Agric. or

Bachelor of Agriculture: B.Sc. (Agric.)

(All the above-mentioned universities)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Natal: Passes in Mathematics and a natural science of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Orange Free State: A pass in Mathematics on the Standard Grade. It is strongly recommended that prospective students take Physical Science, and if possible, Biology as well for the Std 10 examination.

Pretoria: As for the B.Sc. degree. See p. 96.

Stellenbosch: A pass in Mathematics and a science subject on the Standard Grade. See also admission requirements for the B.Sc. degree p.102.

Curriculum: Four years of full-time study. First-year subjects include, inter alia, Chemistry, Physics, Mathematics, Biology or Botany or Zoology, or Biological Science, but the subjects may vary according to the choice of major subjects.

In the second year students begin studying one or two of the following major subjects which in some cases differ from one university to another, since each university adapts its courses to the area in which it is situated: Agricultural Economics, Agricultural Entomology (US), Agricultural Production (Natal), Agro-Meteorology (Natal, UOFS), Animal Physiology (US), Animal Production (UP, US), Animal Science (Natal, UOFS, US), Biochemistry, Biometry, Crop Science or Agronomy, Dairy Science (UOFS, UP), Enology and Viticulture (US), Entomology (Natal, UOFS, UP), Genetics, Horticultural Science (Natal, UOFS, US), Microbiology, Pasture Science (Natal, UOFS, US), Plant Pathology, Plant Production (UP), Poultry Science (Natal), Small Stock Science (UOFS), Soil Science, Soil Science and Plant Nutrition (UP).

Candidates are usually required to devote a specified period during the university vacations in their third or fourth years to practical work at an approved institution or farm.

The Universities of Natal and Pretoria offer Agricultural Engineering under the Faculty of Engineering (see p. 155) and the University of the Orange Free State offers it as one of the optional subjects in the Faculty of Agriculture.

Bachelor of Agriculture: B.Agric. (Orange Free State)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). It is strongly recommended that prospective students take Biology for the Std 10 examination.

Curriculum: Three years of full-time study. There are four different curricula:

- Plants/Animal field, which has been designed for the training of farmers, teachers and industrial advisers.

- Dairy/Animal Science/Microbiology, which has been designed to provide for the needs of dairy technologists, industrial advisers, food inspectors and farmers.

- Irrigation Science: This curriculum provides for the needs of the prospective irrigation farmer.

- Agricultural Economics: This curriculum has been designed for the training of agricultural economists for professional service in the Government Department of Agricultural Economics and Marketing, the agricultural industry and for farmers.

Bachelor of Agriculture (Education): B.(Agric.)(Ed.) (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with pass marks in Mathematics and in Physical Science on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Four years of full-time study. First-year subjects comprise Chemistry, Physics, Biological Science and Pedagogics I. The subjects for the third year are, inter alia, Plant Production, Animal Production, Agricultural Economics, Biochemistry, Entomology. The fourth year includes only educational subjects with Pedagogics III as the major subject.

Bachelor of Agricultural Education (Stellenbosch)

Admission requirement: As for B.Sc. in Agriculture.

Curriculum: Four years of full-time study. The subjects for the first year are Chemistry, Mathematics, Physics and Biology or Botany or Zoology. The second and third year include, *inter alia*, the following: Agronomy - Pasture, Biochemistry, Biometry, Agricultural Economics, Animal Production, Soil Science and Genetics. The fourth year comprises the complete course as prescribed for the Higher Diploma in Education (Post-graduate). See p. 129.

Bachelor of Agricultural Management: B.Agric. Mgt. (Natal)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade and a pass in a natural science of at least 33 per cent on the Higher Grade or at least 40 per cent on the Standard Grade.

Curriculum: Three years of full-time study. First-year subjects comprise Accounting, Agriculture, Economics and Mathematics. Second and third-year subjects include, *inter alia*, Agricultural Economics, Agricultural Production, Business Administration, Horticultural Science, Pasture Science, Soil Science.

A candidate must complete two months' practical work on an approved farm.

B.Agricultural Management (Stellenbosch)

Admission requirement: As for the B.Sc. in Agriculture.

Curriculum: Three years of full-time study. The two major subjects are Agricultural Economics and Business Economics. The other subjects are Mathematics, Statistics, Theory of Finance, Economics (Special), Principles of Agricultural Science and optional subjects such as Grape and Wine Production, Soil Science, Animal Production, Agronomy - Pasture, Horticulture etc.

Students are required to do practical work for at least two months during the summer and/or winter vacations on an approved farm or at another institution before completion of the third year of the course.

Baccalaureus Honores Institutionis Agrariae: B.Inst.Agrar. (Hons.) (Pretoria)

Admission requirements: A candidate must hold the B.Sc. (Agric.) degree or be admitted to the status thereof.

Curriculum: One or two academic years. The curriculum includes Agrarian Extension and specific attendance courses (or Capita Selecta) in any faculty or department which the candidate may lack.

Students are required to do practicals or research work or special study during university vacations.

VOCATIONAL SERVICE

Research into improved, more productive and more economic methods of primary food production is one of the major fields of labour for graduates in Agriculture. This is why agriculture offers such a wide variety of possibilities, not only in farming itself, but in commerce, industry, research, teaching, conservation and other specialized services. Occupations are steadily becoming specialized and, in many cases, professional training at university level has become necessary, particularly as regards the non-farming aspect of agriculture. The courses offer a basis for research and its practical application. In industries, for example factories which manufacture agricultural requisites, agriculture graduates are placed in the posts of technical service officers, sales representatives, research officers, production guidance officers and many more. However, it should be stressed that the attainment of a bachelor's degree is merely the first step in the direction of professional training. Post-graduate study is particularly important in the field of research. It is of equal importance that candidates should consider well beforehand what subjects they want to study for a particular field or conversely, that they should have certainty about the job prospects if they have specific subjects in mind.

The following are some of the major fields of study or subjects and an indication of job opportunities:

Agricultural Economics: At present there is a great shortage of agricultural economists, mainly as a result of the emphasis on scientific farming techniques which continually brings the problem of production costs to the fore. The training is mainly intended for prospective researchers, extension officers, agricultural entrepreneurs, agricultural administrators, lecturers and teachers. Agricultural economists may, *inter alia*, be employed as: Teachers and researchers at agricultural colleges and universities; economists in the government departments of Agricultural Economics and Marketing (divisions of agricultural production economics, agricultural marketing research, co-operatives and the National Marketing Council), Agricultural Technical Services and Plural Relations and Development (various divisions); researchers and/or advisers in the employ of the CSIR, the IDC, agricultural control boards, agricultural organizations such as the SAAU, agricultural co-operatives and private bodies such as companies which supply fertilizer and agricultural requisites, chemical concerns, etc. An agricultural economist may also act as a private consultant.

Also see Economics, p. 82.

Agricultural Education: Qualified teachers of agriculture are employed by the provincial education departments for appointment to secondary schools to which an agricultural field of study is attached. Teacher training, in addition to post-graduate qualifications is an ideal combination for posts at agricultural colleges, colleges for advanced technical education and universities. Teachers of agriculture who have the necessary experience, may also be appointed by the Department of National Education as Land Service Officers. In this capacity they act as organizers for the Land Service Movement and they have to promote the interests of this movement.

Agricultural Engineering: See p. 159.

Agricultural Management: See p. 136.

Agricultural Meteorology: Agricultural meteorologists in the Department of Agricultural Technical Services do research over a wide field and in a variety of specialized branches such as radiation, movement of air, heat, moisture and climatic conditions. They normally act in co-operation with researchers in other branches of agriculture. Consequently the entire field from basic research to practical application of knowledge is covered.

Although it is a new branch of study, Agricultural Meteorology has become one of the most vital branches of meteorology in South Africa. It offers interesting employment and research opportunities owing to the country's extremes of heat, cold, rain and droughts, as well as sunshine, frost, hail and even snow. Researchers therefore have the opportunity of making an important contribution in the field of agriculture. Furthermore, the faculties of agriculture of the two universities concerned offer positions as lecturers to qualified agricultural meteorologists.

Also see Meteorology, p. 185.

Agronomy/Crop Science: This supplies the necessary background for prospective farmers who are going to till the soil. The private sector offers good positions as sales agents or researchers in the employ of fertilizer companies, seed advisers, evaluators and controllers of crops, managers of large farming undertakings, etc. There is a demand for inspectors and technologists with the various Control Boards, while millers, bakers, malters and firms which manufacture and distribute sprays such as weed-killers also need people with Crop Science as a subject. Co-operatives also need an increasing number of produce managers who are trained in this field. The Department of Agricultural Technical Services employs agronomists to do research in connection with new varieties, cultivation practices, harvesting methods etc., while others undertake guidance in this field. The Agricultural Advisory and Development Work Branches of the Department of Plural Relations and Development employ agriculturists for the development of the self-governing Black states. Posts for professional officers also exist in the Department of Agricultural Economics and Marketing.

Animal Physiology: Physiologists can occupy posts as lecturers at various universities where instruction in animal and human physiology is given; as teachers of subjects such as physiology, biology, biochemistry and agriculture; as consultants or researchers in the service of firms which produce feed, co-operatives, nutrition research institutes and laboratories; as professional officers attached to institutes where biological

and/or biochemical research is done, such as in the Department of Agricultural Technical Services.

Also see Physiology, p. 117.

Animal Science/Animal Production: Students who are interested in animals and who have chosen this field of study, have a wide choice as regards careers. In addition to practical animal farming there are opportunities, for example, in the employ of the control boards, private marketing organizations, cattle-feed companies, large farming companies and co-operatives. The Department of Agricultural Technical Services offers abundant opportunities for research in various branches of Animal Science. Researchers may specialize in genetics, physiology, feeding, breeding and meat or wool technology. The most important centre for this purpose is the Animal and Dairy Science Research Institute near Pretoria. In addition, there are many professional officers who are responsible for the administration and control of national schemes. Other government departments which employ animal scientists are those of Agricultural Economics and Marketing and Plural Relations and Development.

Biochemistry: See p.108.

Biometry: The biometrician's major task is to assist researchers and managers in the planning of experiments and surveys and the analysis of findings. They usually occupy posts at agricultural, biological and medical research institutes; at universities as lecturers in Biometry as well as in Mathematical Statistics and in research departments of large commercial firms. They also enter the service of the CSIR, the SABS and the education departments. The Public Service offers various job opportunities and, particularly in the Department of Agricultural Technical Services, there are opportunities of undertaking research in various fields on one's own.

Botany: See p. 109.

Chemistry: See p. 109.

Dairy Science: As a result of the shortage of qualified dairy experts and food experts in general, there are adequate job opportunities for those who have completed their studies, for example as researchers at the Research Institute for Animal and Dairy Science in the Department of Agricultural Technical Services and the Food Research Institute of the CSIR; as technical control and development officers in the dairy industry and the food industry in general (private concerns); as standards officers at the SABS; as factory advisers and quality control officials in the departments of Agricultural Technical Services, Agricultural Economics and Marketing or in private concerns; as lecturers and researchers at universities and also at training institutions such as the agricultural colleges where technicians are trained for the dairy industry.

Examples of other possible employers are municipalities, the Dairy Board and concerns which manufacture and sell dairy equipment.

Entomology: See p.111.

Fruit Science: See Horticulture below.

Genetics: See p. 111.

Horticulture (Pomology, Vegetable and Flower Production, Landscape Horticulture etc.): The study of Horticulture embraces the production of horticultural crops and of the way in which the normal behaviour of plants can be changed to satisfy the requirements of man. Landscape Horticulture and Flower Production are the fields of study concerned with plants which have such particularly ornamental characteristics that, commercially and economically, they are important or may become important. Job opportunities are available as owners of a farming concern; in the service of municipalities or commercial nurseries for ornamental plants, and producers of cut flowers and pot-plants; as managers of or technical advisers to large fruit, vegetable and flower farms; as extension officers employed by the Department of Agricultural Technical Services, the Citrus Board and companies producing agricultural chemicals and fertilizers.

Students are encouraged to undertake post-graduate study in order to be employed as researchers at the research institutes under the control of the Citrus Board, the Deciduous and Dried Fruit Boards, the large fruit-growing companies, commercial firms and the Department of Agricultural Technical Services (for Horticulture in Pretoria, for Fruit and Food Technology in Stellenbosch, for Citrus and Subtropical Fruit in Nelspruit and for Viticulture and Enology in Stellenbosch).

As a subsection of Horticulture, Pomology (the science of fruit and fruit-growing), is receiving a great deal of attention at the University of Stellenbosch. Career prospects are approximately the same as those mentioned above. The development of giant irrigation schemes in parts of the country will no doubt cause an increase in the demand for horticulturists and pomologists in the future.

Microbiology: See p. 115.

Pasture Science: In many cases students of Pasture Science are prospective farmers. Since they must also have an intimate knowledge of related subjects such as Animal Science, Crop Science, Soil Science, Biochemistry, Microbiology and Genetics, career possibilities will, in this case, correspond to a large extent to those for the subjects mentioned. The syllabus makes provision for basic knowledge for research which can be undertaken at any agricultural research institute of, for example, the Department of Agricultural Technical Services, a university or a scientific, agricultural or industrial organization. Pasture scientists can also be appointed as extension officers; as lecturers at agricultural colleges and in agricultural faculties; as technical salesmen for manufacturers of agricultural chemicals, seed or food and also as managers of large agricultural enterprises. There are also posts in the Department of Plural Relations and Development.

Physics: See p.116.

Plant Pathology: This specialized field of study opens the door to interesting careers in agriculture, for example as extension officers or advisers in the Department of Agricultural Technical Services, the various Control Boards such as the Deciduous Fruit, Citrus and Maize Boards, private concerns such as the Sugar Institute, canning enterprises and firms which deal in pest control preparations. The Department of Agricultural Technical Services also offers particular opportunities for researchers in the various Research Institutes such as those for Fruit and Fruit Technology, Enology and Viticulture, Citrus and Subtropical Fruit, Horticulture and Tobacco. Apart from posts for lecturers, various universities also make ample provision for research. It is possible to teach biological subjects at schools and agricultural colleges. Graduates can also enter the private service of owners of large farms or plantations, nurseries and so forth.

Poultry Science: This branch of study covers the entire field of management, feeding, breeding and the processing and preserving of poultry products. Most poultry scientists accept posts in the government departments of Agricultural Economics and Marketing and Agricultural Technical Services. The last-mentioned department offers posts to extension officers and researchers who have specialized in, for example, feeding, breeding, or physiology. Graduates are also employed as researchers or advisers by Onderstepoort, the cattle-feed manufacturing industry, commercial concerns which deal in medicines and related products, large breeding enterprises and concerns which produce eggs and table-fowl. There are posts for lecturers in Poultry Science at certain universities and most of the agricultural colleges.

Soil Science and Plant Nutrition: There are virtually unlimited job opportunities for soil scientists of which only a few are mentioned here. The Department of Agricultural Technical Services employs soil scientists for research work and, for example, surveys and planning of irrigation schemes, catchment areas and farms. Experiments are done with fertilizers, while extension officers advise farmers on fertilization, irrigation, soil cultivation, etc. Professional officers are employed by the Department of Plural Relations and Development for similar services.

Fertilizer firms also need soil scientists to carry out research projects or give advice to farmers, while large undertakings such as the sugar industry, large farming concerns, engineering firms and co-operatives need the services of soil scientists for various purposes. Outside the field of agriculture there is also scope for applying the specialized knowledge of soil scientists in town and regional planning, road-building, prospecting for minerals and soil surveys. Possibilities for lecturers and teachers exist at universities, colleges for advanced technical education and secondary schools with an agricultural field of study. This field of study is invaluable for persons who choose farming as a career.

Viticulture and Enology: As a result of the close connection between cultivation factors and the quality of the final product, these two major subjects are combined. Job opportunities are obviously concentrated on the wine industry and can be found as wine expert extension, inspection or research officers in the Department of Agricultural Technical Services; as independent farmers or managers of vineyards; as winery managers, quality control officers, wine technologists, production managers, wine-cellar managers and so on in the wine industry.

Zoology: See p. 118.

Further opportunities in the Public Service: As has already been indicated, the services of agriculturists are utilised in a variety of specialised fields in two departments in particular, viz those of Agricultural Technical Services and of Plural Relations and Development. In the former department the following opportunities also exist for professional officers:

- Agrarian Extension: The most important task of extension officers is, by means of a system of informal training of farmers, to promote effective scientific farming practices. Officers can serve in any of the extension offices, which are distributed throughout the country. The requirement for appointment is a recognised Bachelor's degree with one or more agricultural subjects as major(s).

- Plant and seed control: Officers in this Division supervise the quality of seed and other plant material which are imported, exported, cultivated and sold; take steps to eradicate plant pests and award rights to plant growers. The requirement for appointment is an appropriate Bachelor's degree with one or more agricultural subjects as major(s) or a B.Sc. degree with Botany and Genetics or Entomology as majors.

- Publications: The requirement is an appropriate recognized degree with majors and subsidiary subjects such as Afrikaans, English, Journalism (Communication), Psychology or Sociology. Aptitude for or experience of journalism will be a recommendation.

- Radio-isotopy: This is being used to an increasing extent by the Department of Agricultural Technical Services for solving problems in agriculture. Opportunities are offered to physicists and physical chemists who specialise, inter alia, in soil and fertilization studies, plant nutrition, plant and animal physiology and the development of new research apparatus.

- Liaison: Posts for liaison officers exist in three fields with requirements indicated as follows: Professional Officer (Liaison) - B.Sc. (Agric.) degree or another degree, with experience in the field of liaison services and with an agricultural background; Engineer (Liaison) - as for engineer; Veterinary Surgeon (Liaison) - as for veterinary surgeon.

Also consult Tertiary Training for particulars on the National Diploma for Technicians which can be obtained in various fields of agriculture.

ARCHITECTURE

Universities: Cape Town, Natal, Orange Free State, Port Elizabeth, Pretoria, Witwatersrand

Degrees

Bachelor of Architecture: B.Arch. (UCT, UN, UOFS, UPE, UP, UW)

Master of Architecture: M.Arch. (UCT, UN, UOFS, UPE, UP, UW)

Doctor of Architecture: D.Arch. (UN, UOFS, UPE, UP, UW)
Doctor of Science in Architecture: D.Sc.(Arch.) (UW)
Doctor of Philosophy: Ph.D. (UCT, UN, UW)

DEGREE

Bachelor of Architecture: B.Arch.

(All the above-mentioned universities)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Cape Town: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, and a pass in a science subject (preferably Physical Science or Physics) on the Standard Grade.

Natal: A pass in Mathematics of at least 40 per cent on the Higher Grade or 50 per cent on the Standard Grade.

Orange Free State: Pass marks in Mathematics and Physical Science.

Port Elizabeth: A pass in Mathematics of at least 40 per cent on the Standard Grade.

Pretoria: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, as well as a pass in Physical Science on the Higher Grade or at least 40 per cent on the Standard Grade.

Witwatersrand: A pass on the Higher Grade or at least 60 per cent on the Standard Grade in Mathematics and in one of the following subjects: Biology, Physical Science, Physiology.

Curriculum: Five years of full-time study and one year of practical experience under the supervision of the university.

The curriculum includes, inter alia, the following courses: Design V or Architectural Design V (Natal) or Studiowork V (Cape Town) or Architectural Theory and Design V (Witwatersrand); Building Construction and/or Building Technology (Theory and Practice); Professional Practice; Structure; History of Architecture.

A dissertation or a practical design is required.

VOCATIONAL SERVICE

The architect is responsible for the design, planning and ornamentation of buildings, with a view to utility, durability, beauty and convenience. His success is to a very large extent dependent on innate aptitude for and interest in both practical and artistic work. Under prevailing conditions in South Africa, the young architect's prospects are very promising. He usually commences working for an established firm until he has sufficient capital and experience to enter a partnership with other architects or to open a practice of his own.

In the Public Service architects are employed by the departments of Plural Relations and Development, Community Development and Public Works, as well as the administrations of the four provinces. There are also favourable opportunities in large municipalities and organizations such as Iscor, Escom, the Railways, mining companies and so on. With post-graduate training an architect can obtain a lecturing post at a university. Many architects work as town planners on the lay-out of new towns and cities or the redesigning of centres in existing towns and cities.

People wishing to make architecture their career in the hope of becoming rich without doing much work, are doomed to disappointment. Normally the larger financial rewards come later in life, and the newcomer must be prepared for many years of hard work. An architect's main reward lies in achieving and realizing his personal ambitions. However, there are a large number of wealthy architects in the world.

There are also many female architects. The abilities demanded by architecture are by no means limited to men. If a woman has an inclination for this profession, there is no reason whatsoever why she should not be a successful architect.

Also see Landscape Architecture, p. 171.

Also consult Tertiary Training for particulars on the National Certificate in Architectural Draughtsmanship.

BUILDING

Universities: Cape Town, Natal, Orange Free State, Port Elizabeth, Pretoria, Witwatersrand.

Degrees

Bachelor of Science (Building): B.Sc. (Building) (UCT)
Bachelor of Science in Building: B.Sc.Bldg. (UN) or B.Sc.(Building) (UW)
Bachelor of Science in Building Administration: B.Sc. (Building Administration) (UOFS)
Bachelor of Building Arts: B.Boukunde (UPE)
Baccalaureus Scientiae in Building Management: B.Sc. (Bdg.Man.) (UPE)
Bachelor of Building Management: B.Sc. (Building Management) (UP)
Bachelor of Building Technology: B.Sc. (Building Technology) (UP)
Master of Science (Building): M.Sc. (Building) (UCT)
Master of Science in Building: M.Sc.Bldg. (UN) or M.Sc.(Building) (UW)
Master of Science in Building Administration: M.Sc. (Building Administration) (UOFS)
Magister Scientiae in Building Management: M.Sc. (Bdg. Man.) (UPE)
Master of Building Management: M.Sc. (Building Management) (UP)
Doctor of Philosophy: Ph.D. (UN, UW)
Doctor of Science in Building: D.Sc.Bldg. (UN) or D.Sc. (Building) (UW)
Philosophiae Doctor in Building Management: Ph.D. (UPE)
Doctor of Building Management: D.Sc. (Building Management) (UP)

DEGREES

Bachelor of Science (Building): B.Sc. (Building) (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, and a pass in a science subject on the Standard Grade.

Curriculum: Four years of full-time study. Every student must obtain three periods each of not less than six weeks of experience during the vacations with an approved building contractor before admission to the 2nd, 3rd and 4th years respectively.

The curriculum includes, *inter alia*, the following courses: Building Construction, Building Management, Quantities, Mercantile Law, Mathematics, Building Law.

Bachelor of Science in Building: B.Sc.Bldg. (Natal)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Four years of full-time study. All candidates must, before being permitted to enter upon the work of the subsequent year, obtain at least six weeks' continuous practical experience with a firm of general building contractors.

The curriculum includes, *inter alia*, the following courses: Building Administration, Building Technology, Theory and Design of Structures, Economics, Building Science, Construction Design and Practice, Mathematics, Building Law, Commercial Law.

Bachelor of Science in Building Administration: B.Sc. (Building Administration) (Orange Free State)

Admission requirements: See p.90.

Curriculum: Four years' study comprising two years of full-time study followed by two years of part-time study, during which a candidate is required to be employed full-time in the office of a building contractor.

The first two years of the curriculum is equivalent to that of the degree of B.Sc. in Quantity Surveying. The other subjects for the curriculum are, *inter alia*, the following: Builders' Quantities, Building Construction, Building Contracts and Procedures, Building Finance, Specification, Analysis of Prices, Labour Law.

Bachelor of Building Arts: B.Boukunde (Port Elizabeth)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics of at least 40 per cent on the Standard Grade.

Curriculum: Three years of full-time study.

After having successfully completed the curriculum for the degree of Bachelor of Building Arts, a candidate may continue with fourth and fifth years of full-time study. On completion of these two years he shall be awarded the B.Arch. degree.

The curriculum comprises, inter alia, the following courses: Design, Building Materials, Theory of Structures, History of Art and Architecture, Professional Practice, Building Economics, Environmental Engineering.

Baccalaureus Scientiae in Building Management: B.Sc. (Bdg.Man.) (Port Elizabeth)

Admission requirements: As for B.Boukunde.

Curriculum: Five years. A candidate is required to be in full-time employment of an approved registered building contractor during his last two years of study.

The curriculum includes, inter alia, the following courses: Building Management, Quantities, Building Finance, Analysis of Prices, Building Materials, Environmental Engineering, Occupational Safety, Professional Practice, Theory of Structures.

Bachelor of Building Management: B.Sc. (Building Management) (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, as well as a pass in Physical Science on the Higher Grade or at least 40 per cent on the Standard Grade.

Curriculum: The curriculum extends over a period of five years, comprising two years of full-time study and three years of part-time study, during which a candidate is required to be employed full-time by an approved registered employer in the building industry.

The curriculum comprises, inter alia, the following courses: Building Management, Building Contracts and Procedure, Occupational Safety, Building Finance, Builders' Quantities, Building Technology, Building Services, Theory of Structures, Analysis of Prices.

Bachelor of Building Technology: B.Sc. (Building Technology) (Pretoria)

Admission requirements: As for B.Sc. (Building Management).

Curriculum: Four years of full-time study. Candidates are advised to gain practical experience in the office of an architect during university vacations.

The curriculum includes, inter alia, the following courses: Building Technology, Office Practice, Theory of Structures, Building Services, Industrial Psychology, Professional Practice, Quantities, Applied Mathematics, Computer Science.

Bachelor of Science in Building: B.Sc. (Building) (Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade and a pass on the Higher Grade or at least 60 per cent on the Standard Grade in one of the following subjects: Biology, Physical Science, Physiology.

Curriculum: Four years of full-time study. The curriculum includes, inter alia, the following courses: Building Science, Production Planning and Design, Industrial Organization and Management, Economics, Mathematics, Commercial Law, Structure, Physics and Chemistry.

VOCATIONAL SERVICE

In the past the building industry depended to a large extent on the knowledge of architects, quantity surveyors and civil engineers. However, the rapid expansion of this industry, the replacement of the traditional by modern building materials (for example those of a synthetic nature), the application of sophisticated building techniques and the attendant organization to erect buildings quickly and efficiently, are all aspects of building technology which make specialized study indispensable. The larger construction companies, in particular, are to an increasing extent realising the value of the supplementary knowledge of graduates in building management and building science. Of the small group who already possess this qualification, there are various known examples of young men who have been placed in command of million-rand building projects and have carried these out successfully.

Work in the field of building management refers to the various types of building activities and can be of a divergent nature. There is consequently a great demand for building managers to occupy a variety of indoor and outdoor posts, from building project to personnel management, from the management of subcontractors to the purchase of equipment and materials, and a host of other functions. Building scientists, on the other hand, are involved mainly in the professional rather than the executive sphere of the building industry. However, it may happen that larger firms will also make use of the services of building scientists in an executive capacity. Most building scientists are however employed by architects as senior partners. Manufacturers of building material employ graduates in building science with a view to office and publicity work. A few are employed by research laboratories.

Also consult Tertiary Training for particulars on various courses in the building industry.

COMMUNICATION/JOURNALISM

Universities: Orange Free State, Potchefstroom, Rand Afrikaans University, Rhodes, South Africa, Stellenbosch, Witwatersrand

Degrees

Bachelor of Arts (Communication): B.A. (Communication) (UOFS, PU for CHE)

Bachelor of Arts: B.A. (RAU, Unisa)

Bachelor of Journalism: B.Journ. (Rhodes)

Honours Bachelor of Arts (Communication): B.A. (Hons.) (Communication) (UOFS)

Honours Bachelor of Arts: Honns. B.A. (PU for CHE) or Hons. B.A. (RAU, Unisa)

Bachelor of Arts with Honours: B.A. (Hons.) (Rhodes)

Honours Bachelor of Journalism: B.Journalism Hons. (US)

Master of Arts (Communication): M.A. (Communication) (UOFS)

Master of Arts: M.A. (PU for CHE, RAU, Rhodes, Unisa)

Master of Journalism: M.Journalism (US)

Doctor Philosophiae: D.Phil. (UOFS, PU for CHE, US)

Doctor of Philosophy: Ph.D. (Rhodes)

Doctor of Literature and Philosophy: D.Litt. et Phil. (RAU, Unisa)

Diplomas

University Diploma in Communication (PU for CHE)

Post-graduate Diploma in Communication (RAU)

Higher Diploma in Communication Studies (UW)

DEGREES

Bachelor of Arts (Communication): B.A. (Communication) (Orange Free State)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years of full-time study. The curriculum must include at least 20 semester courses of which six must be taken in each major subject. The first major subject is Communication and the second major subject must be selected from the following: A modern language (including Bantu languages), Anthropology, Applied Anthropology, Economics, Geography, History, Mathematics, Philosophy, Political Science, Psychology, Sociology. Four semester courses must be taken in Media Studies. The other four semester courses must be selected from the ordinary B.A. subjects. (See p.12.)

Bachelor of Arts (Communication): B.A. (Communication) (Potchefstroom)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Four years of full-time study. A candidate must pass in at least 14 and a half courses. A student takes Communication I and II in the first and second years respectively, and Journalism III and IV and Public Relations and Advertising III and IV in the third and fourth years. Law of Communications is taken in the second and third years. The other courses are selected from the ordinary B.A. subjects, one of which must be a major subject.

The B.A. (Communication) degree grants admission to study for the degree of M.A. (Communication).

Bachelor of Arts: B.A. (Communication) (Rand Afrikaans University)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). See also p.21.

Curriculum: Three years of full-time study. The curriculum consists of eleven courses. Communication is a compulsory major subject. The second major subject must be selected from:

A language, Sociology, Psychology, Education, Economics, History, History of Art, Biblical Science, General Linguistics, Philosophy, Anthropology, Political Science, Mathematical Statistics, Mathematics.

Compulsory ancillary (minor) subjects are: Psychology I, Sociology I, Statistical Methods A and four semester courses in a language or languages.

Bachelor of Journalism: B.Journ. (Rhodes)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). See also p.23.

Curriculum: Three years of full-time study. The curriculum comprises ten courses, three of which must be in Journalism and three in the second major subject selected from the ordinary B.A. subjects. The other courses must also be selected from the ordinary B.A. subjects. (See p.24.)

Bachelor of Arts: B.A. (South Africa)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: At least three years. Students follow the curriculum of the ordinary B.A. degree (see p. 26) with Communication as one of the major subjects. The second major subject must be one of the following: African Development Administration, African Politics, Anthropology, Criminology, Economics, Education, History, History of Art, International Politics, a Language, Linguistics, Logic, Political Science, Psychology, Sociology.

Honours Bachelor of Journalism: B.Journalism Hons. (Stellenbosch)

Admission requirement: A Bachelor's degree.

Curriculum: One year. Students take five courses such as, for example, History of the press, radio and television; Press Legislation and Press Ethics; Readers' reaction; and practical vacation work with an approved press group, the radio or television.

DIPLOMAS

University Diploma in Communication (Potchefstroom)

Admission requirement: An approved Bachelor's degree.

Curriculum: One year of full-time study or two years of part-time study.

Post-graduate Diploma in Communication (Rand Afrikaans University)

Admission requirement: A Bachelor's degree.

Curriculum: Two years.

The Diploma is offered to students who have not previously studied Communication.

During the first year students must complete the compulsory minor subjects together with Communication I and take Communication II and III in their second year.

See B.A. (Communication) (RAU) for the compulsory minor subjects.

Higher Diploma in Communication Studies (Witwatersrand)

Admission requirement: A Bachelor's degree.

Curriculum: One year of full-time study or two years of part-time study. The curriculum consists of five courses. A candidate takes Communication Theory and Language and its Use and selects the three other courses from subjects such as, for example, Communication in Education, Non-verbal Communication in Business and Industry, Oral Communication.

VOCATIONAL SERVICE

In years to come Communication will play an increasingly important part in respect of human and international relations. It opens up the new world of the twentieth century in which things occur at a staggeringly fast pace and in which motives and objectives of individuals and nations may easily be misinterpreted. Communication media such as newspapers, the radio, television, magazines and the cinema have made the world shrink, so that today little remains hidden in any part of the world.

In this changing world, man has an increasing need of reliable information about what is happening around him. Therefore more demands are made upon the person who relays information to others, and the emphasis is on what is relayed and how it is relayed. Thus the task of the communication scientist demands that the information which he/she relays, will be compiled in such a way that it will have the biggest impact and will lead to mutual understanding and trust between individuals and nations.

Some of the career possibilities for which a student is equipped by Communication, are journalism, liaison work, publicity and the foreign and information services.

- Journalism: The field of journalism as a career, with its many branches, is expanding and the adventure and fascination connected with it are increasing. Although most journalists start working for daily newspapers, journalism is not restricted to these media. The radio, for example, offers challenging career prospects. In addition, the newly instituted television service in South Africa offers various opportunities to graduates in Communication/Journalism.

Because of the high demands made upon television journalists, not one of them can be employed untrained; they must be thoroughly trained and equipped for their task. However, television does not imply the end of newspapers, journals or the radio. Nevertheless these media will be obliged to run their communication along even better and more effective lines. This will demand thoroughly trained personnel. Although a matriculant may be employed by an enterprise as apprentice journalist to receive in-service training, university training today has become virtually essential, since it provides an important academic background and contributes to the enrichment of knowledge about people and affairs. Normally a person in possession of a degree or diploma will enjoy preference when it comes to promotion.

- Liaison: In South Africa liaison is still in its infancy and the possibilities are virtually unlimited. In a dynamic society in which competition is increasing daily, establishing a public image is indispensable to a company or other large concern. Virtually no large organization can afford to do without liaison officers. Everybody realises to an increasing extent the importance of sound public relations. Even those organizations which sell their services to other organizations employ liaison officers. Other employers are, for example, local authorities, government and statutory bodies, international organizations, universities and other educational institutions, welfare organizations, newspapers, the SABC, insurance companies, and so forth. An increasing number of women are employed in this field and the enterprising person with imagination and willingness to work hard, will find a rewarding career in the sphere of liaison.

- Advertising: The advertising industry is one of which the potential, particularly in South Africa, has by no means been developed to the full. As the economy expands, this industry will grow. The nature of this work is really dynamic and the publicity officers or advertising agent must regularly keep pace with new trends and developments in his field. For a person interested in the skilful and creative handling of languages, there is tremendous scope as a writer of advertisements. However, advertising is not restricted to this. The advertising agent is to an increasing extent becoming a key figure in publicising a concern. For the person who has the necessary training and appropriate characteristics, there is scope to open up his own undertaking in time and to expand it into a lucrative advertising agency. This profession is also highly suitable for women.

- Foreign and information service: Publicising a country, its people and aims - at home and abroad - demands much from the information officer and the foreign officer. A person interested in this field will gain the necessary background knowledge from Communication, but other major and subsidiary subjects should be carefully considered for service in the Department of External Affairs or the Bureau of National and International Communication.

Communication can be combined to advantage for some occupations with other subjects, for example, with Industrial Psychology for the personnel officer; with Drama and Theatrical Art for the person who chooses the stage, television, cinema or microphone as a career; with Library Science for a career in librarianship, with Psychology or Sociology for a research post in, for example, the service of the HSRC.

Also consult Tertiary Training for particulars on the National Diploma (Journalism).

DENTISTRY

Universities: Pretoria, Stellenbosch, Witwatersrand

Degrees

Bachelor of Dental Science: B.Ch.D. (UP) or B.D.S. (UW)
Bachelor of Dentistry: B.Ch.D. (US)
Bachelor of Science in Oral Biology: B.Sc. (Oral Biology) (UW)
Bachelor of Dental Science Honours: B.Ch.D. (Hons.) (UP)
Master of Dental Science: M.Ch.D. (UP) or M.D.S. (UW)
Master of Dentistry: M.Ch.D. (US) or M.Dent. (UW)
Master of Dental Sciences: M.Dent. (UP)
Master of Science in Dental Sciences: M.Sc. in Dental Sciences (US)
Master of Science in Dentistry: M.Sc. (Dent.) (UW)
Doctor of Dental Science: D.Ch.D. (UP)
Doctor of Dentistry: D.Ch.D. (US)
Doctor of Philosophy (Odontology): Ph.D. (Odont.) (US)
Doctor of Philosophy in Dentistry: Ph.D. (Dent.) (UW)
Doctor of Science in Dentistry: D.Sc. (Dent.) (UW)

Undergraduate Diploma

Diploma in Oral Hygiene: Dip. O.H. (UP, US, UW)

Post-graduate Diplomas

Diploma in Dental Public Health (UP)
Higher Diploma in Dentistry: H.Dip.Dent. (UW)

DEGREES

The dental degrees of the universities may be registered with the South African Medical and Dental Council.

All dental students must be registered with the Council for a period of four years prior to application for admission to the Practitioners' Register. Students should apply for registration at the beginning of their first year of study.

Bachelor of Dental Science: B.Ch.D. or B.D.S. or

Bachelor of Dentistry: B.Ch.D. (All the above-mentioned universities)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Pretoria: As for the B.Sc. degree. See p. 96.

Stellenbosch: A pass in Mathematics on the Higher Grade or on the Standard Grade. Prospective students are strongly advised to take Physical Science and/or Biology for the Standard 10 examination.

Witwatersrand: A pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade and a pass in one of the following subjects if Mathematics has been passed on the Higher Grade, or two of the following subjects if Mathematics has been passed on

the Standard Grade: Bantu Language, Biology, French, Geography, German, Hebrew, History, Latin, Physical Science, Physiology.

Curriculum: 5½ years of full-time study. Students undertake practical and clinical work in the oral and dental hospital attached to the university concerned.

First-year subjects consist of Chemistry, Physics, Biology or General Biology (Witwatersrand) or Biological Science (Pretoria), Mathematics (Stellenbosch) or Anatomy (Pretoria) or Micro-anatomy (Witwatersrand).

The other prescribed subjects are, *inter alia*, the following: Anatomy, Physiology, General Medicine, Microbiology, Oral Biology, Oral Medicine and Periodontics, Conservative Dentistry, Maxillo-facial and Oral Surgery, Prosthetic Dentistry.

Bachelor of Science in Oral Biology: B.Sc. (Oral Biology) (Witwatersrand)

Admission requirements: As for the B.D.S. degree.

Curriculum: Four years of full-time study. The curriculum comprises Part I and Part II. The qualifying courses for Part I extend over three years and are the same as those prescribed for the first three years of the curriculum for the B.D.S. degree. The qualifying course for Part II is Oral Biology.

This degree is designed for students who wish to follow a career in biological research and teaching, particularly in the field of dental science.

Master of Dental Science: M.Ch.D. (Pretoria)

Admission requirements: A candidate must hold the degree of B.Ch.D.; be registered by the SA Medical and Dental Council; and have filled a full-time post successfully for a period of four years at the University or the H.F. Verwoerd Hospital or Kalafong Hospital or at another approved training institution.

Curriculum: Four years of full-time study. The degree may be obtained in the following branches: Maxillo-facial and Oral Surgery, Orthodontics, Oral Pathology, Periodontics, Prosthodontics, Community Dentistry.

Master of Dentistry: M.Dent (Witwatersrand)

Admission requirements: A candidate must hold the B.D.S. degree or an equivalent qualification and be registered as a dentist by the SA Medical and Dental Council.

Curriculum: Three or four years of full-time study depending on the field of study. The degree may be awarded in one of the following branches: Orthodontics, Maxillo-facial and Oral Surgery, Prosthodontics, Periodontics and Oral Medicine, Oral Pathology.

Master of Dentistry: M.Ch.D. (Stellenbosch)

Admission requirements: A candidate must have held the B.Ch.D. degree for at least two years and be registered as a dentist by the SA Medical and Dental Council.

Curriculum: Three or four years of full-time study depending on the field of study. The degree may be awarded in one of the following disciplines: Oral Pathology; Prosthodontics; Periodontics; Orthodontics; Maxillo-facial and Oral Surgery.

UNDERGRADUATE DIPLOMAS

Diploma in Oral Hygiene (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes in Biology and/or Physical Science on the Higher Grade or at least 50 per cent on the Standard Grade. Mathematics will be a recommendation. Candidates are selected.

Curriculum: Two years of full-time study. The curriculum comprises, *inter alia*, Oral Hygiene II, Dental Procedure and Remedies, Anatomy and Histology, Oral Pathology, Radiology.

Diploma in Oral Hygiene (Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Preference will be given to students who have obtained passes on the Standard Grade in the following subjects: Mathematics, Physical Science and Biology. Students are selected and applications must be submitted before 30 June of the previous year.

Curriculum: Two years of full-time study. The curriculum includes the following subjects: Oral Hygiene II, Oral Surgery, Radiography, Oral Biology, Oral Pathology.

Diploma in Oral Hygiene: Dip. O.H. (Witwatersrand)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Two years of full-time study. The curriculum comprises Part I and Part II. Part I includes Ethics, Jurisprudence and Administration in relation to Dental Practice; Principles of Human Biology; Principles of Human Disease. Part II comprises Clinical Oral Hygiene; Principles and Practice of Oral Radiography; Public Oral Health Education and Preventive Dentistry.

POST-GRADUATE DIPLOMAS

Diploma in Dental Public Health (Pretoria)

Admission requirements: Candidates must have held the degree of B.Ch.D. for at least two years and must be registered by the S A Medical and Dental Council as a dentist.

Curriculum: One year of full-time study or two years of part-time study.

Higher Diploma in Dentistry: H.Dip.Dent. (Witwatersrand)

Admission requirements: A candidate must hold the degree of B.D.S. or an equivalent qualification and must be registered by the S A Medical and Dental Council as a dentist.

Curriculum: One year of full-time study or such longer period of part-time study as may be determined by the Senate.

VOCATIONAL SERVICE

Most dentists in the country end up in private practices. These are perhaps the ideal working conditions, although the high cost of equipment and running expenses should be borne in mind. There are opportunities of going into partnership and the income will vary according to the size of the practice. Dentists can also enter the service of the Department of Health and other organizations at an established rate of remuneration. Examples are the education departments of the four provinces who use dental officers to visit schools; the hospitals; large municipalities; certain major industries such as Iscor and the mines, and so forth. Certain universities employ a small number of dentists as dental professors and lecturers. Some of them also undertake research. At present there is a great shortage of dentists in South Africa.

Dental services comprise two components, viz corrective and preventive treatment. While the work of dentists is concentrated to a greater extent on corrective treatment, they do not always have the time to apply preventive measures or provide guidance. As a result, increasing use is made of oral hygienists to render this valuable supplementary professional service. In addition to job opportunities with practising dentists, oral hygienists are also employed by the Department of Health for clinical, guidance and preventive services.

DIETETICS

Universities: Cape Town, Natal, Orange Free State, Potchefstroom, Pretoria, Stellenbosch
Degrees

Bachelor of Science in Dietetics: B.Sc. Diet. (UN)

Bachelor of Science with Dietetics: B.Sc. (PU for CHE)

Bachelor of Science with Dietetics and Physiology as major subjects: B.Sc. (US)

Bachelor of Dietetics: B.Sc. (Dietetics) (UP)

Bachelor of Science in Dietetics (Honours): B.Sc. Diet. Hons. (UN)
Honours Bachelor of Science: Hons. B.Sc. (PU for CHE)
Bachelor of Dietetics (Honours): B.Sc. (Dietetics) (Hons.) (UP)
Honours B.Sc. (US)
Master of Science in Dietetics: M.Sc. Diet. (UN)
Master of Science: M.Sc. (PU for CHE, US)
Master of Dietetics: M.Sc. (Dietetics) (UP)
Doctor of Philosophy: Ph.D. (UN, US)
Doctor Scientiae: D.Sc. (PU for CHE, US)
Doctor of Science in Dietetics: D.Sc. in Dietetics (UP)

Diplomas

Diploma in Therapeutic Dietetics (UCT)
University Diploma in Dietetics (PU for CHE)
Diploma in Hospital Dietetics (UOFS, PU for CHE, US)
Post-graduate Diploma in Hospital Dietetics (UP)

DEGREES

Bachelor of Science in Dietetics: B.Sc. Diet. (Natal)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade in both Mathematics and a natural science.

Curriculum: Three years of full-time study. First-year subjects comprise Chemistry, Nutrition, Zoology or Biology and one of the following: Botany, Economics, Mathematics, Physics, Psychology, Sociology. Third-year subjects are Dietetics, Nutrition and Home Management.

Bachelor of Science with Dietetics: B.Sc. (Potchefstroom)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics and a science subject, preferably Physical Science, on at least the Standard Grade.

Curriculum: Three years of full-time study. Students have a choice of major subjects between (i) Nutritional Science and Physiology and (ii) Nutritional Science and Food Science. First-year subjects include Food Science and Nutritional Science, Clothing, Chemistry, Physics and Physiology.

Bachelor of Science with Dietetics and Physiology as major subjects: B.Sc. (Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with pass marks in Mathematics and Physical Science, at least one on the Higher Grade.

Curriculum: Three years of full-time study. First-year subjects include Chemistry, Zoology, Dietetics, Physics (Bio.) and Mathematics (Bio.) Third-year subjects are Dietetics and Physiology.

Students are required to do practical work in various fields of Dietetics during university vacations.

Students can obtain the following post-graduate degrees in Dietetics at the PU for CHE and Stellenbosch: Hons. B.Sc., M.Sc. and D.Sc.

Bachelor of Dietetics: B.Sc. (Dietetics) (Pretoria)

Admission requirements: As for the B.Sc. degree. See p. 96.

Curriculum: Three years of full-time study. Subjects for the first year include, inter alia, Chemistry, Physics, Food Science, Home Management and Diet Patterns. The subjects for the third year are Nutritional Science, Therapeutic Nutrition, Statistics Special, Food Service Management, Agrarian Extension, Extension in Home Economics and a Project: Nutrition.

Candidates must obtain certificates in First Aid and Home Nursing before completion of their study for the degree. Candidates are required to work in the food department of a hospital for at least three weeks during a university vacation.

DIPLOMAS

Diploma in Therapeutic Dietetics (Cape Town)

Admission requirements: A B.Sc. degree with Physiology, Microbiology, Chemistry or other approved major subjects or a degree in Home Economics or Dietetics.

Curriculum: One and a half years of full-time study. The following are the principal subjects: Dietetics, Nutrition, Selected Medical and Surgical topics for dieticians, Institutional Management and Catering, Cookery, Food Technology, Public Health, Social Anthropology.

University Diploma in Dietetics (Potchefstroom)

Admission requirement: The degree of B.Sc. with Dietetics and Physiology as major subjects or the degree of B.Sc. (Dietetics).

Curriculum: One year of full-time study. The curriculum comprises the following subjects: Food Science, Nutritional Science, Food Administration, Institutional Management, Sociology Special, Microbiology I (if not already taken).

Diploma in Hospital Dietetics or

Post-graduate Diploma in Hospital Dietetics (Orange Free State, Potchefstroom, Pretoria, Stellenbosch)

Admission requirements: B.Sc. with Dietetics and Physiology as major subjects or B.Sc. (Dietetics) or B.Sc. in Home Economics (Food and Nutrition) or B.Sc. with Dietetics as a major subject.

Curriculum: The Diploma will be awarded to those students who have satisfactorily completed 12 months' service and instruction in an approved hospital and have passed an examination.

VOCATIONAL SERVICE

Dietetics is one of the ideal courses for a girl who is orientated towards the natural sciences. Although the work is related to that of a home economist, the dietician is a person who interprets the science of nutrition in terms of food for healthy as well as sick people. The ultimate aim of the dietician is therefore the advancement of good health by means of correct nourishment. Job opportunities on the grounds of basic, or in some cases post-graduate qualifications, are, inter alia, the following:

- The hospital dietician with the following avenues of specialization:
 - . An administrative dietician responsible for the work and training of supervisors and others who prepare meals,
 - . a therapeutic dietician who plans the meals of patients according to a doctor's prescription,
 - . a clinical dietician who plans diets for patients who are not admitted to hospitals,
 - . an educational dietician for the planning of courses and for the supervision and instruction of dietetic assistants, nurses and medical and dental students,
 - . a hospital research dietician who leads and plans research projects pertaining to food and nutrition,
 - . in a smaller hospital with fewer opportunities for specialization, the dietician will function in all the above-mentioned areas;
- a dietician for the provision of professional advice to industries, orphanages, school and university hostels, nursery schools, homes for the aged, hotels and other institutions where food is prepared in large quantities;
- dieticians as researchers in the employ of the Medical Research Council, the SABS, the CSIR, fruit and vegetable canning factories, food supply industries; the various control boards such as the Meat, Dairy and Citrus Boards, universities and so forth;
- a teaching post under the auspices of the provincial education departments or a lecturer at a training college or university with particular opportunity for research and specialization;

- a consulting dietician in private practice. (This branch is a relatively new one in South Africa);

- a journalist who writes women's columns in periodicals and newspapers and for the radio, television and advertising companies or who acts as a travelling representative;

- dieticians attached to the Subdivision of Nutrition Services of the Department of Health. Here she is an important member of a team responsible for guidance services on the matters of health. She manages her task of guidance of nutrition by means of lectures, radio talks, films and film strips, short courses, replies to enquiries, et cetera.

A dietician consequently has the opportunity, in accordance with her training, to choose from among fields such as guidance, hospital work, large company catering, research, education or a private practice. The field which she chooses will determine the nature of her work.

DRAMA

Universities: Cape Town, Natal, Orange Free State, Potchefstroom, Pretoria, Rhodes, Stellenbosch, Witwatersrand

The University of the Witwatersrand also offers the degree of B.A. with two qualifying courses in History of Drama.

Degrees

Bachelor of Arts with three courses in Drama: B.A. (UCT)

Bachelor of Arts with Speech and Drama as a major subject: B.A. (UN, Rhodes)

Bachelor of Arts (Dramatic Art and Theatrical Art): B.A. (Dramatic Art and Theatrical Art) (UOFS)

Bachelor of Arts with Speech and Interpretation or Theatrical Art or Dramatic Art as major subjects: B.A. (PU for CHE)

Bachelor of Arts in Drama: B.A. (Drama) (UP)

Bachelor of Drama: B.Drama (US)

Bachelor of Arts in Dramatic Art: B.A. (Dramatic Art) (UW)

Bachelor of Arts Honours: B.A. Hons. or Hons. B.A. (UN, PU for CHE)

Honours Bachelor of Arts (Dramatic Art and Theatrical Art): B.A. (Hons.) (Dramatic Art and Theatrical Art) (UOFS)

Bachelor of Arts Honours in Drama: B.A. (Drama) (Hons.) (UP)

Bachelor of Arts with Honours: B.A. (Hons.) (Rhodes)

Honours Bachelor of Drama: Hons. B.Drama. (US)

Master of Arts: M.A. (UN, PU for CHE, Rhodes)

Master of Arts (Dramatic Art and Theatrical Art): M.A. (Dramatic Art and Theatrical Art) (UOFS)

Master of Arts in Drama: M.A. (Drama) (UP)

Master of Drama: M.Drama (US)

Master of Arts in Dramatic Art: M.A. (Dramatic Art) (UW)

Doctor of Philosophy: Ph.D. (UN, Rhodes, UW)

Doctor of Literature: D.Litt. (UN, UOFS, PU for CHE, UP, Rhodes, UW)

Doctor Philosophiae: D.Phil. (UP, US)

Diplomas

Performer's Diploma in Speech and Drama (UCT)

Specialist Actor's Diploma in Speech and Drama (UCT)

Specialist Teacher's Diploma in Speech and Drama (UCT) and

Special Endorsement for holders of Primary Teachers' Certificates (UCT) See p. 120.

Diploma in Play Production (UN)

Diploma in Dramatic Art and Theatrical Art (UOFS)

University Diploma in Speech and Drama (PU for CHE)

University Diploma in Theatrical Art (PU for CHE)

Diploma for Stage Managers (US)

Higher Diploma in Education (Primary) (Speech and Drama) (US) See p. 130.

The University of the Orange Free State offers the four-year course for the Higher Diploma in Education with Dramatic Art and Theatrical Art as one of the specializations. (See p.121.)

DEGREES

Bachelor of Arts with three courses in Drama: B.A. (Cape Town)

Students who wish to enter for Drama II must take at least one course in English or in Afrikaans en Nederlands. They are strongly advised to complete French II and/or German I. Students are also required to attend productions and rehearsals of the Department of Speech and Drama.

It is possible for a candidate to complete a B.A. degree together with the Speech and Drama Performer's course in a minimum period of study of four years.

See Chapter 2, University of Cape Town (p.7), for further particulars regarding the B.A. degree course.

Bachelor of Arts with Speech and Drama: B.A. (Natal, Rhodes)

The University of Natal and Rhodes University offer the degree of B.A. with three qualifying courses in Speech and Drama.

See Chapter 2, University of Natal (p.10) and Rhodes University (p.23), for further particulars regarding the B.A. degree courses at these universities.

Bachelor of Arts (Dramatic Art and Theatrical Art): B.A. (Dramatic Art and Theatrical Art) (Orange Free State)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years of full-time study. The curriculum consists of eleven courses. Dramatic Art and Theatrical Art I, II and III are equivalent to six courses. The major subjects are Afrikaans en Nederlands III or English III and Dramatic Art and Theatrical Art III.

The other two courses must be chosen from recognized school examination subjects. One of these subjects may be taken instead of Afrikaans en Nederlands II and III or English II and III.

Bachelor of Arts with Speech and Interpretation or Theatrical Art or Dramatic Art as major subjects: B.A. (Potchefstroom)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years of full-time study. Students take the B.A. degree course with one of the above-mentioned subjects as a major subject. The other recommended major subject to be taken with Speech and Interpretation is a language. Students who take Theatrical Art as a major subject, must take two courses in Dramatic Art and two courses in Speech and Interpretation.

During vacations students must be available for rehearsals of public productions at the discretion of the producer.

During their course students are required to attend theatres, productions, etc. arranged by the Department of Speech and Drama.

See Chapter 2, Potchefstroom University for CHE (p.16), for further particulars regarding the B.A. degree course.

Bachelor of Arts in Drama: B.A. (Drama) (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). See also p.18.

Curriculum: Three years of full-time study. The curriculum consists of ten courses which are composed as follows: Three courses in each of the following: Dramatic Art, Theatrical Art and Speech and Movement and one course in one of the following subjects: Afrikaans, English, German, French, History of Art, History of Music, Afrikaans and Netherlands Cultural History.

Bachelor of Drama: B.Drama (Stellenbosch)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years of full-time study. During the first year students take Drama and three of the following subjects of which the two official languages must be taken on a one-year basis at least: Afrikaans, Afrikaans-Nederlands, Biblical Science, German, English, Special English, French, History, Classical Culture, Psychology. The major subjects are Drama and one of Afrikaans-Nederlands, English, French, German.

At the beginning of the third year of study students must select either (i) Drama III with Acting and either Afrikaans Speech and Elocution or English Speech or (ii) Drama III with Drama (Education) and Speech (Education).

Bachelor of Arts in Dramatic Art: B.A. (Dramatic Art) (Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). See also p. 30.

Curriculum: Four years of full-time study. The major subjects are Dramatic Theory III, Theatre Practice III, English III or Afrikaans en Nederlands III or another language. In the fourth year students take five courses selected from subjects such as the following: Dramatic Criticism; History of Dramatic Art; Radio, Television and Film Theory or Practice; Principles of Theatre Craft.

DIPLOMAS

Performer's Diploma in Speech and Drama (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Candidates who hold a Senior Certificate may, with the permission of the Head of the Department, be accepted. A student must have shown marked talent as a performer. An audition with a member of the Speech and Drama Department is necessary.

Curriculum: Three years of full-time study. The curriculum includes Drama, I, II and III as for the B.A. degree, Practical Speech III, Practical Acting III besides other subjects.

Specialist Actor's Diploma in Speech and Drama (Cape Town)

Admission requirements: A B.A. degree including at least two courses in Drama or a B.A. degree including three courses in English or in Afrikaans and the remaining courses predominantly in the humanities; and an audition with a member of the Speech and Drama Department.

Curriculum: One year.

Diploma in Play Production (Natal)

Admission requirement: A Bachelor's degree including Speech and Drama as a major subject.

Curriculum: One year of full-time study or two years of part time-study.

Diploma in Dramatic Art and Theatrical Art (Orange Free State)

Admission requirement: A Senior Certificate.

Curriculum: Three years of full-time study. The curriculum is the same as that for the degree of B.A. (Dramatic Art and Theatrical Art).

University Diploma in Speech and Drama (Potchefstroom)

Admission requirement: A Senior Certificate.

Curriculum: Three years of full-time study. The Diploma may be obtained either in Afrikaans or in Afrikaans and English. Two of the following courses are major subjects: Speech and Interpretation III, Theatrical Art III, Dramatic Art III.

University Diploma in Theatrical Art (Potchefstroom)

Admission requirements: An approved Bachelor's degree with Theatrical Art as a major subject or the University Diploma in Speech and Drama or an equivalent qualification.

Curriculum: One academic year. The curriculum comprises the study of advanced Theatrical Art.

Diploma for Stage Managers (Stellenbosch)

Admission requirements: A Senior Certificate with an aggregate of at least 45 per cent.

Curriculum: Two years of full-time study. The curriculum includes the following courses: Stage Management, Afrikaans, Special English, Classical Culture.

VOCATIONAL SERVICE

Dramatic Art as a subject is purely literary, that is a theoretical course which, just like other courses, requires interest but no particular talent for acting. Speech and Theatrical Art are theoretical-practical courses for which students should, in addition to interest, possess a suitable voice and a high degree of acting talent. (Many students have slumbering talents and should not be discouraged in advance.)

Generally speaking, it is the aim of these fields of study to equip language teachers (provided they satisfy the correct subject combination requirements), actors, journalists, radio announcers and radio and television actors for their task. The theatre, for instance, offers various fields such as those of actor, director, designer, stage director, etc. In this regard, the Performing Arts Councils of the four provinces offer particular opportunities. However, training in drama does not guarantee a graduate a post in the drama world. The Councils are extremely selective and only the best can hope to be considered.

At the SABC trained persons receive further training in the art of radio work and announcing, after which they can, for example, act as announcers, programme organizers and producers, depending on their training, personality, voice, creative ability, powers of organization and general competence. Interested and talented persons are given the opportunity of taking part in radio and television dramas. As in the case of stage artists, the successful completion of the course does not guarantee a post with the SABC.

Some of these fields require specialization and universities make adequate provision for this.

Also consult Tertiary Training for particulars on the National Diploma in Performing Art.

ENGINEERING

Universities: Cape Town, Natal, Potchefstroom, Pretoria, Rand Afrikaans University, Stellenbosch, Witwatersrand

The University of the Orange Free State offers training in Engineering up to second-year level.

Degrees

Bachelor of Science in Engineering: B.Sc. (Eng.) or B.Sc. Eng. (UCT, UN, US, UW)

Bachelor of Science (Electrotechnics): B.Sc. (Electrotechnics) (PU for CHE)

Bachelor of Science (Engineering Chemistry): B.Sc. (Engineering Chemistry) (PU for CHE)

Bachelor of Engineering: B.Sc. (Eng.) (UP)

Bachelor of Engineering: B.Eng. (US)

Honours Bachelor of Science: Honns. B.Sc. (PU for CHE)
 Bachelor of Engineering (Honours): B.Sc. (Eng.) (Hons.) (UP)
 Honours Bachelor of Science including Honours Bachelor Electrotechnics: B.Sc.Hons. (RAU)
 Honours Bachelor of Science in Engineering: B.Sc.Eng.Hons. (US)
 Honours Bachelor of Engineering: B.Eng.Hons. (US)
 Master of Science in Engineering: M.Sc. (Eng.) or M.Sc.Eng. (UCT, UN, UW)
 Master of Science: M.Sc. (PU for CHE)
 Master of Engineering: M.Sc. (Eng.) (UP) or M.Eng. (US)
 Master of Industrial Administration: M.Ind.Admin. (UCT)
 Master of Science in Applied Science: M.Sc. (Appl.Sc.) (UCT)
 Doctor of Philosophy: Ph.D. (UCT, UN, UW)
 Doctor of Philosophy (Engineering): Ph.D. (Eng.) (US)
 Doctor of Science in Engineering: D.Sc. (Eng.) or D.Sc. Eng. (UCT, UN, UW)
 Doctor of Science: D.Sc. (PU for CHE)
 Doctor of Engineering: D.Sc. (Eng.) (UP) or D.Eng. (US, UW)

Diplomas

Diploma in Engineering (UCT, UN)
 Diploma in Industrial Administration (UCT)
 Diploma in Mining (UP)
 Graduate Diploma in Engineering (UW)
 Post-graduate Diplomas in Engineering
 - Post-graduate Diplomas in Mechanical Engineering and
 - Post-graduate Diplomas in Electrical Engineering (US)

DEGREES

Bachelor of Science in Engineering: B.Sc. (Eng.) or B.Sc.Eng. or
Bachelor of Engineering: B.Eng. or B.Sc. (Eng.) (Cape Town, Natal, Pretoria,
 Stellenbosch, Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements:

Cape Town: Passes of at least 50 per cent in Mathematics and Physical Science on the Higher Grade. Candidates who have passed these subjects with at least 50 per cent on the Standard Grade, may be considered for admission.

Natal: Passes in Mathematics and Physical Science of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Pretoria: Candidates must obtain passes in Mathematics and Physical Science

- at least 50 per cent in the one on the Higher Grade and at least 40 per cent in the other on the Higher Grade; or

- at least 50 per cent in the one on the Higher Grade and at least 50 per cent in the other on the Standard Grade; or

- at least 40 per cent in the one on the Higher Grade and at least 60 per cent in the other on the Standard Grade; or

- at least 60 per cent in the one on the Standard Grade and at least 50 per cent in the other on the Standard Grade.

Stellenbosch: A pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade and a pass in Physical Science on the Standard Grade.

Witwatersrand: Passes in Mathematics and Physical Science on the Higher Grade: Provided that the Senate may, in exceptional circumstances, accept a pass of at least 60 per cent on the Standard Grade in either or both of these subjects.

Curriculum: Four years of full-time study except at the University of Stellenbosch, where the course is taken over five years. The University of Pretoria advises some students to do the course over five years.

At the University of Pretoria the degree course can be taken partly extra-murally and partly full-time:

- Five years if only the first academic year is taken extra-murally over two years; or
- six years if the second academic year is also taken extra-murally over two years.

The University of Stellenbosch also offers the degree of B.Sc.Eng. The degree course extends over four years of full-time study and offers the same branches as that for the B.Eng. degree.

In general engineering students study the basic sciences, Mathematics, Applied Mathematics, Physics and Chemistry during the first year and then branch off into their selected field in their second year.

All the universities which award the degree offer the following branches: Chemical Engineering, Civil Engineering, Electrical Engineering and Mechanical Engineering. The University of Pretoria offers Electrical and Electronic Engineering in lieu of Electrical Engineering.

The University of Stellenbosch offers the following options in the branch of Mechanical Engineering:

- Machine Construction
- Production option
- Refrigeration and Air Conditioning
- Aeronautical Science
- Marine option
- Automobile.

In the branch of Electrical Engineering the University of Stellenbosch offers the following options: Heavy current, Low-tension current or Marine option.

In the branch of Chemical Engineering the University of Stellenbosch offers the following options: Chemical Engineering and Extractive Metallurgy.

The University of the Witwatersrand offers the following options in the branch of Mechanical Engineering:

- Aeronautical Engineering
- Industrial Engineering
- Mechanical Engineering.

The following branches in Engineering are offered by the universities mentioned:

- Agricultural Engineering (see p. 134) - Natal, Pretoria
- Applied Geophysics - Witwatersrand
- Geological Engineering or Mining Geology - Witwatersrand
- Land Surveying (see p. 172) - Cape Town, Natal, Pretoria, Witwatersrand
- Metallurgical Engineering - Pretoria
- Metallurgy - Witwatersrand
- Mining Engineering - Pretoria, Witwatersrand
- Production Engineering - Pretoria.

Students do practical work during the long vacations.

Bachelor of Science (Electrotechnics): B.Sc. (Electrotechnics) (Potchefstroom)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade and a pass in a natural science subject, preferably Physical Science, on at least the Standard Grade.

Curriculum: Four years of full-time study. The subjects for the first year are Chemistry, Physics, Mathematics, Applied Mathematics, Descriptive Geometry, Introduction to Engineering, Work Shop Practice and Machine Drawing.

Bachelor of Science (Engineering Chemistry): B.Sc. (Engineering Chemistry) (Potchefstroom)

Admission requirements: As for the degree B.Sc. (Electrotechnics).

Curriculum: Four years of full-time study. The subjects for the first year are the same as for the degree B.Sc. (Electrotechnics).

The Potchefstroom University for CHE offers training in Industrial, Mechanical, Metallurgical, Mining and Civil Engineering up to second-year level.

Honours Bachelor of Science including Honours Bachelor Electrotechnics: B.Sc.Hons.
(Rand Afrikaans University)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Four years of full-time study. The subjects for the first year are Mathematics, Theoretical Physics, Physics, Chemistry, Engineering. The degree is equivalent to a B.Sc. degree in Electrical Engineering.

The Rand Afrikaans University offers training up to second-year level in the following Engineering fields: Industrial, Mechanical, Metallurgical, Mining and Civil Engineering.

DIPLOMAS

(a) Diploma in Engineering or

(b) Diploma in Industrial Administration (Cape Town)

Admission requirements: Admission to the Diploma will, except with the special permission of the Senate, only be open to:

(i) A graduate of the University of Cape Town, or any other recognized university;
or

(ii) non-graduates who hold suitable professional qualifications.

A Graduate Diploma in Engineering (G.D.E.) or a Graduate Diploma in Industrial Administration (Grad.Dip.Ind.Admin.) will be awarded to successful candidates admitted under (i) and a Diploma in Engineering (D.E.) or a Diploma in Industrial Administration (Dip. Ind. Admin.) to those admitted under (ii).

Curriculum: (a) The curriculum consists of courses chosen from special courses offered by the Faculty of Engineering and from other Faculties.

(b) A candidate for this Diploma may qualify by completing course work as prescribed by the Co-ordinator, Industrial Administration Programme, Department of Mechanical Engineering.

Diploma in Engineering (Natal)

Admission requirement: A candidate must hold the degree of B.Sc. (Eng.) or have been admitted to the status thereof.

Curriculum: At least one semester of study. A candidate may convert his candidature to that for the M.Sc. (Eng.), in which case he will be required to submit a dissertation in addition to completing the courses prescribed for the Diploma.

Diploma in Mining (Pretoria)

Admission requirements: A candidate must hold a Bachelor's degree in any branch of Engineering or a Bachelor's degree in Mining Geology or have been admitted to the status thereof.

Curriculum: A minimum of one year of full-time study. Before enrolment for the diploma a candidate must gain at least six months of practical experience in underground mining.

Graduate Diploma in Engineering (Witwatersrand)

Admission requirements: A candidate must hold one of the following degrees: B.Sc. (Eng.), B.Sc. Hons., B.Sc. in Town and Regional Planning, B.Sc. in Building, or have been admitted to the status thereof.

Curriculum: One year of full-time study or three years of part-time study. A candidate must complete at least nine courses.

A candidate for the M.Sc. Eng. degree who fails in the courses prescribed for the degree may be admitted as a candidate for the Diploma and his candidature shall be regarded as having commenced on the date on which he was admitted as a candidate for the M.Sc.Eng. degree.

Post-graduate Diplomas in Engineering (Stellenbosch)

Admission requirements: A student must hold an approved four-year Bachelor's degree in Engineering or other acceptable qualification and relevant experience.

Curriculum: One year of full-time study. The Post-graduate Diploma in Engineering is offered in the following branches:

- Post-graduate Diplomas in Mechanical Engineering: The Diploma may be awarded in one of the following options: Refrigeration and Air Conditioning, Machine Construction, Industrial option, Aeronautical Science, Marine option, Automobile option.

- Post-graduate Diplomas in Electrical Engineering: The Diploma may be awarded in one of the following options: Heavy current, Low-tension current, Marine option.

There is a prescribed course for each field of study.

VOCATIONAL SERVICE

Engineering is a vital branch of the Applied Sciences. Scientists are, for instance seeking basic knowledge. Their objective is to discover new principles or combinations of known principles in order to explain natural phenomena and for this they make use of Mathematics, Physics, Chemistry and so forth. Engineers, in their turn, ensure that the knowledge which the scientists give to man is applied. Although engineers are also thinkers, they are, by virtue of their profession, men and women of action.

There are various branches of engineering, but they cannot be demarcated in watertight compartments, so that activities in different fields often overlap. The rapid increase in the expertise of engineers has also given rise to many subdivisions in engineering such as aviation, shipping and nuclear engineering, as well as fields such as machine construction, refrigeration and air-conditioning and so on. More information on specific fields may be obtained from the universities concerned or from the Federation of Societies of Professional Engineers, P.O. Box 61019, Marshalltown 2107, Transvaal.

Agricultural Engineering: The mechanization of agriculture is developing very rapidly and the demand for agricultural engineers is continually on the increase.

In modern agricultural industry, the engineer is responsible for agricultural machinery; engineering aspects of soil conservation; handling, storage and processing of material; design of farm structures and the lay-out of farmyards and matters pertaining to irrigation and drainage. Most engineers usually specialize in one or more of these fields.

The major employers in this sphere are the government departments of Agricultural Technical Services and Plural Relations and Development; various agricultural co-operatives such as those for citrus and deciduous fruit, sugar and tobacco; commerce and industry dealing with agricultural products; Phoscor; concerns which manufacture agricultural implements; universities and colleges which offer tuition in this field. In the government departments, in particular, there are remarkable opportunities for the post-graduate student who wishes to tackle interesting research projects.

Chemical Engineering: The rapid industrial growth of the Republic creates opportunities for an increasing number of engineers in the chemical industry. There are job prospects for chemical engineers wherever chemical changes are carried out. Atomic installations, the manufacture of ferrous and non-ferrous metals, oil refineries and the by-product plants attached to them, the manufacture of paint, rubber, rayon, paper, acids, fertilizers, explosives, glass, soap, cement, polish, timber, plastics, pharmaceutical products and the processing of minerals - all these are encompassed in the field of the chemical engineer, who deals mainly with the designing, operation and maintenance of installations. Some of the employers in this field are firstly, all the industries concerned, but also bodies such as Iscor, Sasol, the Atomic Energy Board, CSIR, Phoscor, SABS and the government departments of Health and Water Affairs.

Civil Engineering: These engineers, who form the largest group in the country, generally speaking, deal with the planning, design, layout, construction and maintenance of projects concerned with the control and adaptation of man's physical environment in the interest of his comfort and benefit. In practice such projects deal with bridges, roads, docks, airport runways, railways, tunnels, dams, canals, sewerage and drainage systems, gas and water supplies, mine headgears and other large structures. There are many specialized sub-branches of civil engineering such as those of the structural engineer, municipal engineer, road or railway engineer, water engineer, etc. Thus there are many opportunities for specialization, insight, initiative and research.

As the Government is responsible for some of the largest projects, the largest variety of career opportunities is found in the departments of Water Affairs, Public Works, Agricultural Technical Services, Plural Relations and Development, Transport, Community Development, and the administrations of the four provinces. Civil engineers are also employed by the Railways, municipalities of large cities, the CSIR, construction companies and other private concerns, universities and colleges for advanced technical education.

In addition, the Consulting Engineers are important as employers of in particular civil, but also of other engineers. In conjunction with this, there are the opportunities of a private consulting practice as an ultimate career for graduates. Consulting Engineers are self-employed and they or their firms receive commissions from Government, provincial or municipal bodies and, to a very large extent, from industrial and other undertakings to carry out the design and to supervise the construction of projects. The South African Association of Consulting Engineers is, for example, at present making use of the services of more than 1000 professional engineers and nearly 2000 engineering aides and technicians in the field of civil engineering, and a further 400 and 600 respectively in the field of electrical, mechanical, heating and ventilation engineering. In addition approximately 600 professional engineers are principals of or partners in such consulting engineering firms.

Electrical Engineering: This field is mainly concerned with aspects such as power supply, distribution of power, control systems and computers, telecommunication, electronics and instrumentation. Normally the work comprises sub-divisions such as planning, research, design, production, testing, construction and distribution, and maintenance.

Bodies which make use of the services of an electrical engineer are for example the Railways, Eskom, municipalities, Posts and Telecommunications, industries, factories, the radio, private concerns, the SABS and mines. Lecturing posts can also be obtained at universities or colleges which provide training for engineering technicians. Electrical engineers are also employed by various government departments and the nature of their duties vary from one department to another. The departments are those of Public Works, Agricultural Technical Services, Transport, Plural Relations and Development, Mining, Community Development, Labour and the administrations of the four provinces.

Industrial/Production Engineering: This is a comparatively new branch and the function of the industrial engineer is basically that of ensuring the maximal utilization of the production factors by planning, arrangement of equipment, scheduling of work, control over labour, production, material, quality and cost. He combines knowledge of engineering (mainly mechanical) with the principles of management and business economics.

His occupational field lies mainly in industries such as the Railways, mines, Iscor, Sasol, Phoscor, the IDC; large factories; municipalities; lecturing at a university and research.

Mechanical Engineering: This field of study includes the design, construction, marketing, installation and maintenance of mechanical equipment, such as machine tools, equipment for handling material, automatic production line machinery for factories, mining plants, road and agricultural machinery, refrigeration and air conditioning plants, boilers, pumps, air compressors, turbines, oil and gas engines, automobiles, aircraft, ships and railway locomotives. These engineers also plan new factory layouts.

The mechanical engineer therefore renders a particular service to the community which can justly be considered as the cornerstone of modern technology. The processing, handling and distribution of a product is directly dependent upon the application of the principles of mechanical engineering science.

The best career possibilities are consequently found with the Railways; factories and other large industrial undertakings such as the mines, Iscor, Sasol etc.; the CSIR; marine and aviation companies; and large municipalities. Private practice as a consulting engineer or a lecturing post at a university or technical college is also possible. The Public Service offers very attractive careers in this field in the Departments of Public Works, Plural Relations and Development, Agricultural Technical Services, Labour, Mines, Water Affairs and the administrations of the four provinces. The very wide scope for research constitutes a definite challenge.

Metallurgical Engineering: This type of engineer has a two-fold field, to wit 1) the extraction or recovery of a metal from its original ore and complex compounds, and 2) the study of the physical properties thereof with a view to processing into useful products. The functions of the metallurgist embrace all aspects of metal and alloy technology - from the time the metalliferous minerals have been mined and made available for treatment, to the finished product used by mankind.

The metal manufacturing industry is showing tremendous progress and consequently offers opportunities to an increasing number of engineers, particularly as far as research is concerned. The following are only a few of the bodies with whom job opportunities exist: Iscor, the CSIR, the SABS, all mines engaged in the extraction of metals, the iron and steel industry, lecturing posts at universities and colleges for advanced technical education.

Also see Metallurgy, p. 114.

Mining Engineering: Although mining in this country is usually connected with gold, diamonds and coal, many other minerals such as iron, chrome, manganese, copper and asbestos ores are mined here. The mining engineer is concerned with all the different types of mining - from the stage when he and the geologists are looking for new deposits right through to the time when a new mine has been established and is producing metals or other minerals for sale. He is concerned with both the scientific and the practical side of the mineral industry from the exploration stage to the marketable product and may even find himself concerned with problems of the establishment of towns, roads, railway junctions, power and water supplies. Many mining engineers hold executive and managerial posts, particularly where supervision and safety are concerned. A qualified mining engineer can be appointed in the Department of Mines as an inspector of mines.

Also consult Tertiary Training for particulars on the training of engineering technicians.

FINE ARTS

Universities: Cape Town, Natal, Orange Free State, Potchefstroom, Pretoria, Rhodes, South Africa, Stellenbosch, Witwatersrand

Degrees

Bachelor of Arts (Art): B.A. (Art) (UCT)
 Bachelor of Arts in Fine Art: B.A. (UCT)
 Bachelor of Arts in Fine Arts: B.A. (F.A.) or B.A. (Fine Arts) (UN, UOFS, PU for CHE, Unisa, US, UW)
 Bachelor in Fine Arts: B.A. (F.A.) (UP)
 Bachelor of Arts (Education) (Art): B.A. (Ed.) (Art) (UP)
 Bachelor of Fine Art: B.Fine Art (Rhodes)
 Bachelor of Arts in Fine Arts (Educationis): B.A. in Fine Arts (Ed.) (US)
 Honours Bachelor of Arts in Fine Arts: B.A. in Fine Arts Hons. (US)
 Master of Arts in Fine Art: M.A. (UCT)
 Master of Arts in Fine Arts: M.A. Fine Arts (UN, UOFS, Unisa, US, UW)
 Master of Arts: M.A. (PU for CHE)
 Master in Fine Arts: M.A. (F.A.) (UP)
 Master of Fine Art: M.Fine Art (Rhodes)
 Doctor of Philosophy: Ph.D. (UCT, UN, Rhodes, UW)
 Doctor Philosophiae in Fine Arts: D.Phil. (Fine Arts) (UOFS)
 Doctor Philosophiae: D.Phil. (PU for CHE, UP, US)
 Doctor of Literature: D.Litt. (UN, UW)

Diplomas

Diploma in Fine Art (UCT, Rhodes)
Diploma in the Fine Arts (UOFS)
Diploma in Fine Arts (Graphic Design) (US)
Diploma in Graphic Design (UCT)
Advanced Diploma in Fine Art (UCT)

The following universities offer the four-year course for the Higher Diploma in Education with Art as one of the specializations: Natal (see p.120), Orange Free State (see p.121), Potchefstroom (see p.123).

Most of the universities offer History of Art as a major subject for the ordinary B.A. degree. The Universities of Natal and the Witwatersrand offer Fine Art as a major subject for the ordinary B.A. degree. See Chapter 2.

DEGREES

Bachelor of Arts (Art): B.A. (Art) (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Four years of full-time study. The degree course is primarily for candidates intending to become teachers of art in secondary schools. The curriculum includes first and second year courses in a B.A. subject taught in schools.

Students who have successfully completed the work of the first three years are admitted in their fourth year to the courses for the Higher Diploma in Education (Post-graduate): Secondary. On completion of the fourth year courses both the degree and the diploma will be awarded.

Bachelor of Arts in Fine Art: B.A. or

Bachelor of Arts in Fine Arts: B.A. (Fine Arts) or B.A. (F.A.) (Cape Town, Natal, Orange Free State, Potchefstroom, South Africa, Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption.) Some universities require proof of practical ability in art.

Additional requirements

Witwatersrand: See p. 30.

Curriculum: The curriculum extends over four years of full-time study and includes art subjects as well as one, two or three ordinary B.A. courses. The major subjects are History of Art and one or two of the following courses: Painting, Sculpture, Fine Art (UOFS), Graphic Art (Natal), Photography (Cape Town, Natal), Interdisciplinary Studies (Cape Town), Ceramics (Natal), Design (Potchefstroom).

Bachelor in Fine Arts: B.A.(F.A.) (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass on the Higher Grade in at least two of the following subjects: Art, Biblical Studies, Biology or Physiology, Economics, Geography, History, Mathematics, Physical Science, a third language.

Art as a matriculation subject is not a requirement. A candidate must, however, take a practical test, before admission to the course, in order to determine whether he has the necessary ability to attend the courses to his advantage.

Curriculum: Four years of full-time study. During the first year students take basic art subjects, an ordinary B.A. course and History of Art I. At the beginning of their second year they choose one of the following fields and complete the prescribed courses: Information Design, Painting, Sculpture. The second major subject is History of Art IV.

Bachelor of Arts (Education) (Art): B.A. (Ed.) (Art) (Pretoria)

Admission requirements: See B.A. (F.A.).

Curriculum: Four years of full-time study. The curriculum includes three courses in each of the following subjects: History of Art, Design, Painting, Art of Drawing, Sculpture and Pedagogics; and two courses in one of the following: Afrikaans, English, French, German. In the fourth year of study students take H.D.E. teaching subjects.

Bachelor of Fine Art: B.Fine Art (Rhodes)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Candidates complete two courses in each of two ordinary B.A. subjects and all the courses in one of the following four groups: Painting, Graphic Design, Sculpture and Photographic Arts.

Bachelor of Arts in Fine Arts: B.A. in Fine Arts (Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A pass in Mathematics or Physical Science on the Standard Grade is required for the field Jewelry Design and Metal Industry Design.

Curriculum: The curriculum, which extends over four years of full-time study, comprises a selection of four fields of study, viz

- Education (Secondary)
- Graphic Design
- Jewelry Design and Metal Industry Design
- Industrial Design (Colour).

Fine Arts may be taken only in combination with the following subjects:

- Graphic Design field and Jewelry Design and Metal Industry Design field
 - . First year: Philosophy, Classical Culture, Political Philosophy.
- Education (Secondary) field
 - . First year: Afrikaans-Nederlands, English, History.

Either Political Philosophy or Classical Culture or Philosophy on a first-year basis is a prerequisite for admission to the third year of study in all the fields except the teaching field.

Students may be required to do approximately three weeks' practical vacation work in industry each year from the second year of study.

DIPLOMAS

Diploma in Fine Art (Cape Town, Rhodes)

Admission requirement: A Senior Certificate.

Curriculum: Four years of full-time study. The courses are similar in content to that for the Bachelor's degree in Fine Art, except for the degree courses in the ordinary B.A. subjects.

Diploma in Fine Arts (Orange Free State)

Admission requirements: A Senior Certificate. Students who did not have Art as a Std 10 subject, must take a practical test before admission, in order to determine whether they have the necessary artistic ability.

Curriculum: Three years of full-time study. The curriculum is more or less similar to that for the first three years of study for the B.A. (Fine Arts).

Diploma in Fine Arts (Graphic Design) (Stellenbosch)

Admission requirement: A Senior Certificate.

Curriculum: Three years of full-time study. The curriculum is the same as that for the first three years of study for the B.A. Fine Arts, Graphic Design field.

Three weeks' practical vacation work is required annually from the second year of study.

Diploma in Graphic Design (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Candidates who hold a Senior Certificate or who show special aptitude for art, may with the permission of the Director of the Michaelis School of Fine Art be accepted for this course.

Curriculum: Four years of full-time study. Students take one of the following subjects as a major subject: Typographic Design and Layout, Illustration, Photography, Print-making, Audio-Visual Media.

Advanced Diploma in Fine Art (Cape Town)

Admission requirements: B.A. in Fine Art or B.A. (Art) or a Diploma in Fine Art or a Diploma in Graphic Design.

Curriculum: One year of full-time study. The purpose of this course is to allow practical research to be conducted by persons who wish to pursue investigations into the practical creative aspects of Fine Art.

VOCATIONAL SERVICE

Academic qualifications in fine arts can be obtained in one of two ways. Firstly, History of Art can be taken as one major for a B.A. degree, or it can be taken in a meaningful combination with other subjects, as subsidiary subject at first or second-year level. Such a course offers preparation for careers in, for example, research or lecturing or in art and cultural historical museums (as curator or educational officer), at universities, the HSRC, art schools; in the press as art critic or journalist responsible for an art column; the SABC for radio and television broadcasts (one of the many programmes on art); in commercial art as liaison officer between the artist and the public and in the foreign service as cultural attaché. This subject is also extremely valuable for the spiritual and cultural development of every person.

Secondly, the student may apply himself to more practical and specialized fields by taking a B.A. (F.A.) degree. In this case History of Art can also be taken as a major together with other art subjects. The field of specialization will largely determine the career to be pursued. There are many opportunities for art historians, painters, sculptors and designers, *inter alia*, as free-lance professional artists, as teachers of art or lecturers, as art and museum scientists, as designers in industry (graphic, textile, metal, etc.), in advertising or press companies and government bodies, and as illustrators or typographers with publishers. The four provincial Performing Arts Councils employ artists as designers and manufacturers of various requisites.

Art is communication and new fields of labour are being opened up for academically trained creative and designing artists (men as well as women) in a changing world. The largest employers are merchants and industrialists who have become aware of the value of artists in industry. Because of the rapid industrial growth in our country, the demand for trained artists will increase steadily. Owing to the good offices of the Design Institute (SABS), bursaries are made available to promising students and competitions are organized. The aim with this is not only to promote good design, but also to draw attention to the creative designing abilities of South African artists.

Also consult Tertiary Training for particulars on the National Diploma in Art and Design.

FOOD SCIENCE

University: Stellenbosch

Degrees

Bachelor of Science in Food Science: B.Sc. in Food Science
Honours Bachelor of Science in Food Science: B.Sc. in Food Science Hons.
Master of Science in Food Science: M.Sc. in Food Science
Doctor of Philosophy (Food Science): Ph.D. (Food Science)
Doctor of Science in Food Science: D.Sc. in Food Science

DEGREE

Bachelor of Science in Food Science: B.Sc. in Food Science

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes in Mathematics and Physical Science on at least the Standard Grade.

Should a student wish to take Botany and/or Zoology, he is strongly advised to offer besides Physical Science, Biology as well for the Std 10 examination.

Curriculum: Four years of full-time study. The following subjects are taken in the first year: Chemistry, Physics, Mathematics, Biology or Botany or Zoology. Subjects taken during the other three years are, inter alia, the following: Food Science, Chemistry, Biochemistry, Food Factory Machines, Microbiology (Bacteriology), Microbiology (Food Microbiology).

Students are required to devote at least two months during the summer and/or winter vacations to practical work in approved food processing factories or nutritional research institutions.

VOCATIONAL SERVICE

Although the food industry is the largest and most stable industry in the world, it must constantly keep pace with the rapid growth in the world's population. Furthermore, it is one of the industries with the greatest demand for scientists and technologists, since the supply of suitable and healthy food is a necessity for existence. South Africa also urgently needs food scientists and technologists. They play a key rôle in the modern food industry and are indispensable to the industry of the future and for the development and welfare of the entire country. The many different manufactured food products which are sold today and which save the consumer so much time and trouble as regards their preparation are the achievement of food science.

In some government departments, the SABS, the CSIR and the various Control Boards, there is an exceptional demand for properly trained persons to undertake basic and applied research on food, to investigate problems of the industry, to conduct food analysis and to engage in quality control and inspection work in order to ensure that only products of the highest quality are marketed. There are numerous opportunities in industry itself. Fruit and vegetable factories, bakeries, millers, manufacturers of cereals, dairy and canning factories, meat and fish factories, manufacturers of sweets and cold drinks, the manufacturers and distributors of machinery for food factories, packaging material and chemicals for the food industry, et cetera, all require the services of food scientists and technologists and offer them a variety of interesting and challenging opportunities in quality control, product development, manufacturing and production, technical sales and management. The Department of Agricultural Technical Services undertakes research work in connection with the preserving of foodstuffs at the Research Institute for Fruit and Food Technology in Stellenbosch, while cold storage studies on citrus and subtropical fruits are carried out at Nelspruit.

Also consult Tertiary Training for particulars on the National Diploma in Food Technology.

FORESTRY

University: Stellenbosch

Degrees

Forestry

Bachelor of Science in Forestry : B.Sc. in Forestry

Honours Bachelor of Science in Forestry: B.Sc.Hons. in Forestry

Master of Science in Forestry: M.Sc. in Forestry

Doctor of Philosophy (Forestry): Ph.D. (Forestry)

Doctor of Science in Forestry: D.Sc. in Forestry

Wood Science

Bachelor of Science in Wood Science: B.Sc. in Wood Science

Honours Bachelor of Science in Wood Science: B.Sc.Hons. in Wood Science

Master of Science in Wood Science: M.Sc. in Wood Science

Doctor of Philosophy (Wood Science): Ph.D. (Wood Science)

Doctor of Science in Wood Science: D.Sc. in Wood Science

Parks and Recreation Administration

Bachelor of Parks and Recreation Administration: B. in Parks and Recreation Administration

Nature Conservation

Hons. B.Sc. in Nature Conservation

M.Sc. in Nature Conservation

Ph.D. (Nature Conservation)

D.Sc. in Nature Conservation

DEGREES

FORESTRY

Bachelor of Science in Forestry: B.Sc. in Forestry

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics and a science subject on at least the Standard Grade. Prospective students who wish to take a course which includes Chemistry and/or Physics are strongly advised to take Physical Science for the Std 10 examination. Should a student wish to take Botany and/or Zoology at the University he is advised, besides Physical Science, to take Biology as well for the Std 10 examination.

Curriculum: Four years of full-time study. Subjects for the first year include Biology, Mathematics (Bio.), Chemistry, Physics (Bio.), Introduction to Forestry (a due performance course).

After completion of their first year students can switch to the second year of study for the B.Sc. degree in Wood Science.

In their third year of study students can select one of two fields, viz Silviculture or Silviculture - Nature Conservation.

The major subjects for the Silviculture field are Forest Management, Forest Culture and Forest Mensuration. The major subjects for the Silviculture - Nature Conservation field are Forest Management, Forest Culture and Nature Conservation.

It is possible that from 1979 students may be able to enrol for the fourth year of study for the Forest Exploitation field. The first three years are the same as that for the B.Sc. in Forestry (Silviculture). The fourth-year subjects are, *inter alia*, Forest Management, Forest Exploitation, Forest Mensuration, Transport and Road Construction, Production Costs.

Students are required to do practical work during vacations and to undertake study tours.

WOOD SCIENCE

Bachelor of Science in Wood Science: B.Sc. in Wood Science

Admission requirement: As for B.Sc. in Forestry.

Curriculum: Four years of full-time study. The first year is the same as that for the B.Sc. in Forestry.

After completion of their first year students can switch to the second year of study for the B.Sc. degree in Forestry.

Subjects for the fourth year include: Wood Technology, Wood Chemistry, Silviculture (Special), Machine Parts, Production Costs, Industrial Psychology (for Forestry), Wood Science Report.

Students are required to do practical work during vacations and to undertake study tours.

It is possible that from 1979 students may be able to enrol for the fourth year of study for the Forest Exploitation field. The first three years are the same as that for the B.Sc. in Wood Science. The subjects for the fourth year correspond more or less with the fourth year subjects of the B.Sc. in Wood Science. The subjects are, *inter alia*, Wood Technology, Machine Parts, Production Costs, Forest Exploitation, Transport and Road Construction.

PARKS AND RECREATION ADMINISTRATION

B. in Parks and Recreation Administration

Admission requirement: As for B.Sc. in Forestry.

Curriculum: Four years of full-time study. Subjects for the first year include: Biology, Mathematics (Bio.), Chemistry, Recreation Management and Planning (Major subject). Subjects for the fourth year include: Principles of Landscape Planning, Public Administration (major subject), Horticulture, Industrial Psychology (for Forestry), Landscape Architecture.

NATURE CONSERVATION

Hons. B.Sc. in Nature Conservation

Admission requirements: A B.Sc. degree with Zoology, Botany or Biology as one of the major subjects.

Curriculum: Students must pursue an approved curriculum of advanced study, prescribed individually for each student by the lecturer concerned, for at least one year and pass the examinations.

M.Sc. in Nature Conservation

Admission requirements: The degree of B.Sc. in Forestry or another approved Bachelor's degree or an Honours B.Sc. degree which has been approved by the Senate.

Curriculum: Students must pursue an approved curriculum of research and/or advanced study for at least two years (after obtaining the Bachelor's degree) or at least one year (after obtaining the Honours degree) which may include a period of study or research at another recognized place. Students are required to submit a satisfactory thesis.

VOCATIONAL SERVICE

It is important that a distinction be made between a forester and a professional forestry officer. The first-mentioned does not take a degree course, but is trained for the Diploma in Forestry at the College for Foresters at Saasveld near George in the Cape Province. A Forestry Officer, on the other hand, is someone who has obtained the four-year B.Sc. degree in Forestry from the University of Stellenbosch. His functions in the Department of Forestry are, *inter alia*, the management of State plantations and nurseries, indigenous forests, nature reserves, State Timber-conversion plants, research, guidance to the public and so forth.

The various divisions into which the Department is divided, give an indication of the nature of the work which must be done by professional forestry officers:

- The Division of Forest Management is in charge of yield regulation, extraction and transportation of sawlogs and poles, silvicultural operations, the marketing of timber, nature conservation, outdoor recreation and other matters relating to the management of the nine forestry regions;
- the Division of Forest Utilisation is in charge of all matters relating to the sawmilling industry and the utilisation and marketing of converted timber;
- the Division of Forest Research which controls and co-ordinates all departmental research in the field of forestry. Research is mainly undertaken in the fields such as silviculture, conservation forestry, wood technology, tree improvement, forest mensuration, forest entomology and forest pathology and so forth;
- the Divisions of Economics, Works and Information.

Professional officers can rise to the highest posts in the Department. As executives they are involved in duties related to economic as well as forestry requirements.

A few forestry officers are employed by large municipalities, mines, forestry and timber companies and the CSIR. There are rosy prospects for Wood Scientists in South Africa. The sawmilling industry is flourishing and considerable expansion is envisaged in the immediate future in this field as well as in the pulp and paper manufacturing industry and other spheres of wood usage. Apart from the private sector, graduates can also be appointed in the Department of Forestry, the CSIR, the SABS and other public bodies. Research on all the aspects of wood technology will, furthermore, have to be accelerated.

Parks and Recreation Administration offers persons who are fond of outdoor life an excellent future. Institutions which employ persons with these qualifications are, for instance, the Departments of Forestry and Public Works, municipalities, landscape architects, the Railways and the provincial administrations.

Also consult Tertiary Training for particulars on the Diploma in Forestry, the National Diploma in Nature Conservation and Management, and the National Diploma in Parks and Recreation Administration.

HOME ECONOMICS/DOMESTIC SCIENCE

Universities: Natal, Orange Free State, Potchefstroom, Pretoria, Stellenbosch

Degrees

Bachelor of Science in Home Economics: B.Sc. Home Econ. (UN, UOFS)
Bachelor of Science in Home Economics Education: B.Sc. Home Economics Ed. (UOFS)
Bachelor of Science (Domestic Science): B.Sc. (Dom.Sc.) (PU for CHE)
Bachelor of Science (Domestic Science) (Education): B.Sc. (Dom.Sc.Ed.) (PU for CHE)
Bachelor of Domestic Science: B.Sc. (Dom.Sc.) (UP)
Bachelor of Domestic Science (Educationis): B.Sc. (Dom.Sc.) (Ed.) (UP)
Bachelor of Home Economics: B.Home Economics (US)
Bachelor of Home Economics (Educationis): B.Home Economics (Ed.) (US)
Bachelor of Science in Home Economics (Educationis): B.Sc Home Economics (Ed.) (US)
Bachelor of Science in Home Economics (Honours): B.Sc. Home Econ. (Hons.) (UN)
Honours Bachelor of Science (Home Economics): B.Sc. (Home Econ.) (Hons.) (UOFS)
Honours Bachelor of Science: Hons. B.Sc. (PU for CHE)
Bachelor of Domestic Science (Honours): B.Sc. (Dom.Sc.) (Hons.) (UP)
Honours Bachelor of Home Economics: B.Home Economics Hons. (US)
Honours Bachelor of Science in Home Economics: B.Sc. Home Economics Hons. (US)
Master of Science in Home Economics: M.Sc. Home Econ. (UN)
Master of Science: M.Sc. (PU for CHE)
Master of Domestic Science: M.Sc. (Dom.Sc.) (UP)
Master of Home Economics: M.Home Economics (US)
Master of Science in Home Economics: M.Sc. Home Economics (US)
Doctor of Philosophy: Ph.D. (UN)
Doctor of Science: D.Sc. (PU for CHE)
Doctor of Philosophy (Home Economics): Ph.D. (Home Economics) (US)
Doctor of Science in Home Economics: D.Sc. in Home Economics (US)

Diplomas

Higher Diploma in Education (Home Economics): Secondary (UCT) See p.119.

The following universities offer the four-year course for the Higher Diploma in Education with Home Economics as one of the specializations: Natal (see p.120), Orange Free State (see p.121), Potchefstroom (see p.123), Pretoria (see p.124), Stellenbosch (see p.129), Witwatersrand (see p.131).

DEGREES

Bachelor of Science in Home Economics: B.Sc. Home Econ. (Natal)

Admission requirements: As for the B.Sc. Diet. degree. See p. 150.

Curriculum: Three years of full-time study. The subjects for the first year are the same as for the B.Sc.Diet. degree. Second and third year subjects are Clothing and Textiles, Nutrition, Home Management, Animal Science, Biochemistry, Microbiology.

Bachelor of Science in Home Economics: B.Sc. Home Econ. (Orange Free State)

Admission requirements: As for the B.Sc. degree. See p. 90.

Curriculum: Four years of full-time study. The subjects for the first year are Food Science, Clothing, Biology, Chemistry and Physics. Fourth year subjects are Food Science, Clothing, Interior and Nutritional Science.

A candidate must obtain the certificates in First Aid and Home Nursing of the SA Red Cross Association or a similar organization before the end of his/her studies.

Bachelor of Science in Home Economics Education: B.Sc. Home Economics Ed. (Orange Free State)

Admission requirements: As for the B.Sc. degree. See p.90.

Curriculum: Four years of full-time study. The curriculum for the first three years is similar to that of the degree B.Sc. Home Economics. Students take the H.D.E. course in their fourth year with Method of Teaching in Food Science and in Clothing. See p.121.

Bachelor of Science (Domestic Science): B.Sc. (Dom.Sc.) (Potchefstroom)

Admission requirements: As for the B.Sc. degree. See p. 93. It is strongly recommended that students take Physical Science for the Std 10 examination.

Curriculum: Four years of full-time study. The subjects for the first year are the following: Food Science and Nutritional Science, Clothing, Chemistry, Physics, Physiology. Students select two of the following three subjects as major subjects: Food Science IV, Nutritional Science and Therapeutic Nutrition III, Clothing IV.

Post-graduate study may be taken in either Clothing or Food Science.

Bachelor of Science (Domestic Science) (Education): B.Sc. (Dom.Sc.Ed.) (Potchefstroom)

Admission requirement: As for the degree of B.Sc. (Dom.Sc.).

Curriculum: Four years of full-time study. The curriculum is more or less similar to that of the degree of B.Sc.(Dom.Sc.) except that Food Science (Cookery), Nutritional Science and Clothing are taken only up to third-year level and the fourth year is devoted to Method of Domestic Science and to courses prescribed for the H.D.E. (Post-Graduate). See p. 123.

Bachelor of Domestic Science: B.Sc. (Dom.Sc.) (Pretoria)

Admission requirement: As for the B.Sc. degree. See p. 96.

Curriculum: Four years of full-time study. The curriculum provides for a selection between two major fields, viz (i) Clothing and Interior and (ii) Food and Nutrition.

The course in the field of Food and Nutrition is for professional purposes equivalent to the degree of B.Sc. (Dietetics).

The prescribed curriculum for the first year of study is as follows for both fields: Chemistry, Physics, Clothing and Food Science.

A candidate must obtain the certificates in First Aid and Home Nursing of the South African Red Cross Association or a similar organization before the end of her studies.

Bachelor of Science in Domestic Science (Education): B.Sc. (Dom.Sc.) (Ed.) (Pretoria)

Admission requirement: As for the B.Sc. degree. See p.96.

Curriculum: Four years of full-time study. The subjects for the first year of study are as for the degree of B.Sc. (Dom.Sc.). The curriculum provides for a selection between two major fields, viz (i) Clothing and (ii) Cookery - Nutritional Science. The curriculum also includes educational subjects such as Pedagogics III and School Organization and Administration which are taken during the fourth year of study.

Bachelor of Home Economics: B.Home Economics (General) (Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics or a science subject on the Standard Grade.

Curriculum: Four years of full-time study. The curriculum comprises, *inter alia*, the following subjects: Sociology, Home Economics, Home Management, Interior, Clothing, Food, Nutrition.

Bachelor of Home Economics (Education): B.Home Economics (Ed.) (Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics or Physical Science on the Standard Grade.

Curriculum: Four years of full-time study. The curriculum includes more or less the same subjects as for the degree of B. Home Economics, but also includes prescribed H.D.E. subjects, (see p.129) e.g. Psychology of Education, Philosophy of Education, Didactics.

Bachelor of Science in Home Economics (Educationis): B.Sc. Home Economics (Ed.)
(Stellenbosch)

Admission requirements: As for the B.Sc. degree. See p. 102.

Curriculum: Four years of full-time study. The subjects for the first year are Chemistry, Physics (Bio.), Physiology, Home Economics, Mathematics (Bio.). The curriculum comprises prescribed H.D.E. subjects (see p.129) as well as subjects such as Clothing, Food, Interior and Home Management.

VOCATIONAL SERVICE

The domestic scientist is concerned with home-making and her aim is to create a physical and social environment in which proper human relationships can be established. Consequently it is the ideal course for the girl who is orientated towards the natural as well as the social sciences and who has a wide field of interest. The training amounts to a preparation for a pleasant and promising career and at the same time it equips the future housewife with scientific knowledge. In addition, the married woman always has the opportunity of utilizing her training to the benefit of the community. The teacher of domestic science, who herself is a professional person, will also be able to render valuable service and information outside the school context. As a result of the various branches which are available, men can also enter this profession today.

The following are some of the career possibilities open to the person trained in domestic science:

- A teacher of domestic science at provincial high schools or schools under the jurisdiction of the Department of National Education; a lecturer at a training institution or university;

- a link between manufacturer and consumer in respect of domestic requirements: in the employ of an architect or a firm concerned with manufacturing clothes, food, furniture, interior decorating or fashion and designing; in the service, mainly for information, of control boards such as the Meat, Wool, Milk, Wheat, Maize, Dairy, Egg, Dry Bean and Citrus Boards;

- journalist for women's columns in periodicals, newspapers, radio, television and advertising companies or as a travelling representative;

- a research officer employed by, for example, the CSIR, SABS and the Atomic Energy Board for research into textiles, clothing, food, etc.;

- a private practice to act as fashion, interior and food consultant.

The Department of National Education employs professional officers (domestic science) mainly with a view to guidance to the public. The work comprises lectures, demonstrations, courses, exhibitions, group discussions, radio talks, articles for newspapers and journals, personal interviews, and so forth. Experimental cookery and palatability tests are also undertaken. As in many other fields, ambition and experience must be combined with further training and even post-graduate study in order to be able to advance to the highest posts.

Also consult Tertiary Training for particulars on the National Diploma in Home Economics and the National Certificate in Dressmaking and Patternmaking.

INDUSTRIAL CHEMISTRY

Universities: Potchefstroom, Witwatersrand

Degrees

Bachelor of Science (Industrial Chemistry): B.Sc. (Ind.Chem.) (PU for CHE)

Bachelor of Science in Industrial Chemistry: B.Sc. (Ind.Chem.) (UW)

Master of Science: M.Sc. (PU for CHE, UW)

Doctor of Philosophy: Ph.D. (UW)

Doctor of Science: D.Sc. (PU for CHE, UW)

DEGREES

Bachelor of Science (Industrial Chemistry): B.Sc. (Ind.Chem.) (Potchefstroom)

Admission requirements: The B.Sc. degree with Chemistry and Industrial Chemistry as major subjects. (See B.Sc. degree p. 93.)

Curriculum: A candidate must attend the University for at least one year. The degree has the same status as an Hons.B.Sc. degree.

The curriculum includes, inter alia, the following subjects: Business Economics (Special), Electrotechnics I, Advanced Physical Chemistry, Advanced Industrial Chemistry, Advanced Organic Chemistry, Kinetics.

A valid certificate in First Aid must be submitted before the degree may be awarded.

Bachelor of Science in Industrial Chemistry: B.Sc. (Ind.Chem.) (Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements: A pass in Mathematics on the Higher Grade and a pass on the Higher Grade in one of the following subjects: Biology, Geography, Physical Science, Physiology.

Curriculum: Four years of full-time study. The degree consists of 11 courses. The major courses are Applied Chemistry III and Chemistry III. Other courses are, inter alia, Mathematics I and II, and Physics I.

A student must spend at least six weeks in either the second or the third year of study, during the vacation, doing practical work in approved industrial chemical laboratories.

VOCATIONAL SERVICE

While the work of the chemical engineer is concentrated mainly on the design and construction of chemical equipment and factories, the industrial chemist devotes most of his attention to chemical materials, the chemical processes themselves, control of production and the development of new processes.

There is currently a considerable demand for industrial chemists and one can expect that the development in the field of industry will increase this demand. Graduates are employed, for instance, for laboratory work, control of production units, technical services, marketing, et cetera. Persons with suitable personality characteristics can even advance to senior managerial posts. Some of the potential employers are the CSIR, the SABS, the Fuel Research Institute, the National Institute for Metallurgy, the Atomic Energy Board, the Railways, mines and industries involved in the manufacture of paint, petroleum products, beauty preparations, paper, ceramics, artificial soap, fertilizers, plastic materials, food products and cement.

LANDSCAPE ARCHITECTURE

University: Pretoria

Degrees

Bachelor of Landscape Architecture: B.L.

Master of Landscape Architecture: M.L.

Doctor of Landscape Architecture: D.L.

DEGREE

Bachelor of Landscape Architecture: B.L.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, as well as a pass in Physical Science on the Higher Grade or at least 40 per cent on the Standard Grade.

Curriculum: The curriculum extends over four years. A candidate must devote himself full-time to the study for the degree during the first three years, while he must be employed full-time with a landscape architect or related industry during his fourth year of study.

Candidates are advised to gain practical experience in the employment of a landscape architect or related industry during the university vacations of the first three years of study.

The curriculum comprises, *inter alia*, the following courses: Landscape Architecture IV, History of Environment, Horticulture, Parks and Recreational Planning, Town Planning, Botany, Public Administration.

VOCATIONAL SERVICE

Landscape Architecture includes planning and making recommendations in respect of regions or areas in order to render these as effective and attractive as possible. The work implies close co-operation with engineers, municipal officials, horticulturists and others. It also offers opportunities for specialization in the planning and laying out of, for example, parks and playgrounds, school and university grounds, business centres, roads and so forth.

The largest employers are the provincial administrations and municipalities. Private practice offers remarkable opportunities, since many bodies which require these services do not employ an architect on a full-time basis.

LAND SURVEYING

Universities: Cape Town, Natal, Pretoria, Witwatersrand

Degrees

Bachelor of Science in Land Surveying: B.Sc. (Survey.) (UCT) or B.Sc.Sur. (UN)

Bachelor of Land Surveying: B.Sc. (Land Surveying) (UP)

Bachelor of Science in Engineering: B.Sc. (Eng.) (UW)

Master of Science in Engineering: M.Sc. (Eng.) (UCT, UW)

Master of Science in Land Surveying: M.Sc.Sur. (UN)

Master of Land Surveying: M.Sc. (Land Surveying) (UP)

Doctor of Philosophy: Ph.D. (UCT, UN, UW)

Doctor of Science in Engineering: D.Sc. (Eng.) (UCT, UW)

Doctor of Science in Land Surveying: D.Sc.Sur. (UN)

Doctor of Land Surveying: D.Sc. (Land Surveying) (UP)

Doctor of Engineering: D.Eng. (UW)

DEGREES

Bachelor of Science in Land Surveying: B.Sc. (Survey.) or B.Sc.Sur. or

Bachelor of Land Surveying: B.Sc. (Land Surveying) or

Bachelor of Science in Engineering: B.Sc. (Eng.)

(All the above-mentioned universities)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Cape Town: Passes of at least 50 per cent in Mathematics and Physical Science on the Higher Grade. Candidates who have passed these subjects with at least 50 per cent on the Standard Grade may be considered for admission.

Natal: Passes in Mathematics and Physical Science of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Pretoria: As for the B.Sc. (Eng.) degree. See p. 156.

Witwatersrand: Passes in Mathematics and Physical Science on the Higher Grade; Provided that the Senate may, in exceptional circumstances, accept a pass of at least 60 per cent on the Standard Grade in either or both of these subjects.

Curriculum: Four years of full-time study. The curriculum includes, inter alia, the following subjects: Land Surveying or Surveying, Town Planning, Physics, Mathematics, Cartography and/or Map Projections, Photogrammetry (Cape Town, Pretoria, Witwatersrand), Astronomy (Cape Town, Pretoria).

Students are required to do practical surveying under the supervision of a land surveyor during the university vacations.

The degree in Land Surveying is recognized by the Board for the Recognition of Land Surveyors' Examinations as the theoretical qualification required in terms of the Land Survey Act, 1927 (Act No. 9 of 1927 as amended). Graduates have to undergo practical training for a prescribed period under supervision of a registered land surveyor before they are eligible for registration as a land surveyor.

VOCATIONAL SERVICE

The notion that a land surveyor is someone one sees on the side of a road peering through an instrument or riding in a vehicle loaded with coloured poles is definitely no longer representative of the activities this profession entails. Although he is compelled to spend much of his time in the open, today, with the aid of aerial photographs and electronic or optical surveying techniques his work is transferred to an office, there to be completed by means of modern methods.

In the Public Service the duties of land surveyors differ from one department to another. These departments are those of Agricultural Credit and Land Tenure (divisions cadastral surveys, control surveys and national mapping), Community Development, Plural Relations and Development, Water Affairs and Transport. There are also job opportunities for land surveyors in the Railways, municipalities of large cities, Escom, the Rand Water Board, the mines, the CSIR and universities. After gaining wide experience, a land surveyor can go into private practice, usually in partnership with others.

In the Republic, where the process of division and subdivision, the planning of new cities, the building of roads etc., will be in progress for a long time to come, the occupational prospects for land surveyors are virtually unlimited.

Also consult Tertiary Training for particulars on the National Diploma for Technicians which may be obtained in various fields of surveying and calculation.

LAW

Universities: All the universities

Degrees

Baccalaureus Procuratoris: B.Proc. (All the universities except US)
Bachelor of Law or Baccalaureus Juris: B.Iur. (UOFS, UP, Unisa) or B.Juris (UPE)
or B.Jur. (PU for CHE) or B.Iuris (RAU)
Baccalaureus Legum Civilium: B.L.C. (UP)
Bachelor of Laws or Baccalaureus Legum: LL.B. (All the universities)
Master of Laws or Magister Legum: LL.M. (All the universities except UOFS)
Doctor of Laws or Doctor Legum: LL.D. (All the universities)
Doctor of Philosophy: Ph.D. (UCT, UN, Rhodes, UW)

Diplomas and Certificate

Natal Public Service Law Certificate: N.P.S.L.C. (UN)
Diploma in Law for Civil Servants (UOFS)
Public Service Law Diploma (UPE)
Law Diploma for Civil Servants (PU for CHE)
Senior Law Diploma for Civil Servants (PU for CHE)
Public Service Law Examination (UP, Unisa)
Public Service Senior Law Examination (UP, Unisa)
Higher Diploma in Tax Law: H.Dip. Tax Law (UW)

DEGREES

Baccalaureus Procuratoris: B.Proc. (All the universities except Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Pretoria: A pass on the Higher Grade in at least two of the following subjects: Accountancy, Biblical Studies, Biology or Physiology, Economics, Geography, History, Mathematics, Physical Science, a third language.

Rand Afrikaans University: A pass of at least 40 per cent in Latin on the Higher Grade or a pass in a special course in Latin at the University.

Rhodes: A pass in Latin on the Higher or Standard Grade.

Witwatersrand: Passes on the Higher Grade in two of the following subjects: Afrikaans, Bantu Languages, Biology, English, French, Geography, German, Hebrew, History, Latin, Mathematics, Physical Science, Physiology.

Curriculum: Four years of full-time study or four or five years of part-time study.

Candidates who passed Afrikaans on the Higher Grade are required to take either English I or English Special and those who passed English on the Higher Grade must take Afrikaans or Afrikaans en Nederlands I. The curriculum also includes, *inter alia*, the following subjects: Roman Law, Criminal Law, Criminal Procedure, Mercantile Law or Commercial Law, Evidence or Law of Evidence, Civil Procedure, Constitutional and Administrative Law and two or three non-legal courses, e.g. Economics, Political Science, History, Psychology, Accounting.

No student will be allowed to take Roman Law I unless he has passed Std 10 Latin or is exempt from this requirement by virtue of another examination.

This degree replaces the Attorneys' Diploma, the Natal Law Certificate and the Diploma in Law and grants admission to the LL.B. degree.

Bachelor of Law: B.Iur. or B.Iuris or B.Jur. or B.Juris (Orange Free State, Port Elizabeth, Potchefstroom, Pretoria, Rand Afrikaans University, South Africa)

Admission requirements: As for the B.Proc.degree.

Curriculum: Three years of full-time study or four years of part-time study.

The University of the Orange Free State offers three fields of study, viz: Academic field; Public Service field for which Latin is not compulsory; Commercial field.

Potchefstroom University for CHE also offers three curricula, viz (i) for Civil Servants for which Latin is not compulsory; (ii) with supplementary Arts subjects; (iii) with supplementary Economic subjects.

The University of Port Elizabeth also offers three curricula.

All the curricula include the following subjects: Private Law (except Pretoria), Mercantile Law, Roman Law or Roman-Dutch Law (Pretoria), Law of Evidence, Civil Procedure.

No student will be allowed to take Roman Law I unless he has passed Standard 10 Latin or is exempt from this requirement by virtue of another examination.

Baccalaureus Legum Civilium: B.L.C. (Pretoria)

Admission requirements: As for the B.A. degree. See p. 18.

Curriculum: Three years of full-time study. The curriculum includes 14 courses. They are as follows: Afrikaans I, English IA or B, Roman Law A, Roman-Dutch Law III, Mercantile Law III, History of Law, Interpretation of Statutes, Philosophy of Law, Latin and two courses in a non-legal subject such as German, Criminology, Sociology, Political Science.

Candidates who have not passed Standard 10 Latin must take Preliminary Latin in their first year and Latin IA in their second year.

Baccalaureus Legum: LL.B (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional requirements are similar to that for the B.A. degree. See p.18.

Curriculum: Five years. May be shortened by a maximum period of three years if a candidate holds a Bachelor's degree which includes the prescribed LL.B. courses. The curriculum includes, *inter alia*, the following courses: Roman-Dutch Law V, Mercantile Law IV, Civil Procedure, Criminal Law II, Constitutional Law, Bantu Law, Law of Evidence.

The curriculum for the first three years of study for the LL.B. degree is similar to that for the B.L.C. degree.

Baccalaureus Legum: LL.B. or

Bachelor of Laws: LL.B. (All the universities except Pretoria)

Admission requirement: A Bachelor's degree, or a B.Proc. or B.Iur. degree.

Curriculum: Three years of full-time study or two years of full-time study after a Bachelor's degree which included the required Law subjects in the curriculum.

At the University of South Africa the degree course extends over at least four years. By virtue of previous study a student may be exempted from twelve courses.

DIPLOMAS

Natal Public Service Law Certificate: N.P.S.L.C. (Natal)

Admission requirement: A degree or a Senior Certificate.

Curriculum: The Certificate may be taken by members of the Public Service in three years.

The Certificate has been recognized by the Public Service Commission as equivalent to the Public Service Law Examination.

Diploma in Law for Civil Servants (Orange Free State) or

Public Service Law Diploma (Port Elizabeth) or

Law Diploma for Civil Servants (Potchefstroom)

Admission requirements: A Senior Certificate or a certificate of conditional exemption issued to candidates from foreign countries.

Curriculum: Three years of full-time study or four years of part-time study.

These Diplomas have been recognized by the Board for the Recognition of Examinations in Law as equivalent to or higher than the Public Service Law Examination.

Senior Law Diploma for Civil Servants (Potchefstroom)

Admission requirements: Law Diploma for Civil Servants or the degree of B.Juris for Civil Servants or a degree or diploma which has been certified by the Board for the Recognition of Examinations in Law as equivalent.

Curriculum: Two years.

The Diploma has been recognized by the Board for the Recognition of Examinations in Law as equivalent to or higher than the Public Service Senior Law Examination.

Public Service Law Examination (Pretoria, South Africa)

Admission requirements: A Senior Certificate or a certificate of full or conditional exemption from matriculation issued to students from foreign countries.

Curriculum: Three years.

Public Service Senior Law Examination (Pretoria, South Africa)

Admission requirement: A student must have passed the Public Service Law Examination or another equivalent examination.

Curriculum: Two years.

Higher Diploma in Tax Law: H.Dip. Tax Law (Witwatersrand)

Admission requirements: A candidate must hold the LL.B. or the B.Proc. degree or an approved academic or professional qualification or be an attorney.

Curriculum: Two years of part-time study.

VOCATIONAL SERVICE

Broadly speaking, the legal profession in the RSA covers the professions of advocates, attorneys, legal advisers and various fields in the Public Service. However, it would be to a candidate's advantage to determine the usefulness of specific legal qualifications.

- Advocates have two main functions: to conduct criminal and civil cases in the Supreme Court or magistrates' courts; and to give opinions on legal problems. Their professional work comes to them from attorneys who 'brief' them, for no member of the public can go direct to an advocate. Normally judges are appointed from the ranks of senior advocates. Prospective advocates do not serve articles nor have they any other professional examination to pass. They have only to obtain an LL.B. degree after having taken a first degree which included the prescribed LL.B. courses. (For the LL.B. degree at least one course in English, Afrikaans and Latin is a requirement.)

- Attorneys deal with members of the public, represent and act for clients, appear in magistrates' courts, but not in the Supreme Court. Although they may concern themselves with various matters, there is a tendency among attorneys to specialize in some direction or other. Most of them practise in private or in partnership with others. By additional examinations they can also qualify as notaries and conveyancers. Thus a person need not necessarily be a good public speaker or like to appear in court in order to be a successful attorney. Many attorneys who have advanced to the top of their profession rarely appear in court.

In contrast with the advocate, a prospective attorney must, in addition to the legal qualification (B.Proc. or LL.B.), also article for 2 years with a practising attorney and subsequently pass a professional practical examination. As from 1979 the aforementioned two degrees are the only degrees acknowledged for admission as attorneys. (Std 10 Latin or a special course in Latin at a university is a requirement for B.Proc.)

Nobody can practise simultaneously as an advocate and as an attorney. However, it is possible for a person with appropriate qualifications to switch from one branch to the other.

- Law adviser: A person who does not wish to practise as an advocate or attorney or does not want to appear in court can possibly occupy one of the large number of posts open to legal advisers. In addition to those in Public Service, legal advisers are usually attached to large undertakings. All these institutions will, however, insist on the best possible qualifications and persons interested in this field must accept the fact that an LL.B. degree will be a minimum requirement. A double qualification, of which one component is a degree in law, will be of great value.

- In the Public Service: In the RSA, as elsewhere in the world, the constitutional authority is divided into the legislative (the Parliament), executive (the public service) and the judicial authority (the courts). The Department of Justice is responsible for exercising the judicial authority and for this purpose there are magistrates' courts, regional courts and the various divisions of the Supreme Court.

In the latter case a judge presides as judicial officer and in the other two cases a magistrate or regional magistrate is the judicial officer.

• Magistrates and Legal Assistants (Public Prosecutors): Magistrates have two main functions, viz the judicial function which is performed in court, and that of district administration which is performed in an office. The magistrate's court must prosecute as well as try, thus the magistrate is assisted by a prosecutor (legal assistant). The primary functions of the public prosecutor are to act on behalf of the attorney-general in all criminal cases. His complex duties provide the required background and training for subsequent appointment to the bench (as magistrate). Magistrates and legal assistants must have legal qualifications. The minimum requirement for a legal assistant is the Public Service Law Examination and this is also the minimum requirement for promotion to magistrate.

Other higher qualifications that are accepted are the Senior Public Service Law Examination and the B.Iuris, B.Proc. and LL.B. degrees. Candidates can, after leaving school, first obtain an appropriate qualification in law and then enter the Public Service, where they are immediately appointed as legal assistants. In the second place they can, directly after leaving school, be appointed in a magistrate's office, in which case they perform general clerical duties while they continue their studies part-time.

It is important to remember that the Public Service Law Examination, the Senior Public Service Law Examination and a B.Iuris degree can be obtained without any requirement in respect of Latin. (This B.Iuris degree is offered by UP, PU for CHE, UOFS, UPE and RAU.)

• State Law Adviser: Law advisers are appointed from the ranks of state advocates attached to the Attorneys-General Division with duties such as the framing of laws for parliament, the provision of legal advice to all government departments, the checking of regulations, ordinances etc. Some are attached to the different provincial administrations. The holder of a bachelor's degree plus an LL.B. degree can be considered for appointment and can attain the rank of Chief State Law Adviser.

• State Advocate: The Department of Justice offers an interesting and challenging career as state advocate to persons who have obtained an LL.B. degree. These officers must look after the interests of the State in the statutory field and are attached to the Division of the Attorneys-General. There is an attorney-general attached to each Provincial Division of the Supreme Court. The state advocate who renders meritorious work can attain the position of Senior State Advocate, Deputy Attorney-General and Attorney-General.

• State Attorney: The State Attorney's Division of the Department of Justice functions like an ordinary firm of attorneys, except that its clients are government bodies and not private individuals. The main function of the state attorney is to protect the interests of the State by acting on behalf of all government departments and administrations in civil cases and on behalf of officials arraigned in their official capacity. State attorneys may obtain their legal qualifications in the same way as attorneys in private practice. However, posts for serving articles are limited in the Department and sometimes candidates have to await their turn.

• Bantu Affairs Commissioner: This is the person who must explain government policy to the Black population groups, settle their legal disputes, hear complaints and give advice.

In this capacity the Bantu Affairs Commissioner is in a position of particular trust and heavy responsibilities rest on him. The minimum requirement for appointment as an Assistant Bantu Affairs Commissioner is the B.Iuris degree or the Public Service Examination in Law. The Department of Plural Relations and Development provides ample opportunities for employees to obtain these qualifications on a part-time or full-time basis of study. For some more senior positions an LL.B. degree or the Senior Public Service Examination in Law is required. Candidates can ultimately progress to the rank of Special Grade Chief Bantu Affairs Commissioner, while higher qualifications are recognized for salary purposes and achievement is rewarded according to merit.

• Master of the Supreme Court: The task of the Master's section of the Department of Justice or, indeed, the Master of the Supreme Court, is to guard against malpractices which aim at depriving legatees, heirs and creditors of their just dues. The work is highly specialized, responsible and of a confidential nature. Special training courses for officers are offered by the Department. However, legal qualifications are a requirement for advancement to higher ranks such as Assistant Master of the Supreme Court, Master and Chief Master of the Supreme Court.

• Foreign Service Officer (Diplomat) See p.36.

For more information in connection with training, conditions of service and so forth, prospective jurists are referred to the Association of Law Societies of the Republic of South Africa, P.O. Box 1428, Pretoria 0001; the Department of Justice or the Public Service Commission.

LIBRARIANSHIP/LIBRARY SCIENCE

Universities: Cape Town, Natal, Orange Free State, Potchefstroom, Pretoria, Rand Afrikaans University, Rhodes, South Africa, Stellenbosch

Degrees

Bachelor of Library Science: B.Bibl. (UOFS, PU for CHE, Unisa) or
B.Library Science (UP)

Bachelor of Librarianship: B.Bibl. (RAU) or B.Librarianship (US)

Bachelor of Librarianship (Education): B.Bibl. (Ed.) (RAU) See p.125.

Bachelor of Music (Librarianship): B.Mus. (Librarianship) (UCT)

Bachelor of Library and Information Science (Honours): B.Bibl.Hons. (UN)

Honours Bachelor of Library Science: B.Bibl. (Hons.) (UOFS) or
Honns. B.Bibl. (PU for CHE) or Hons. B.Bibl. (Unisa)
Bachelor of Library Science (Honours): B. Library Science (Hons.) (UP)
Honours Bachelor of Librarianship: B.Bibl. (Hons.) (RAU) or
B.Librarianship (Hons.) (US)

Master of Library and Information Science: M.Bibl. (UN)
Master of Library Science: M.Bibl. (UOFS, PU for CHE, Unisa) or
M.Librarianship (UP)
Master of Librarianship: M.Bibl. (RAU) or
M.Librarianship (US)

Doctor of Philosophy: Ph.D. (UN)
Doctor of Library Science: D.Bibl. (UOFS, PU for CHE, Unisa)
Doctor of Philosophy: D.Phil. (UP)
Doctor Philosophiae: D.Phil. (US)

Diplomas and Certificate

Lower Diploma in Librarianship (UCT, UOFS, PU for CHE, UP, Rhodes, US)
Lower Diploma in Library Science (Unisa)
Higher Diploma in Librarianship (UCT, UOFS, PU for CHE, UP, Rhodes, US)
Higher Diploma in Library Science (UN, Unisa)
Post-graduate Diploma in Librarianship (RAU)
Final Diploma in Librarianship (UCT)
Higher Diploma in Education (Post-graduate) (School Librarianship) (PU for CHE)
See p.123.
Diploma in Specialized Education (School Librarianship) (US) See p.130.
Certificate in School Library Science (Unisa) and
Diploma in Special Education (School Library Science) (Unisa) See p.127.

The following universities offer the four-year course for the Higher Diploma in Educa-
tion with School Librarianship as one of the specializations: Orange Free State (see
p.121), Potchefstroom (see p.123), the Rand Afrikaans University (see p.126).

DEGREES

Bachelor of Library Science: B.Bibl. or

B.Librarianship or

Bachelor of Librarianship: B.Librarianship

(Orange Free State, Potchefstroom, Pretoria, Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation
Exemption).

Additional requirements

Pretoria: See p.18.

Curriculum: Four years of full-time study. The curriculum comprises fourteen courses,
of which four courses must be in Library Science. The other courses are chosen from
the ordinary courses for the B.A. degree. At the universities of the Orange Free State,
Potchefstroom and Pretoria students have to take a second compulsory major subject, viz
Information Science whereas at the University of Stellenbosch Information Science is a
subsection of Library Science.

Candidates are required to work for a prescribed period in an approved library during
the period of study to gain practical experience.

Bachelor of Librarianship: B.Bibl. (Rand Afrikaans University)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation
Exemption).

Curriculum: Four years of full-time study. The major subjects are Library Science IV and Information Science III. Three courses must be taken in each of two other subjects which will be major subjects (besides Information Science), or three courses in one other subject and two courses in each of two other subjects. A course in a language is also a requirement. Reading knowledge of a modern foreign language is required and will be tested by means of a translation test.

Candidates are required to gain a total of 80 hours' experience in an approved library in their fourth year of study.

Bachelor of Library Science: B.Bibl. (South Africa)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: At least four years. The curriculum consists of fifteen courses compiled as follows:

- Library Science IV
- One of the following:
 - . Bibliology III, Information Science II, Readership I
 - . Information Science III, Readership II, Bibliology I
 - . Readership III, Information Science II, Bibliology I
- Computer Science I or Information Systems (two modules)
- Three courses in a subject which may be taken as a major subject for the B.A., B.Com. or B.Sc. degree
- At least one course from the curricula of first Bachelor's degrees of any faculty.

Bachelor of Music (Librarianship): B.Mus. (Librarianship) (Cape Town)

Admission requirements: See B.Mus. p. 189.

Curriculum: Four years of full-time study. Students specialize in Music Librarianship for the B.Mus. degree. After completion of the first three years they are admitted in the fourth year to the course for the Higher Diploma in Librarianship. Successful students are awarded both the degree and the Diploma. See also p. 190.

Bachelor of Library and Information Science (Honours): B.Bibl.Hons. (Natal)

Admission requirements: A Bachelor's degree and a Higher Diploma in Library Science.

Curriculum: One year of full-time study or two years of part-time study. See also B.A. Hons. p.10.

DIPLOMAS

Lower Diploma in Librarianship (Cape Town, Orange Free State, Pretoria, Rhodes, Stellenbosch)

Admission requirements: A Senior Certificate. Some of the universities require a Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Two years of full-time study. During the first year the curriculum consists of three to five courses for the B.A. degree. The second year includes professional subjects like Cataloguing or Library Science (Stellenbosch), Library Practice, Book Selection.

The curriculum of the University of the Orange Free State includes Library Science, Information Science and B.A. degree courses spread over the two years.

Candidates are required to undertake three or four weeks' practical work in an approved library.

Lower Diploma in Librarianship (Potchefstroom)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Students who hold a diploma issued by the PU for CHE or another approved institution may be exempted from the first-year course of the Lower Diploma in Librarianship.

Curriculum: Two years of full-time study.

During the first year students may take any five first-year courses which are prescribed for a degree. The subjects for the second year include Library Practice, Information Systems and Services, Information Retrieval, Readership and Book Selection.

Students are required to do practical work in a recognized library for four weeks during their period of study.

Lower Diploma in Library Science (South Africa)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: At least two years. The curriculum consists of the following eight courses: Bibliology I, Library Science I, Information Science I and II, Readership I, Computer Science I or Information Systems I and at least two courses in a subject or subjects from the curricula of first Bachelor's degrees of any faculty.

Higher Diploma in Librarianship or

Higher Diploma in Library Science (All the universities except RAU)

Admission requirement: A Bachelor's degree.

Curriculum: One year of full-time study or two years of part-time study. Candidates are required to work for a specified period in an approved library during their period of study.

The curriculum comprises, inter alia, the following subjects: Cataloguing or Catalography, Library Practice, Readership, Book Selection. Potchefstroom offers exactly the same subjects as that for the second year of the Lower Diploma in Librarianship. The universities of Stellenbosch and South Africa offer more or less the same professional subjects as that for the Lower Diploma in Librarianship.

Post-graduate Diploma in Librarianship (Rand Afrikaans University)

Admission requirement: A Bachelor's degree.

Curriculum: Two semesters of full-time study or four semesters of part-time study. The contents of Library Science I - IV are spread over the period of study.

Reading knowledge of one modern foreign language is required and will be tested by a translation test.

Final Diploma in Librarianship (Cape Town)

The University of Cape Town may issue a Final Diploma in Librarianship to candidates who have completed the Higher Diploma in Librarianship, have compiled a special bibliography and have submitted evidence of two years' satisfactory library services as a full-time member of a library staff.

VOCATIONAL SERVICE

Society is dependent on knowledge for its continued existence and progress. It is therefore the task of the librarian to collect this knowledge and to make it accessible for use by means of a well-organized library. The informational function of libraries is increasing daily and this aspect is progressively accentuated in training.

Since 1930 an almost revolutionary development has taken place in the field of library science and library services in South Africa. As a result, a virtually insatiable need for trained librarians, both men and women, has arisen. The many new libraries and library services necessitate trained and even specialized labour. The shortage of trained men is relatively greater than the shortage of women.

Various types of libraries as well as the sections of a library make it possible for library officers to perform work that is suited to their aptitude or particular training. Thus a librarian can as it were visit distant towns with his library if he has a post in the Provincial Library Service. There is also the possibility of a post as organizer of school libraries for an education department. The function of such a person is to advise school libraries. There are also opportunities for work or study abroad, for example on an exchange basis to the USA. Large libraries sometimes send librarians with degrees

or diplomas overseas for specialized study. Further prospects are the different ranks which a librarian can obtain in the way of promotion, particularly with bodies such as the following: Education departments as a teacher-librarian; government and provincial libraries; municipalities; the CSIR; HSRC; the Railways; Iscor; Sasol; some mines; universities (librarian or lecturing post); archives.

There is no doubt about the continued existence of these favourable circumstances and attractive posts are continually being created. Further information on library and information science as a career can be obtained from the Honorary Public Relations Officer, South African Library Association, c/o Ferdinand Postma Library, Potchefstroom University for CHE, Potchefstroom 2520.

MATERIALS SCIENCE

University: Port Elizabeth

Degree

Baccalaureus Scientiae Materialum Technicarum: B.Sc. (Eng. Mat.)

DEGREE

Baccalaureus Scientiae Materialum Technicarum: B.Sc. (Eng. Mat.)

Admission requirements: As for the B.Sc. degree. See p. 91.

Curriculum: Four years of full-time study. The curriculum consists of eighteen courses. The subjects for the first year are Chemistry, Physics, Mathematics, Applied Mathematics or Geology. The fourth-year subjects are as follows: Cost and Management Accounting (Materials Science), Ceramic Science and Technology, Metal Science and Technology, Polymer Science and Technology, Industrial Research Project, Materials Science and Technology, Engineering Drawing.

Courses in Materials Science are prescribed for Chemical, Civil and Mechanical Engineering at the University of Cape Town.

VOCATIONAL SERVICE

Materials Science involves a study of the chemistry and physics of materials, as well as of processing techniques, i.e. the most important methods for manufacturing useful articles from materials. A considerable variety of articles are manufactured from one or other material or combination of materials. However, materials differ in respect of characteristics and potential uses. For this reason, material for every article must be carefully considered and the relationship between the structure and the characteristics of materials is stressed in the course.

Material scientists can pursue a career exclusively in the scientific field or can enter the sphere of management where they can rise to the highest managerial positions. There are job opportunities with practically all the large manufacturing industries and organizations such as the Atomic Energy Board, Armscor, the CSIR, Escom, Iscor, the National Institute for Metallurgy and Sasol. There is also the possibility of posts as lecturers at some universities and the colleges for advanced technical education.

MEDICINE

Universities: Cape Town, Natal (Non-Whites only), Orange Free State, Pretoria, Stellenbosch, Witwatersrand

Degrees

Bachelor of Medicine and Bachelor of Surgery: M.B., Ch.B. (UCT, UN, UP, US) or M.B., B.Ch. (UW) or

Bachelor of Medicine: B.M. (UOFS)

Bachelor of Science (Medicine): B.Sc. (Med.) (UCT)

Bachelor of Science (Medical Science): B.Sc. (Med.Sci.) (UN)

Bachelor of Medical Science: B.Med.Sc. (UOFS) or B.Med.Sci. (UP)

Bachelor of Science in Pathology: B.Sc. (Path.) (UW)

Bachelor of Science (Medicine) (Honours): B.Sc. (Med.) (Hons.) (UCT)

Bachelor of Medical Science (Honours): B.Med.Sc. (Hons.) (UOFS)

Bachelor of Science (Honours) in Medical Science: Hons. B.Sc. in Medical Science (US)

Master of Medicine: M.Med. (UCT, UN, UOFS, UP, US, UW)
 Master of Surgery: Ch.M. (UCT, UW)
 Master of Medical Science: M.Med.Sc. (UOFS) or M.Med.Sci. (UP)
 Master of Pharmacological Medicine: M.Pharm.Med. (UP)
 Master of Family Doctor Medical Practice: M.Prax.Med. (UP)
 Master of Military Medicine: M.Mil.Med. (UP)
 Master of Science in Medical Science: M.Sc. in Medical Science (US)
 Master of Orthopaedic Surgery: Ch.M. (Orth.) (UW)
 Master of Science in Medicine: M.Sc. (Med.) (UW)
 Master of Medicine in Forensic Pathology: M.Med. (Path.Forens.) (UW)
 Doctor of Medicine: M.D. (UCT, UN, UP, US, UW) or D.M. (UOFS)
 Doctor of Philosophy: Ph.D. (UCT, UOFS, UW)
 Doctor of Science: D.Sc. (UOFS)
 Doctor of Medical Science: D.Med.Sci. (UP)
 Doctor of Philosophy in Medicine: Ph.D. (Med.) (US, UW)
 Doctor of Philosophy in Medical Science: Ph.D. in Medical Science (US)
 Doctor of Science in Medical Science: D.Sc. in Medical Science (US)
 Doctor of Science (Medicine): D.Sc. (Med.) (US)

Undergraduate Diploma

Diploma in Orthoptics (UW)

Post-graduate Diplomas

Diploma in Community Health (US)
 Diploma in Community Medicine (UCT)
 Diploma in Industrial Medicine (UP)
 Diploma in Medical Administration (UP)
 Diploma in Medical Physics (post-M.Sc. in Physics) (UP)
 Diploma in Occupational Health (UW)
 Diploma in Occupational Medicine (US)
 Diploma in Psychological Medicine (UCT)
 Diploma in Public Health (UP, UW)
 Diploma in Tropical Medicine and Hygiene (UW)

DEGREES

Bachelor of Medicine and Bachelor of Surgery: M.B., Ch.B. or M.B., B.Ch. or
 Bachelor of Medicine: B.M. (All the above-mentioned universities)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Cape Town: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade. It is strongly recommended that Physical Science be one of the subjects for the Standard 10 examination. From 1982 onwards a pass in Physical Science on the Higher Grade or at least 50 per cent on the Standard Grade will also be a requirement.

Natal: A pass in Mathematics.

Orange Free State: A pass in Mathematics on the Standard Grade. Prospective students are advised to offer Physical Science and, if possible, Biology as well for the Std 10 examination.

Pretoria: Passes in Mathematics and Physical Science on the Higher Grade or at least 50 per cent on the Standard Grade.

Stellenbosch: A pass in Mathematics. Students are strongly advised to take Physical Science and/or Biology and/or Physiology for the Std 10 examination.

Witwatersrand: A pass in Mathematics on the Higher Grade or at least 60 per cent on the Standard Grade and

a pass on the Higher Grade in one of the following subjects if Mathematics has been passed on the Higher Grade or two of the following subjects if Mathematics has been passed on the Standard Grade: Bantu Language, Biology, French, Geography, German, Hebrew, History, Latin, Physical Science Physiology.

Curriculum: Six years of full-time study. At the Universities of Cape Town, Orange Free State, Pretoria and the Witwatersrand, the sixth year is a student-intern year or a Junior Intern Year.

All undergraduates who propose to undertake to study for the degree must register with the South African Medical and Dental Council at the beginning of the first year of study for the degree.

The curriculum for the first year comprises Chemistry, Physics, Biology or Biological Sciences, Anatomy or Human Biology (Cape Town) or Mathematics (Bio.) (Stellenbosch) or Bio-mathematics (half-course) and Medical sociology and community medicine (half-course) (Witwatersrand).

In their second year students take Anatomy and Physiology. Subjects for the senior years are, *inter alia*, Clinical Medicine and Internal Medicine and their related disciplines, Surgery, Obstetrics and Gynaecology and Psychiatry.

After obtaining the degree, candidates are required to serve one year's internship in a recognized and approved institution before they can be registered by the South African Medical and Dental Council as medical practitioners.

Bachelor of Science (Medicine): B.Sc.(Med.) (Cape Town)

Admission requirements: This degree is offered only to

- (i) students registered for the degree of M.B., Ch.B. who show an above average academic achievement in the second Professional Examination;
- (ii) holders of an approved Diploma in Radiography; and
- (iii) a limited number of selected students who are in possession of credits for approved courses in Physics, Chemistry, Biology (or Zoology) and Mathematics (or Botany) who express a wish to follow a career in medical science.

Curriculum: Three years of full-time study. The curriculum comprises eight courses, three of which must not form part of the curriculum for M.B., Ch.B.

Compulsory subjects include Zoology I or Biology, Chemistry I, Physics I, Anatomy I, Physiology I.

Optional subjects are, *inter alia*, Physiology II, Anatomy II, Radiography, Nuclear Medicine, Pathology II.

A candidate may be registered concurrently for the B.Sc.(Med.) and the M.B., Ch.B. degrees.

Bachelor of Science (Medical Science): B.Sc. (Med.Sci.) (Natal)

Admission requirement: As for the M.B., Ch.B. degree.

Curriculum: Four years of full-time study. The first three years of the curriculum are as for the degree of M.B., Ch.B.

Bachelor of Medical Science: B.Med.Sc. (Orange Free State)

Admission requirement: As for the B.M. degree.

Curriculum: Three years of full-time study. The curriculum comprises nine courses and is offered in one of the following two fields:

- Curriculum A with third-year subjects such as Biophysics and Physiology or Physiology and Pharmacology or Chemistry and Pharmacology.
- Curriculum B with Anatomy and Physiology as major subjects.

A student who passed the courses prescribed for the first year may be admitted to B.M. II after selection.

Students who passed in the B.M.II may be admitted to the third year of study for B.Med.Sc. and must then complete further courses prescribed by the University, to obtain the degree of B.Med.Sc.

Bachelor of Medical Science: B.Med.Sci. (Pretoria)

Admission requirements: As for the M.B., Ch.B. degree. Students are selected.

Curriculum: Three years of full-time study. The curriculum includes approximately twelve courses. Third-year courses are Anatomy III, Physiology II, Chemistry II and Microbiology or Pharmacology.

Bachelor of Science in Pathology: B.Sc.(Path.) (Witwatersrand)

Admission requirements: As for the B.Sc. (Nursing) degree. See p. 196.

Curriculum: Four years of full-time study. Students take two of the following courses in the fourth year of study: Chemical Pathology, Haematology, Microbiology, Immunology, Oral Pathology, Pathology.

A student who passed the courses prescribed for the first three years of study for the M.B., B.Ch. degree or the B.D.S. (Dentistry) degree may be admitted to the fourth year of study for this degree.

Master of Medicine: M.Med. (All the above-mentioned universities)

Admission requirements: The degree of M.B., Ch.B. must have been held for at least two years. Candidates must have been registered as medical practitioners for at least one year.

Curriculum: 3, 4 or 5 years according to the requirements of the department concerned.

Universities: The degree is offered as follows in the various branches by the universities mentioned:

Anaesthetics - UCT, UN, UOFS, UP, US, UW
Cardio-Thoracic Surgery - UOFS, UW
Comprehensive Medicine - US
Dermatology - UCT, UN, UOFS, UP, US
Forensic Medicine - UOFS, UP
Geriatrics - UP
Haematology - UOFS
Internal Medicine - UOFS, UP, US, UW
 Endorsement: (i) Military - UP
 (ii) Oncochemotherapy - UP
Medical Administration - UP
Medicine - UCT, UN
Neurology - UOFS, UP
Neurosurgery - UCT, UOFS, UP, US, UW
Nuclear Medicine - UCT, UW
Obstetrics and Gynaecology - UCT, UN, UOFS, UP, US, UW
Oncochemotherapy - UP
Ophthalmology - UCT, UN, UOFS, UP, US, UW
 Endorsement: Military - UP
Orthopaedic Surgery - UW
Orthopaedics - UCT, UOFS, UP, US
Otorhinolaryngology - UCT, UN, UOFS, UP, US, UW
 Endorsement: Military - UP
Paediatrics - UCT, UN, UOFS, UP, US, UW
Pathology - UN
Pathology (Anatomical) - UCT, UOFS, UP, US, UW
Pathology (Chemical) - UCT, UOFS, UP, US, UW
Pathology (Clinical) - UCT, UOFS, UP, US, UW
Pathology (Forensic) - UCT
Pathology (Haematological) - UCT, UP, US, UW
Pathology (Microbiology) - UCT, UOFS, UP, US, UW
Physical Medicine - UP
Plastic and Reconstructive Surgery - UCT, US, UW
Plastic Surgery - UOFS, UP
Preventive Medicine - UP
Psychiatry - UOFS, UP, US, UW
 Endorsement: (i) Forensic Psychiatry - UP
 (ii) Military - UP
 (iii) Paediatrics - UP

Radiology - UN
Radiodiagnosis/Diagnostic Radiology - UCT, UN, UOFS, UP, US, UW
Radiotherapy/Therapeutic Radiology - UCT, UN, UOFS, UP, US, UW
Surgery - UCT, UN, UOFS, UP, US, UW
Thoracic Surgery - UCT, UP, US
Urology - UCT, UOFS, UP, US, UW

UNDERGRADUATE DIPLOMA

Diploma in Orthoptics: Dip. Orthopt. (Witwatersrand)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade. Students must be physically fit.

Curriculum: Three years of full-time study. The curriculum comprises ten courses. They are, inter alia, General Anatomy for orthoptists, General Physiology for orthoptists, Clinical Orthoptics III, Orthoptics II and Ophthalmology for Orthoptists II.

Students are required to attend a course of clinical instruction in modern methods of orthoptic practice, in a teaching hospital or approved institution.

VOCATIONAL SERVICE

A doctor may work as a general practitioner on his own or in partnership with one or more colleagues in a private practice. In this case his work will mainly consist in diagnosing diseases and treating patients. However, most general practitioners also perform smaller operations. Often a general practitioner may find it necessary to refer a patient to a specialist for diagnosis, operation or treatment.

As a specialist in some field or other, the doctor possibly has more responsibility but then his hours of work are normally fixed and he does no visiting of patients at home. The fields of specialization offer a wide choice to the doctor. During his period of training as a specialist, the doctor works in a hospital as a clinical assistant.

The wide field of national health in general and the particular work of the specialized state institutions, hospitals and state-controlled laboratories, offer the doctor and the medical researcher extremely interesting and promising opportunities of a career in Government service. Government medical officers work in the Departments of Labour, Mines, National Education and Health. In the latter Department activities are divided into different sections, viz psychiatry, district surgeons, pathological and laboratory services, tuberculosis service, public health administration and hospital services in the self-governing Black states. Many doctors and specialists are also employed by the provincial departments of hospital services.

In South Africa there is room for many more doctors and specialists. Furthermore, medical science, including the care of the diseased, is faced in the seventies with a challenge which tests skill and ingenuity as never before. For every young man and woman in medicine who is prepared to undertake post-graduate study and research there are wonderful opportunities in this occupation.

Also consult Tertiary Training for the various paramedical fields.

METEOROLOGY

University: Pretoria

Degrees

Bachelor of Science in Meteorology: B.Sc. (Meteorology)

Bachelor of Science (Honours): B.Sc. (Hons.)

Master of Science: M.Sc.

Doctor of Science: D.Sc.

DEGREE

Bachelor of Science in Meteorology: B.Sc. (Meteorology)

Admission requirements: As for the B.Sc. degree. See p.96.

Curriculum: Four years of full-time study. The curriculum consists of the following subjects: Meteorology, Applied Mathematics, Mathematics, Physics, Mathematical Statistics, Geography or Chemistry and Programming (due performance course).

Candidates are required to undertake compulsory vacation work for periods of three weeks at the Weather Bureau in Pretoria after their second and third years of study.

VOCATIONAL SERVICE

Candidates who wish to make a success of this career should be interested in the weather and atmospheric phenomena and the causal relationship between large-scale natural phenomena. They are employed by the Department of Transport for service in the Weather Bureau. Here the meteorologist (man or woman) carries out his tasks in well equipped offices. A limited amount of research is undertaken in laboratories, while interesting practical work is done in connection with weather predictions. Meteorologists have the opportunity of choosing from eight specialized fields.

For appointment as an assistant meteorologist an appropriate bachelor's degree is a requirement, while for meteorologists a four-year B.Sc. degree in Meteorology or a B.Sc. (Hons.) degree in Meteorology is required. In-service training in weather observation, the operation of meteorological instruments and weather forecasting take place under the guidance of senior officers in the Weather Bureau.

Also see Agricultural Meteorology p. 137.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Meteorology).

MILITARY SCIENCE

University: Stellenbosch

Degrees

Bachelor of Military Science: B.Mil.

Honours Bachelor of Military Science: Hons.B.Mil.

Master of Military Science: M.Mil.

Doctor of Military Science: D.Mil.

DEGREE

Bachelor of Military Science: B.Mil.

Admission requirements: Students must

- hold a Matriculation or a Senior Certificate (Matriculation Exemption);
- for the Science field, have passed Mathematics and Physical Science on the Standard Grade, and for the Commerce field, Mathematics on the Standard Grade; and
- have been accepted by the military selection board for officer training.

Curriculum: Three years of full-time study. The B.Mil. degree can be followed in one of the following fields:

- Arts
- Science
- Commerce.

All the courses are followed at the Military Academy at Saldanha. The Military Academy is the seat of the Faculty of Military Science.

The B.Mil. subjects are the same as those offered by the University. The syllabuses have been adapted to meet the requirements of the South African Defence Force and Aeronautics, Naval Navigation, Military Law, Military History and Military Geography have been added.

VOCATIONAL SERVICE

A career as an officer in the Permanent Force (Army, Navy and Air Force) is attractive, interesting and varied. Among other things, the functions of the officers' corps include organization, administration, planning as well as training of the Citizen Force and the Commandos. The large number of posts for officers for which provision is made, offers extremely attractive prospects to any young man. Because of the many fringe benefits to personnel, it is further evident that the Permanent Force caters well for the material, physical and spiritual welfare of its members.

After successful completion of the training course, the candidate officers are appointed with the rank of lieutenant. Provided that they pass the subsequent required promotion courses, they can normally be promoted to the highest ranks. In addition the B.Mil. degree is quite acceptable in civilian life and it can lead to post-graduate study at any South African university.

Also consult Tertiary Training for particulars on officer training outside the university.

MINING GEOLOGY

University: Pretoria

Degrees

Bachelor of Science in Mining Geology: B.Sc. (Mining Geology)

Bachelor of Science (Honours): B.Sc. (Hons.)

Master of Science: M.Sc.

Doctor of Science: D.Sc.

DEGREE

Bachelor of Science in Mining Geology: B.Sc. (Mining Geology)

Admission requirements: As for the B.Sc. degree. See p. 96.

Curriculum: Four years of full-time study. First-year subjects are Geology, Chemistry, Physics, Mathematics and Engineering. The curriculum also includes, inter alia, the following subjects: Geology IV, Applied Geophysics, Mining, Extractive Metallurgy, Technical Mine Evaluation, Surveying, Applied Mathematics.

Students are required to undertake at least 20 weeks' vacation work of which 10 weeks must be devoted to Applied Geophysics and at least 5 weeks must be spent in a mine.

At the University of the Witwatersrand Mining Geology is one of the options in the branch of Geological Engineering.

VOCATIONAL SERVICE

These graduates are in the direct employ of the mining sector in the country. The most important employers are consequently the Geological Survey Branch and the Minerals Bureau of the Department of Mines. However, the largest number enter the service of the various mining companies. Also see Geology, p. 112.

MUSIC

Universities: Cape Town, Natal, Orange Free State, Port Elizabeth, Potchefstroom, Pretoria, Rhodes, South Africa, Stellenbosch, Witwatersrand

Degrees

Bachelor of Music: B.Mus. (UCT, UN, UOFS, PU for CHE, UP, Rhodes, US, UW)

Baccalaureus Musicae: B.Mus. (UPE)

Bachelor of Arts (Education) (Music): B.A. (Ed.) (Music) (UP)

Bachelor of Music (Educationis): B.Mus. (Ed.) (US)

Bachelor of Musicology: B.Mus. (Unisa)

Bachelor of Arts (Music): B.A. (Music) (UOFS)

Bachelor of Arts with Music subjects: B.A. (PU for CHE)

Bachelor's degree course in Primary Education with specialization in School Music
(US) See p.130.

Honours Bachelor of Music: B.Mus. (Hons.) (UOFS) or B.Mus. (Hons.) (UP) or
Hons. B.Mus. (PU for CHE, US)

Honours Bachelor of Musicology: Hons. B.Mus. (Unisa)

Honours Bachelor of Arts in Musicology: B.A. (Hons.) (Musicology) (UOFS)

Master of Music: M.Mus. (UCT, UN, UOFS, PU for CHE, UP, Rhodes, US, UW)

Magister Musicae: M.Mus. (UPE)

Magister Artium in Music: M.A. in Music (UPE)

Master of Musicology: M.Mus. (Unisa)

Master of Arts in Musicology: M.A. (Musicology) (UOFS)

Doctor of Music: D.Mus. (UCT, UN, UOFS, PU for CHE, UP, Rhodes, US, UW)

Doctor Musicae: D.Mus. (UPE)

Doctor of Musicology: D.Mus. (Unisa)

Doctor of Philosophy: Ph.D. (UCT, UN, Rhodes, UW)

Doctor Philosophiae in Musicology: D.Phil. (Musicology) (UOFS)

Doctor Philosophiae: D.Phil. (UP)

Diplomas

Cape Town

Teacher's Licentiate Diploma in Music

Performer's Diploma in Music

Performer's Diploma in Orchestral Playing

Performer's Diploma in Opera

Performer's Diploma in Ballet

Teacher's Diploma in Ballet See p.119.

Special Endorsement in Music for holders of the Primary Teacher's Certificate See p.119.

Natal

Performer's Diploma

Orange Free State

UOFS Teacher's Diploma in Music

UOFS Teacher's Licentiate in Music

UOFS Performer's Licentiate in Music

Port Elizabeth

Diploma in Musical Education

Diploma in Orchestral Playing

Soloist's Diploma in Music

Potchefstroom

Diploma for Church Organists

University Diploma in Musical Performance

Potchefstroom University Teacher's Licentiate in Music See p.123.

Pretoria

Diploma in Music (Church Music)

Diploma in Music (Individual Teaching)

Rhodes

Licentiate Diploma in Music: R.U.L.M.

Stellenbosch

Diploma for Church Organists

Performer's Licentiate in Music

Performer's Higher Licentiate in Music

Teachers' Licentiate in Music and

Higher Diploma in Education (Secondary - Music): H.D.E. (Secondary - Music) See p.129.

Higher Diploma in Education (Primary) (School Music) See p.130.

Witwatersrand

Licentiate in Music: L.M.

Performer's Diploma in Music: P.Dip.Mus.

The following universities offer the four-year course for the Higher Diploma in Education with Music as one of the specializations: Port Elizabeth (see p.122), Potchefstroom (see p.123), Pretoria (see p.124) and the Witwatersrand (see p.131).

DEGREES

Bachelor of Music: B.Mus. or

Baccalaureus Musicae: B.Mus.

(All the above-mentioned universities except the University of South Africa)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Cape Town: Candidates should have attained at least the equivalent of the standard required for one of the following examinations of the University of South Africa, the Associated Boards of the Royal Schools of Music and the Trinity College of Music:

B.Mus. (Performance): Grade VII

All other degree streams: Grade VI.

As far as theory is concerned, students should have acquired a standard equivalent to:

UNISA Harmony Grade V

Royal Schools Theory Grade VII

Trinity College Theory Grade VI

Natal: As for Cape Town with the exception of B.Mus. (Performance).

Orange Free State: Each candidate must satisfy the head of the department that his proficiency in the performing art as well as his musicality and general knowledge of music justifies admission. He must have obtained at least 60 per cent in Music in the Std 10 examination or attained a standard in practical music equivalent to the Grade VII Examination of the University of South Africa.

Port Elizabeth: A candidate must (i) have passed the Grade VII examination of the University of South Africa or (ii) have obtained at least 60 per cent in Music in the Std 10 examination, or (iii) satisfy the Senate, on the strength of a recommendation by the chairman of the Subject Committee for Music, that he has reached a standard in theory as well as in practical music equivalent to either (i) or (ii) above.

Potchefstroom: A candidate must satisfy the lecturers concerned in a practical test of his proficiency in the performing art and of his musicality and general knowledge of music, and he must have obtained a standard equivalent to the Advanced Certificate of the University of South Africa.

Pretoria: (i) A pass in at least two of the following subjects on the Higher Grade: Biblical Studies, Biology or Physiology, Economics, Geography, History, Mathematics, Music, Physical Science, a third language.

(ii) A candidate must satisfy the lecturers concerned in a practical test at the beginning of his first year that his proficiency in the performing art as well as his musicality and general knowledge of music justifies admission.

Stellenbosch: A pass in Music of at least 50 per cent on the Higher Grade or at least 60 per cent on the Standard Grade; or a pass in the practical major subject in the Grade VII Examination (University of South Africa), or other equivalent examination, and a standard in Harmony equivalent to that of Grade VI (University of South Africa); or a pass in an admission examination, equivalent to the aforementioned examination in the practical major subject and in Harmony.

Witwatersrand: A pass in Music on the Higher Grade. See also p.30.

Curriculum: Four years of full-time study. Each of the universities has one or more curricula, one of which the student must select:

Cape Town: Students may choose the B.Mus. (General) course or one of the following specializations: Musicology, Music Education, Performance, Composition, Librarianship.

Students who have successfully completed the first three years of the specialized Music Education course are admitted in the fourth year to the course for the Higher Diploma in Education (Post-Graduate): Secondary (see p.119). On completion both the degree and diploma are awarded.

Students specializing in Music Librarianship are admitted to the course for the Higher Diploma in Librarianship (see p. 180) after completion of the first three years. Successful students are awarded both the degree and the diploma.

Natal: A candidate must obtain credit for the two Common Courses viz Music III and Practical Study III, and the Specialist Courses in one of the five specialist fields offered viz: Music Education; Composition; Performance (i) Instrumental or (ii) Vocal; Musicology; Ethnomusicology.

Ethnomusicology includes, inter alia, Social Anthropology I, II and III.

Orange Free State: Candidates select one of four fields for the third and fourth years of study viz: Musicology, Theory of Music, School Music and the Practical field.

Port Elizabeth: Candidates select one of the following three curricula: Academic, Music Education or Performers.

Potchefstroom: Students complete one of the following four curricula. The major subjects are given in each case:

- A. History of Music IV, History of Art III
- B. History of Music IV, Practical Music IV, Practical Music Study IV
- C. Harmony IV, Counterpoint IV, Practical Music IV, Practical Music Study IV, Orchestration II, Composition II
- D. History of Music IV or Harmony IV and Counterpoint IV, Practical Music Study IV, Musical Education III, Practical Music IV.

Pretoria: Candidates select one of four fields at the beginning of their third year of study: Musicology, Composition, Performing Art, Church Music.

Rhodes: Candidates have to complete the 21 prescribed courses. The major subjects are History of Music IV, Theory of Music IV and Ensemble IV, Orchestration and Instrumentation III and Practical subject III.

Stellenbosch: Candidates select one of five fields at the beginning of their third year of study: Education - B.Mus. (Ed.), Practical field, Musicology, Church Music, Composition.

In addition the B.Mus. (Ed.) course offers two possible specializations, namely (i) Teaching of an Instrument or Singing and (ii) School Music.

Witwatersrand: Candidates have to complete the 21 prescribed courses of the curriculum. Fourth-year subjects are Conducting II (half-course); Counterpoint, Harmony and Composition IV; History of Music IV; Practical Music Study IV.

Bachelor of Arts (Education) (Music) : B.A.(Ed.) (Music) (Pretoria)

Admission requirements: As for the degree B.Mus. (Pretoria)

Curriculum: Four years of full-time study. The major subjects are History of Music III, Practical Music Study III, School Music III and Pedagogics III. Students take teaching subjects in the fourth year of study.

Bachelor of Musicology: B.Mus. (South Africa)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A student must have reached a standard in practical music equivalent to that of Grade VII of the Music Certificate Examination of the University of South Africa or that required for Music at the Matriculation or equivalent examination.

Curriculum: Four years. The curriculum consists of 12 courses. History of Music IV and Harmony and Counterpoint IV are the major subjects.

The degree shall not be awarded until the student has also obtained one of the following Licentiates at the practical musical examinations of the University: Teachers', Performers', Accompanists', Church Organists', Military Bandmasters'.

Bachelor of Arts (Music): B.A. (Music) (Orange Free State)

Admission requirement: As for B.Mus. (UOFS).

Curriculum: Three years of full-time study. The major subjects are Musicology, Harmony and Counterpoint and a B.A. subject. Students do practical music study of an instrument for the three years of the degree course as well as two courses in another B.A. subject.

Bachelor of Arts with Music subjects: B.A. (Potchefstroom)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A candidate must satisfy the Head of the Department of Music in a practical test that his standard of music is equivalent to the requirements of the Advanced Certificate of the University of South Africa.

Curriculum: Three years of full-time study. The major subjects are History of Music III, Practical Music III and a B.A. subject.

The Universities of Natal, Rhodes and Stellenbosch offer Music as a major subject for the B.A. degree.

The Universities of Potchefstroom, Pretoria, South Africa and the Witwatersrand offer History of Music as a major subject for the B.A. degree.

The University of Cape Town offers first and second qualifying B.A. courses in History and Appreciation of Music.

DIPLOMAS

Teacher's Licentiate Diploma in Music

Performer's Diploma in Music (Accompanying)

Performer's Diploma in Orchestral Playing

Performer's Diploma in Opera

(Cape Town)

Admission requirements: At least a Senior Certificate. Additional requirements are similar to those for the B.Mus. (Music Education).

Curriculum: The curriculum of the Teacher's Licentiate Diploma in Music extends over four years and that of the other diplomas each three years. Students who give evidence of exceptional proficiency, and who have, before entering upon the course, completed work accepted by the Senate as equivalent may be exempted from the first year of the curriculum concerned.

Performer's Diploma in Music (Solo)

(Cape Town)

Admission requirements: At least a Senior Certificate and in practical music the equivalent of the standard required for Grade VIII by the University of South Africa, the Associated Board of the Royal Schools of Music or the Trinity College of Music. The requirement for Theory is the same as for B.Mus.

Curriculum: Three years. Students who give evidence of exceptional proficiency, and who have, before entering upon the course, completed work accepted by the Senate as equivalent may be exempted from the first year of the curriculum.

Performer's Diploma in Ballet (Cape Town)

Admission requirement: A Senior Certificate.

Curriculum: Three years.

Students who do not hold a Senior Certificate may take the above-mentioned courses, but they will be awarded certificates instead.

Performer's Diploma (Natal)

A one-year post-graduate course for either instrument or voice.

UOFS Teacher's Diploma in Music (Orange Free State)

Admission requirements: A Senior Certificate with a pass in Music of at least 60 per cent or a standard in practical music equivalent to the Grade VII Examination of the University of South Africa.

Curriculum: Four years of full-time study. The curriculum is similar to that for the B.Mus. degree.

UOFS Teacher's Licentiate in Music (Orange Free State)

Admission requirements: A Senior Certificate. Additional requirements are similar to those for the B.Mus. degree.

Curriculum: Three years of full-time study.

UOFS Performer's Licentiate in Music (Orange Free State)

Admission requirement: The UOFS Teacher's Licentiate in Music.

Curriculum: One year.

Diploma in Musical Education (Port Elizabeth)

Admission requirements: A Senior Certificate. Additional requirements are similar to those for the B.Mus. degree.

Curriculum: Three years of full-time study. The curriculum includes Academic Subjects such as History of Music, Counterpoint, School Music and Practical Subjects such as Main Instrument and Method of the Main Instrument.

Diploma in Orchestral Playing (Port Elizabeth)

Admission requirements: The degree of B.Mus. or the Diploma in Musical Education. A candidate must satisfy the chairman of the Music Subject Committee that he has attained a sufficient standard in an approved musical instrument to attend the course with profit.

Curriculum: One year of full-time study.

Soloist's Diploma in Music (Port Elizabeth)

Admission requirements: As for the Diploma in Orchestral Playing.

Curriculum: Two years of full-time study.

Diploma for Church Organists (Potchefstroom)

Admission requirements: A Senior Certificate and the Certificate for the Intermediate Organ Examination of the University of South Africa or an equivalent standard, and the Certificate for the Advanced Examination for the piano of the University of South Africa or an equivalent standard.

Curriculum: Three years of full-time study. A student may take the Diploma for Church Organists concurrently with the course for the B.Mus. degree.

University Diploma in Musical Performance (Potchefstroom)

Admission requirement: A Senior Certificate.

Curriculum: One year. The examination includes the recital of a complete concert programme.

Diploma in Music (Individual Teaching) (Pretoria)

Admission requirements: A Senior Certificate. At the beginning of his first year a candidate must satisfy the lecturers concerned in a practical test that his proficiency in the performing art as well as his musicality and general knowledge of music justifies admission.

Curriculum: Three years of full-time study. The curriculum includes, inter alia, Harmony, Counterpoint, Practical Music Study, School Music, Methodology and History of Music.

Diploma in Music (Church Music) (Pretoria)

Admission requirements: As for the Diploma in Music (Individual Teaching).

Curriculum: Three years of full-time study.

Rhodes University Licentiate Diploma in Music: R.U.L.M.

Admission requirements: A Senior Certificate, or the Board of the Faculty must be satisfied as to the candidates suitability to take the course. The latter is considered only on the grounds of mature age and/or exceptional ability.

Curriculum: Three years of full-time study.

The Diploma may be awarded as a diploma for performers or for teachers, or for choir-masters, or for church organists.

Performer's Licentiate in Music (Stellenbosch)

Admission requirements: A Senior Certificate. Students must give evidence in an entrance examination of sufficient ability as performers. The minimum standard required is equivalent to the Grade VIII Examination of the University of South Africa.

Students must also give evidence in an entrance examination of sufficient knowledge of Harmony to be able to take the course. Exemption from this examination may be granted to students who obtained a pass in Music of at least 60 per cent in the Std 10 examination, or who have passed an examination in Harmony equivalent to the Grade VI Examination of the University of South Africa.

Curriculum: Three years.

Performer's Higher Licentiate in Music (Stellenbosch)

Admission requirements: The degree of B.Mus. or the B.A. degree with Music as one of the major subjects, or the Higher Diploma in Education (Secondary - Music), or the Teachers' Licentiate in Music, or the Performer's Licentiate in Music, or another qualification which the Senate regards as adequate.

Students must give evidence in an entrance examination of sufficient ability as performers.

Curriculum: One year.

Diploma for Church Organists (Stellenbosch)

Admission requirements: A Senior Certificate. Candidates must give evidence in an entrance examination of their proficiency in playing the organ as well as of sufficient musicality and general knowledge of music to be able to follow the course.

Curriculum: Two years.

Licentiate in Music: L.M. (Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years of full-time study. Third year courses include Class Teaching and Music Methodology I, Ensemble II, Performance III and General Music Knowledge III.

Performer's Diploma in Music: P.Dip.Mus. (Witwatersrand)

Admission requirements: Diploma in Music or a Licentiate in Music or a B.Mus. degree or a teacher's or performer's diploma or licentiate in music from a recognized institute and four years' experience in education or in public performances.

Curriculum: One year of full-time study or two years of part-time study.

VOCATIONAL SERVICE

As in many other fields, the development of the RSA causes a great demand for persons trained in music as a profession. There is a wide choice of fields of specialization for the student who began intensive training in music at an early age, who has a love for it, interest in it and the particular musical perception and aptitude as well as musical talent needed, and who is prepared to devote much time to practising.

The most important of the avenues for which a university degree or diploma qualifies a man or woman, is teaching in a studio or a school (primary and secondary), broadcasting, the provincial councils for the performing arts, the press, churches and certain library services.

On the strength of experience, reputation and post-graduate qualifications, competent musicians are continually singled out for various responsible positions, for example at training colleges, colleges for advanced technical education, universities, conservatoires, symphony orchestras, etc.

For a person who is not employed by an official institution, there is the opportunity of giving private lessons in almost any place, and to practise his profession during periods suitable to him. A member of an orchestra, for example, may also be a teacher of music.

NURSING

Universities: Cape Town, Natal, Orange Free State, Port Elizabeth, Potchefstroom, Pretoria, Rand Afrikaans University, South Africa, Stellenbosch, Witwatersrand

Degrees

Bachelor of Science (Nursing): B.Sc. (Nurs.) (UCT)
Bachelor of Social Science (qualified as a nurse): B.Soc.Sc. (UN)
Bachelor of Social Science in Nursing: B.Soc.Sc. (Nursing) (UOFS)
Baccalaureus Curationis: B.Cur. (UPE)
Bachelor of Arts and Science (Nursing): B.Art. et Scien. (Nursing) (PU for CHE)
Bachelor of Nursing: B.Cur. (UP, RAU) or B.Nursing (US)
Bachelor of Science in Nursing: B.Sc. (Nursing) (UW)
Bachelor of Arts in Nursing Science: B.A. (Cur.) (Unisa)
Baccalaureus Curationis (Institutionis et Administrationis): B.Cur. (I. et A.) (UPE)
Bachelor of Nursing (Instruction and Administration): B.Cur. (I. et A.) (UP)
Bachelor of Nursing Education and Administration: B.Cur. (Ed. et Adm.) (RAU)

Bachelor of Social Science (Honours): B.Soc.Sc. Hons. (UN)
Honours Bachelor of Social Science in Nursing: B.Soc.Sc. (Hons.) (Nursing) (UOFS)
Honours Bachelor of Nursing: B.Nursing Hons. (US)
Honours Bachelor of Arts in Nursing Science: Hons. B.A. (Cur.) (Unisa)

Master of Social Science: M.Soc.Sc. (UN)
Master of Social Science in Nursing: M.Soc.Sc. (Nursing) (UOFS)
Magister Curationis: M.Cur. (UPE)
Master of Arts and Science (Nursing): M.Art. et Scien. (Nursing) (PU for CHE)
Master of Nursing: M.Cur. (UP, RAU) or M.Nursing (US)
Master of Arts in Nursing Science: M.A. (Cur.) (Unisa)
Master of Science in Nursing: M.Sc. (Nursing) (UW)

Doctor of Philosophy: Ph.D. (UN, UW)
Doctor of Social Science: D.Soc.Sc. (UN)
Doctor of Social Science in Nursing: D.Soc.Sc. (Nursing) (UOFS)
Doctor Curationis: D.Cur. (UPE)
Doctor Philosophiae: D.Phil. (PU for CHE)
Doctor of Nursing: D.Cur. (UP, RAU)
Doctor of Literature and Philosophy: D.Litt. et Phil. (Unisa)

Diplomas and Certificate

Diploma in Nursing Education (UCT, UP, US, UW)
University Diploma in Nursing Education (UN)
Diploma in Nursing (General, Midwifery, Psychiatry) (UOFS)
Post-Basic Diplomas in Nursing (with specialization in Nursing Administration or Nursing Education or Community Health Care) (UOFS)
Diploma in Nursing Education and Community Health Nursing: Dip. N.E. (UPE)
Diploma in Nursing Administration and Community Health Nursing: Dip. N.A. (UPE)
Diploma in Nursing Education (graduated) (PU for CHE)
Diploma in Nursing Administration (UP, RAU, UW)
Diploma in Nursing Tuition (RAU)
Diploma in Nursing Administration and Community Health Nursing (RAU)
Diploma in Advanced Nursing Science (Unisa)
Certificate in Oncochemotherapy (Nursing) (UP)

DEGREES

Bachelor of Science (Nursing): B.Sc. (Nurs.) (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Standard Grade. It is recommended that Physical Science, Physics or Chemistry or Biology be a subject for the Standard 10 examination.

Every candidate must submit a certificate of medical fitness and be at least 17 years of age.

Successful applicants will assume full-time duty as student nurses at the Groote Schuur Hospital for a probationary period of two months commencing in January. At the end of the probationary period the final selection will be made for admission.

Curriculum: Four years. On successful completion of the course, the student may be registered with the SA Nursing Council as a General Nurse.

The curriculum includes the following courses: Physics, Biology, Chemistry, Bacteriology, Anatomy, Physiology, Pharmacology, Human Behaviour, Community Health Nursing, Midwifery, Nursing I, II, III and IV.

Practical nursing experience is carried out in co-operation with nurses and other staff of the Groote Schuur Hospital.

Bachelor of Social Science (qualified as a nurse): B.Soc.Sc. (Natal)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A candidate must, for purposes of practical training, be a registered student member of the nursing personnel of a hospital recognized as a training school by the SA Nursing Council.

Curriculum: Four years. The curriculum includes the following courses: Anatomy, Physiology, Special Science (Physics and Chemistry), Psychology I, Sociology I, Introduction to Psychiatric Nursing, Midwifery, Nursing I, II, III and IV plus

Psychology II and III and Sociology II or Social Anthropology I OR Sociology II and III and Psychology II or Social Anthropology I OR Social Anthropology I, II and III.

Bachelor of Social Science in Nursing: B.Soc.Sc. (Nursing) (Orange Free State)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and proof of enrolment as a student nurse at a training hospital approved by the SA Nursing Council, where all practical training will take place for the duration of the course.

Curriculum: Three years (six semesters). The major subjects are Nursing (Theory and Practical) and Psychology or Sociology. The other subjects are Biophysics Special, Chemistry Special, Physiology, Microbiology and Pharmacology.

Students who hold this degree can only be registered as a nurse with the SA Nursing Council after obtaining the degree of B.Soc.Sc. (Hons.) (Nursing).

Honours Bachelor of Social Science in Nursing: B.Soc.Sc. (Hons.) (Nursing) (Orange Free State)

Admission requirement: B.Soc.Sc. (Nursing).

Curriculum: Three semesters of full-time study. Candidates commence with this course immediately after obtaining the B.Soc.Sc. (Nursing) degree. The curriculum comprises three semester courses in Nursing as well as practical training.

Baccalaureus Curationis: B.Cur. (Port Elizabeth)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and proof of enrolment as a student nurse at a training hospital, approved by the South African Nursing Council, where all clinical training is undertaken for the duration of the course.

It is recommended that Mathematics and/or Physical Science be taken as a Std 10 subject.

Curriculum: Nine semesters (four and a half years). The curriculum comprises, inter alia, the following courses: Anatomy and Histology, Ethos of Nursing, Physiology, Psychology for Nurses, Sociology I, II and III, General Nursing Science I, II, III and IV, Psychiatric Nursing, Midwifery or Orthopaedic Nursing (for male students).

The following endorsement shall appear on the degree certificate: Trained as General Nurse, Midwife or, in the case of males, Orthopaedic Nurse, and Psychiatric Nurse.

Bachelor of Arts and Science (Nursing): B.Art. et Scien. (Nursing) or

Bachelor of Nursing: B.Cur. or

Bachelor of Science in Nursing: B.Sc. (Nursing)

(Potchefstroom, Pretoria, Rand Afrikaans University, Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and proof of enrolment as a student nurse at a training hospital, approved by the SA Nursing Council, where all practical training will be undertaken for the duration of the course.

Additional requirements

Potchefstroom: A student must have either Mathematics, Science and Biology or Mathematics and Science or Science and Biology or Mathematics and Biology or Mathematics as Std 10 subjects. Students are selected.

Pretoria, Rand Afrikaans University: Mathematics or Physical Science will be a recommendation.

Witwatersrand: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade and a pass on the Higher Grade in one of the following subjects if Mathematics has been passed on the Higher Grade or two of the following subjects if Mathematics has been passed on the Standard Grade: Bantu Language, Biology, French, German, Geography, Hebrew, History, Latin, Physical Science, Physiology.

Curriculum: Four years (Potchefstroom, Witwatersrand); four and a half years (Pretoria, Rand Afrikaans University). The curriculum comprises, inter alia, the following subjects: Anatomy, Physiology, Microbiology or Chemistry (Witwatersrand), Midwifery, Psychiatric Nursing. At the University of the Witwatersrand male students take Psychiatric Nursing instead of Midwifery. The major subjects for the degree course are Nursing IV and either Psychology III or Sociology III.

After completion of the degree course students of Potchefstroom University and female students of the University of the Witwatersrand may take a course in Psychiatric Nursing extending over six months.

Bachelor of Nursing: B.Nursing (Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Only a limited number of students are admitted to the course each year.

Curriculum: A student remains on the establishment of the Tygerberg Hospital as a student nurse for the four years of the degree course. The curriculum includes the following courses: Psychology III (major subject), Nursing IV (major subject), Sociology I, Social Care in Nursing, Afrikaans I.

Bachelor of Arts in Nursing Science: B.A. (Cur.) (South Africa)

Admission requirements: Proof of registration with the SA Nursing Council either as a general nurse and as a midwife in the case of a female student or as a general nurse in the case of a male student.

Curriculum: At least three years. The major subjects are Community Health Nursing Science III and either Nursing Administration III or Nursing Education III. A student must complete the required practical work before the degree is conferred.

Baccalaureus Curationis (Institutionis et Administrationis): B.Cur. (I. et A.) or
Bachelor of Nursing (Instruction and Administration): B.Cur. (I. et A.) or
Bachelor of Nursing Instruction and Administration: B.Cur. (Ed. et Adm.)

(Port Elizabeth, Pretoria, Rand Afrikaans University)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and proof of registration as a nurse/male nurse with the SA Nursing Council.

Additional requirements

Port Elizabeth: Female students who wish to take the optional subject Preventive and Promotive Health Care II must also be registered as a midwife, or, in the case of male students, as a general nurse and psychiatric nurse.

Pretoria, Rand Afrikaans University: Candidates who wish to take Public Health Nursing II (Pretoria) or Community Health Nursing (RAU) must also be registered as a midwife, or, in the case of males, as a general nurse and psychiatric nurse.

Curriculum: Three years of full-time study or four years of part-time study. The major subjects are as follows:

Port Elizabeth: Nursing Education III, Nursing Administration III, Sociology III or Preventive and Promotive Health Care II.

Pretoria: Nursing Education III, Nursing Administration III, Sociology III or Psychology III or Public Health Nursing III.

Rand Afrikaans University: Education III, Nursing Management III, Sociology III, Advanced Nursing, Community Health Nursing II.

DIPLOMAS AND CERTIFICATE

Diploma in Nursing Education or

Diploma in Nursing Education and Community Health Nursing: Dip. N.E. or

Diploma in Nursing Tuition

(Cape Town, Port Elizabeth, Pretoria, Rand Afrikaans University, Stellenbosch, Witwatersrand)

Admission requirements

Cape Town: Matriculation Certificate or equivalent approved by the Senate and proof of registration with the SA Nursing Council as a general nurse. Mathematics on the Std 10 level is not a prerequisite for admission, but is very strongly recommended.

Port Elizabeth: A Senior Certificate and proof of registration with the SA Nursing Council as a general nurse and a midwife, or in the case of male candidates, as a general nurse plus any other post-basic registration. A candidate who wishes to take Psychiatric Nursing as a teaching subject, must produce proof of registration as a psychiatric nurse.

Pretoria: A Senior Certificate and proof of registration as a general nurse/male nurse or a psychiatric nurse/male nurse. A candidate who wishes to undertake special study in Midwifery or Psychiatric Nursing must be registered as a midwife or as a psychiatric nurse.

Rand Afrikaans University: A Senior Certificate and proof of registration as a nurse. A candidate who wishes to take Midwifery or Psychiatric Nursing as a teaching subject, must submit proof of registration as a midwife or as a psychiatric nurse.

Stellenbosch: A Senior Certificate; a certificate of registration with the SA Nursing Council as a general nurse; and two years' experience as a registered nurse, of which one year must be practical nursing experience in the clinical sections of a training hospital for nurses.

Witwatersrand: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). The candidate must be registered by the SA Nursing Council as a general nurse or a general nurse (male) or psychiatric nurse who has been engaged in the practice of nursing for 18 months, of which period one year must have been in an approved training institution for nurses: Provided that a graduate who holds a Bachelor's degree in Nursing will be required to have been engaged in the practice of nursing for one year in a training institution.

Curriculum: One and a half years of full-time study (Pretoria, Rand Afrikaans University, Witwatersrand); two years of full-time study (Cape Town, Port Elizabeth, Stellenbosch). At the University of Pretoria and the Rand Afrikaans University the course extends over one year only for candidates who hold a Bachelor's degree in Nursing. At the University of Port Elizabeth the course is 3 semesters for candidates with a degree in Nursing and two semesters for candidates who are registered as Community Health Nurses and hold a B. degree in Nursing.

University Diploma in Nursing Education (Natal)

Admission requirements: A Senior Certificate; proof of registration as a general nurse or a general nurse (male) with the SA Nursing Council; and two years' experience in nursing.

Curriculum: One and a half years of full-time study. The Diploma course is offered in the Faculty of Medicine.

Diploma in Nursing (General, Midwifery, Psychiatry) (Orange Free State)

Admission requirements: A Senior Certificate and proof of enrolment as a student nurse at a training hospital approved by the SA Nursing Council.

Curriculum: 4 years of full-time study. Candidates are enrolled as student nurses at an approved hospital where all practical training is undertaken for the duration of the course.

Students who have obtained this Diploma may register with the SA Nursing Council. The curriculum is similar to that for the B.Soc.Sc. (Nursing) degree.

Post-Basic Diplomas in Nursing (Orange Free State)

The following diplomas may be obtained:

- (i) Post-Basic Diploma in Nursing Administration
- (ii) Post-Basic Diploma in Nursing Education
- (iii) Post-Basic Diploma in Community Health Care.

Admission requirements for (i) and (ii): A Senior Certificate and proof of registration as a general nurse/general nurse (male) or a psychiatric nurse and two years' appropriate experience or five years in the case of specialization in Nursing Administration.

Curriculum for (i) and (ii): At least one year of full-time study.

Admission requirements for (iii): (a) An integrated degree or diploma (which implies training in General Nursing, Midwifery or Orthopaedic and Psychiatric nursing) of this University and proof of registration as a nurse/male nurse;

or

(b) another appropriate degree or diploma which leads to registration as a nurse/male nurse.

Curriculum for (iii): (a) One semester or (b) two semesters.

Diploma in Nursing Education (graduated) (Potchefstroom)

Admission requirements: A degree in Nursing which includes a separate course in Anatomy.

Curriculum: At least one academic year of full-time study.

Diploma in Advanced Nursing Science (South Africa)

Admission requirements: A Senior Certificate and the candidate must submit proof of registration as a general nurse/male nurse. A candidate who wishes to take Community Health Nursing II and/or Nursing Education II, must be registered as a general nurse and as a midwife in the case of a female student.

Curriculum: At least two years.

Diploma in Nursing Administration and Community Health Nursing: Dip. N.A.

(Port Elizabeth)

Admission requirements: A Senior Certificate and proof of registration as a general nurse and as a midwife, or in the case of males as a general nurse plus any other post-basic registration.

Curriculum: One and a half years of full-time study. Candidates who are also registered as tutors or as Community Health Nurses may complete the course in one year and will be exempted from certain subjects according to the qualification they hold.

Diploma in Nursing Administration (Pretoria, Rand Afrikaans University, Witwatersrand)

Admission requirements

Pretoria, Rand Afrikaans University: A Senior Certificate and the candidate must submit proof that he/she is registered as a general nurse/male nurse or a psychiatric nurse/male nurse.

Witwatersrand: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). The candidate must be registered as a general nurse or general nurse (male) or psychiatric nurse who has been engaged in the practice of nursing for at least two years, of which period one year must have been in an approved training institution for nurses.

Curriculum: One year of full-time study.

Diploma in Nursing Administration and Community Health Nursing (Rand Afrikaans University)

Admission requirements: A Senior Certificate and the candidate must submit proof of registration with the SA Nursing Council as a general nurse and as a midwife or as a general nurse and psychiatric nurse.

Curriculum: Three semesters of full-time study.

Certificate in Oncochemotherapy (Nursing) (Pretoria)

Admission requirements: Proof of registration as a general nurse/male nurse and an approved degree in Nursing or the Diploma in Nursing Education or the Diploma in General Nursing.

Curriculum: One semester. During this period candidates must be on the nursing staff of a Department of Cancer-chemotherapy approved for this purpose.

VOCATIONAL SERVICE

The young prospective nurse who presents herself for training and employment generally cherishes a fine ideal. This ideal is achieved when she has successfully completed her training. As a student she has the opportunity of becoming acquainted with all aspects of the occupation; when she becomes a registered nurse, the acquired knowledge is fully utilized and extended so that she renders a service to her fellow human beings which is in keeping with the nature of all women.

Although the basic needs of patients have remained unchanged, nursing has today become a highly specialized occupation as a result of the phenomenal scientific progress in the field of medicine. The duties and responsibilities of the registered nurse require an extremely high level of training and skill. However, as a result of her comprehensive but intensive training, which also involves the moulding of personality, the nurse acquires the ability to make decisions, to display sound judgement and to think scientifically. She is consequently able to satisfy the stringent demands which a dynamic society imposes upon her as a nurse and an individual.

Wherever the nurse works - in hospitals, private nursing homes, industrial concerns, clinics, schools, consulting rooms, in the country - there she is concerned with the welfare and health of the individual and of the community in general. These duties do not end with the easing of pain or the particular physical illness of the patient. She must also be able to listen and to attempt to understand the troubled mind; to inspire the patient who has lost hope and to lead him to acceptance and resignation if there is no hope of recovery. She must thus have an intense desire to assist and serve her fellow men. This requires intelligence, patience, tact, unselfishness and a sympathetic attitude, but she must still be emotionally stable and able to act firmly if necessary.

There is no doubt about the employment possibilities for nurses. The service which qualified nurses have to render is still expanding as a result of an increase in the number of hospitals and the growth of the population. There are consequently adequate opportunities for promotion. In addition, the nurse has a choice between one or more of several basic and post-basic fields in which she can qualify and realise her potential. Nurses generally work in hospitals but there are many other fields of employment. Provincial and other hospitals, education departments, government departments such as those of Health and Defence, municipalities, medical practitioners and specialists, industrial organizations, etc., all employ nurses. It is nevertheless better and more economical to nurse people at home than to admit them to hospital and for this reason the demand for private nurses will still increase.

Further information on training and aspects such as salaries, conditions of service, promotion, etc. can be obtained on request from: The Executive Director, SA Nursing Association, Private Bag X105, Pretoria 0001.

Also consult Tertiary Training for particulars on the training of nurses outside the universities.

OCCUPATIONAL THERAPY

Universities: Cape Town, Orange Free State, Stellenbosch, Witwatersrand

Degrees

Bachelor of Science (Occupational Therapy): B.Sc. (Occ. Ther.) (UCT)

Bachelor of Occupational Therapy: B.Occupational Therapy (UOFS, US)

Bachelor of Science in Occupational Therapy: B.Sc. (O.T.) (UW)

Master of Science in Occupational Therapy: M.Sc. (O.T.) (UW)

Doctor of Philosophy: Ph.D. (UW)

Diplomas

Teachers' Diploma in Occupational Therapy (UP, US)

Diploma for Therapists (Special Education): D.T.S.E. (Unisa) See p.128.

DEGREES

Bachelor of Science (Occupational Therapy): B.Sc. (Occ. Ther.) or

Bachelor of Occupational Therapy: B.Occupational Therapy or

Bachelor of Science in Occupational Therapy: B.Sc. (O.T.)

(All the above-mentioned universities)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and a medical certificate.

Additional requirements

Cape Town: A pass in Mathematics. It is recommended that Physical Science, Physics, Chemistry or Biology be a subject for the Std 10 examination.

Stellenbosch: Prospective students are strongly advised to take Mathematics, Physical Science and/or Biology and/or Physiology for the Std 10 examination.

Witwatersrand: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade and

a pass on the Higher Grade in one of the following subjects if Mathematics has been passed on the Higher Grade; or two of the following subjects if Mathematics has been passed on the Standard Grade: Bantu Language, Biology, French, Geography, German, Hebrew, History, Latin, Physical Science, Physiology.

Curriculum: Four years of full-time study.

Enrolment at the University of Stellenbosch is limited and students are selected during September of the preceding year. Applications for admission to the course should reach the Registrar before 30 June.

Besides Occupational Therapy, the curriculum includes, inter alia, the following subjects: Sociology, Psychiatry, Psychology, Anatomy and Physiology.

The Universities of the Orange Free State and Stellenbosch prescribe compulsory practical vacation work during the short vacations.

DIPLOMAS

Teachers' Diploma in Occupational Therapy (Pretoria)

Admission requirements: A qualification in Occupational Therapy which is accepted by the SA Medical and Dental Council for registration and recognized by the College for Occupational Therapy as sufficient basic training for admission, and at least two years' experience as a registered occupational therapist in an approved hospital.

Curriculum: One year of full-time study.

Teachers' Diploma in Occupational Therapy (Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption); a qualification in Occupational Therapy which is accepted by the SA Medical and Dental Council for registration and approved by the South African Association of Occupational Therapists; and at least two years' uninterrupted experience as an occupational therapist in an approved hospital.

Curriculum: Two years of full-time study.

VOCATIONAL SERVICE

Occupational Therapy is one of the paramedical occupations which can be practised by women as well as men. They are instructed to treat and/or train physically and mentally handicapped persons; to prevent incapacity; to promote adaptation to incapacity, and to improve or preserve function. The treatment is therefore directed towards the patient's life outside the hospital and towards his future; the recovery of his independence, creative ability and particularly his ability to work. As a member of a medical team, under the guidance of a doctor and with the co-operation of other team members, the occupational therapist endeavours to rehabilitate the patient mentally and physically.

Occupational therapists have a choice of employment at, for example, general, psychiatric, orthopaedic and children's hospitals, rehabilitation centres, special schools, homes for the aged, divisions for plastic surgery and private nursing homes. Up to the present not much use has been made in South Africa of private practices, although they also offer worth-while possibilities. The additional qualification (the teacher's diploma in occupational therapy) also enables occupational therapists to give full-time or part-time instruction in the profession.

All occupational therapists must register with the SA Medical and Dental Council. The South African qualifications are accredited internationally and it is therefore possible to gain experience in practise abroad.

Also see Tertiary Training for particulars on the National Diploma in Occupational Therapy.

PHARMACY

Universities: Potchefstroom, Rhodes

Degrees

Bachelor of Pharmacy: B.Pharm. (PU for CHE, Rhodes)

Honours Bachelor of Pharmacy: Honns. B.Pharm. (PU for CHE)

Master of Pharmacy: M.Pharm. (PU for CHE)

Master of Science: M.Sc. (Rhodes)

Doctor of Pharmacy: D.Pharm. (PU for CHE)

Doctor of Philosophy: Ph.D. (Rhodes)

Doctor of Science: D.Sc. (Rhodes)

Diploma

University Diploma in Pharmacology (PU for CHE)

DEGREE

Bachelor of Pharmacy: B.Pharm. (Potchefstroom, Rhodes)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Potchefstroom: A pass in Mathematics and a pass in a science subject, preferably Physical Science, on the Standard Grade at least.

Rhodes: A pass in Mathematics on at least the Standard Grade.

Curriculum: Four years of full-time study. Before admission to the second year of study, a student must submit proof of his registration as a pharmacy student with the SA Pharmacy Board.

The degree will be awarded after the final examinations have been passed, but a student may only be registered as a pharmacist by the SA Pharmacy Board after the completion of his/her apprenticeship as determined by the SA Pharmacy Board.

The subjects for the first year are as follows: Chemistry, Physics, Zoology, Botany. Students at Rhodes University take Biological Science instead of Zoology and Botany and Mathematics as well.

Fourth-year subjects at Potchefstroom comprise Pharmacology II, Pharmaceutical Chemistry II, Mathematics III, Forensic Pharmacy and Pharmacy Administration.

Fourth-year subjects at Rhodes University comprise Pharmaceutical Formulation, Economic Management of Drug Distribution, Social and Professional Responsibility, Drug Therapy and Toxicology and a Special Project.

DIPLOMA

University Diploma in Pharmacology (Potchefstroom)

Admission requirements: B.Pharm. degree or the degree of M.B., Ch.B. or an equivalent qualification.

Curriculum: One year comprising a study in advanced Pharmacology.

VOCATIONAL SERVICE

The profession of pharmacist, which can be practised by men and women, is a very old profession and one that has always been held in great respect since the pharmacist is much more than a person who sells cosmetics, bric-a-brac and pills. A pharmacist is a skilled person with professional training and his expert knowledge is an indispensable addition to the work of doctors and hospitals. In fact, the pharmaceutical profession today forms the co-ordinating link between manufacturer and doctor, doctor and patient, patient and community, and in this way an important part of the health service to the nation is controlled. The occupation is not restricted to the well-known retail chemist who mainly prepares medicine according to the doctor's prescription, and who sells patent medicines or other remedies as well as various kinds of articles.

Other branches of the occupation are, for example:

- The medical representative who visits medical practitioners and pharmacies to introduce and sell new medicines;
- the pharmacist employed by a wholesaler or manufacturer of medicines with a view to research into pharmaceutical products, manufacturing and testing of medicines, design of apparatus, control of production and packaging, management of purchases, sales, advertising etc.;
- the hospital pharmacist attached to a hospital and responsible for pharmaceutical and related services;
- the railway pharmacist in the employ of the Railways;
- a lecturer at a training centre;
- pharmacists in the service of the Department of Health where their services are mainly used in four fields, viz hospital pharmacy duties, control of medicines, regional pharmacists and pharmaceutical services.

Post-graduate training remains important, particularly to provide for the needs of the pharmaceutical industry and training centres. The agreement between the South African Pharmacy Board and the British Pharmaceutical Association creates opportunities for South Africans to study and gain experience overseas.

Also consult Tertiary Training for particulars on the Diploma in Pharmacy which is regarded by the SA Pharmacy Board as equivalent to the degree for registration as a pharmacist.

PHYSICAL EDUCATION

Universities: Orange Free State, Port Elizabeth, Potchefstroom, Pretoria, Rhodes, Stellenbosch

Degrees

Bachelor of Arts (Physical Education): B.A. (Phys.Ed.) (UOFS, Rhodes)
Baccalaureus Physicalis Educationis: B.Phys.Ed. (UPE)
Bachelor of Arts: B.A. (PU for CHE, US)
Bachelor of Science: B.Sc. (PU for CHE, US)
Bachelor of Arts in Physical Education: B.A. (Phys.Ed.) (UP)
Bachelor of Arts (Education) (Physical Education): B.A. (Ed.) (Phys.Ed.) (UP)
B.degree course in Primary Teaching with specialization in Physical Education (US)
See p.130.

Honours Bachelor of Arts (Physical Education): B.A. (Hons.) (Phys.Ed.) (UOFS)
Honours Bachelor of Arts: Honns. B.A. (PU for CHE)
Honours Bachelor of Science: Honns. B.Sc. (PU for CHE)
Bachelor of Arts (Honours) in Physical Education: B.A. (Phys.Ed.) (Hons.) (UP)
Bachelor of Arts with Honours: B.A. (Hons.) (Rhodes)
Hons.B. in Physical Education (US)

Master of Arts (Physical Education): M.A. (Phys.Ed.) (UOFS)
Master of Arts: M.A. (PU for CHE)
Master of Science: M.Sc. (PU for CHE)
Master of Arts in Physical Education: M.A. (Phys.Ed.) (UP)
Master of Arts: M.A. (Rhodes)
M. in Physical Education (US)

Doctor Philosophiae: D.Phil. (UOFS, PU for CHE, UP)
Doctor Scientiae: D.Sc. (PU for CHE)
Doctor of Philosophy: Ph.D. (Rhodes)
Doctor of Philosophy (Physical Education): Ph.D. (Physical Education) (US)

Diplomas

Diploma in Physical Education: Dip.Phys.Ed. (Rhodes)
Diploma in Sports Coaching and Recreation (US)

The following universities offer the four-year course for the Higher Diploma in Education with Physical Education as one of the specializations: Orange Free State (see p. 121), Port Elizabeth (see p.122), Pretoria (see p.124), Rand Afrikaans University (see p.126), Stellenbosch (see p.129), Witwatersrand (see p.131).

DEGREES

Bachelor of Arts (Physical Education): B.A. (Phys.Ed.) or

Bachelor of Arts: B.A. or

Bachelor of Arts in Physical Education: B.A. (Phys.Ed.)

(Orange Free State, Potchefstroom, Pretoria, Rhodes, Stellenbosch)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A medical certificate is required.

Additional requirements

Pretoria: See p.18.

Rhodes: See p.23.

Stellenbosch: See p.28.

Curriculum: Three years of full-time study. Students follow the curriculum for the ordinary B.A. degree with Physical Education as one of the two required major subjects.

Candidates intending to become teachers may on completion of the degree course take the one-year teacher's diploma course.

The University of Pretoria also includes in the curriculum two courses in Bio-Ergonomics and one course in Hygiene. The University of the Orange Free State also includes two courses in Biokinetics. Rhodes University includes Elements of Anatomy and Physiology and Health Education. Potchefstroom requires at least one course in Physiology.

Baccalaureus Physicalis Educationis: B.Phys.Ed. (Port Elizabeth)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). All prospective teachers are selected. A satisfactory medical report is required.

Curriculum: Four years of full-time study. The curriculum includes Physical Education III, Pedagogics II, Physiology for Physical Education students, Biokinetics I, three courses in an ordinary degree subject and educational subjects such as Educational Practice III and Method of Physical Education I.

Bachelor of Science with Physical Education: B.Sc. (Potchefstroom)

Admission requirements: As for the B.Sc. degree. See p. 93.

A student must ascertain beforehand whether he is medically fit for the course.

Curriculum: Three years of full-time study. Students pursue the curriculum for the ordinary B.Sc. degree with Physical Education as one of the two major subjects. One of the following subjects may be taken as the second major subject: Botany, Mathematics, Physiology or Zoology. Statistical Theory as a second major subject is permissible. Students must take at least one course in Physiology.

Bachelor of Arts (Education) (Physical Education): B.A. (Ed.) (Phys.Ed.) (Pretoria)

Admission requirements: As for the B.A. degree. See p.18. Students are selected.

Curriculum: Four years of full-time study. Students take two courses in Bio-Ergonomics, one in Hygiene and three in Pedagogics. The major subjects are Physical Education and a subject selected from approved school subjects. The fourth year of study includes educational subjects such as School Organization and Administration, Subject Teaching Method and School Practice.

B.Sc. with Physical Education: B.Sc. (Stellenbosch)

Admission requirements: As for the B.Sc. degree. See p.102. A medical report is required.

Curriculum: Three years of full-time study. The major subjects are Physical Education, Sport and Recreation III and Physiology III or Zoology III or Mathematics III. Other first and second-year subjects are, *inter alia*, Chemistry, Physics (Bio.), Practical Physical Education, Sport and Recreation.

After obtaining the B.A. or B.Sc. degree (with Physical Education) a student may study for the H.D.E. (see p.129), the Hons.B. degree or the M.degree.

DIPLOMAS

Diploma in Physical Education: Dip.Phys.Ed. (Rhodes)

Admission requirements: A Bachelor's degree or a recognized teacher's certificate. A candidate must produce a medical certificate.

Curriculum: One year of full-time study. A candidate must pursue a course of study in the theory and practice of gymnastics, games and sports, and in the teaching of these subjects.

Diploma in Sports Coaching and Recreation (Stellenbosch)

Admission requirements: A limited number of selected, medically fit persons who hold recognized teaching qualifications.

Curriculum: One year of full-time study. The curriculum comprises, inter alia, the following subjects: Physiology, Organization and Administration of Sport and Recreation, Kinesiology and Sport Injuries, Specialization in a sport.

VOCATIONAL SERVICE

A degree with Physical Education as one major subject offers job opportunities in the teaching profession; as sport or recreation officers or sport coaches in the service of industries, mines, universities, colleges and municipalities; as sport officers in the defence force, police and prison services. In combination with Communication (Journalism), there are opportunities as sport journalists. More and more job opportunities are offered by the Department of Sport and Recreation. One of the posts which can be held, is that of liaison officer, whose task comprises co-ordinating sport activities on a country-wide basis, and promoting participation in sport.

However, large numbers of men and women in South Africa, particularly in the urban areas, do not take part in organized sport, although they are in need of physical development and recreation. In this case, a private gymnasium offers a wonderful opportunity for qualified persons who also have the necessary knowledge, initiative and organizing ability.

PHYSIOTHERAPY

Universities: Cape Town, Orange Free State, Stellenbosch, Witwatersrand

Degrees

Bachelor of Science (Physiotherapy): B.Sc. (Phys.) (UCT)

Bachelor of Science in Physiotherapy: B.Sc. (Physio.) (UOFS) or B.Sc. in Physiotherapy (US) or B.Sc. (Physiotherapy) (UW)

Master of Science in Physiotherapy: M.Sc. (Physio.) (UOFS) or M.Sc. in Physiotherapy (US) or M.Sc. (Physiotherapy) (UW)

Doctor of Philosophy: Ph.D. (UW)

Diplomas

Diploma in Teaching Physiotherapy (UCT)

Tertiary Education Diploma in Physiotherapy (UOFS)

Diploma in Physiotherapy Education (UP, UW)

Diploma in Intensive Care Physiotherapy (UCT)

Diploma for Therapists (Special Education): D.T.S.E. (Unisa) See p.128.

DEGREES

Bachelor of Science (Physiotherapy): B.Sc. (Phys.) or

Bachelor of Science in Physiotherapy: B.Sc. (Physio.) or B.Sc. in Physiotherapy or B.Sc. (Physiotherapy)

(All the above-mentioned universities)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Cape Town: A pass in Mathematics on the Standard Grade, and a medical certificate. It is recommended that Physical Science, Physics or Chemistry be a subject for the Std 10 examination.

Orange Free State: A pass in Mathematics on the Standard Grade, and a medical examination. Prospective students are strongly advised to offer Physical Science and, if possible, Biology as well for the Std 10 examination.

Stellenbosch: A pass in Mathematics on the Higher or Standard Grade. Prospective students are strongly advised to take Physical Science and/or Biology and/or Physiology for the Std 10 examination.

Witwatersrand: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade and a pass on the Higher Grade in one of the following subjects if Mathematics has been passed on the Higher Grade or two of the following subjects if Mathematics has been passed on the Standard Grade: Bantu Language, Biology, French, Geography, German, Hebrew, History, Latin, Physical Science, Physiology.

Curriculum: Four years of full-time study. Enrolment at the University of Stellenbosch is limited and students are selected during September of the preceding year. Applications for admission to the course should reach the Registrar before 30 June.

The following subjects are prescribed for the first year: Physics, Biology or Zoology (Stellenbosch), Chemistry and Psychology (except Cape Town). Physiotherapy is the major subject. Other subjects are, inter alia, Anatomy, Physiology, Clinical Application of Physiotherapy.

DIPLOMA AND CERTIFICATE

Diploma in Teaching Physiotherapy or
Tertiary Education Diploma in Physiotherapy or
Diploma in Physiotherapy Education

(Cape Town, Orange Free State, Pretoria, Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption); a qualification in Physiotherapy which is accepted for registration with the SA Medical and Dental Council; and at least two years' approved experience in the practice of Physiotherapy.

Curriculum: One year of full-time study (Cape Town, Pretoria) or three semesters of part-time study or two semesters of full-time study (Orange Free State) or two years of part-time study (Witwatersrand).

Diploma in Intensive Care Physiotherapy (Cape Town)

Admission requirements: As for the Diploma in Teaching Physiotherapy.

Curriculum: One year of full-time study.

VOCATIONAL SERVICE

Medical science has become so comprehensive and complicated nowadays that the doctor is compelled to specialize to an increasing extent. The result is that the process of restoring the functions of the human body (by means of the natural elements such as cold, heat and water) is increasingly entrusted to the paramedical services such as physiotherapy.

Physiotherapy, like occupational therapy, thus forms a very important part of the paramedical services which is supplementary to medical practice. The primary function of a physiotherapist is to enable a patient to help himself. With this aim in view, various methods are applied and sick or injured persons, persons with retarded or weakened muscular action, etc. are treated according to the doctor's instructions. The work is sometimes tiring but never boring.

Most physiotherapists work in hospitals or physiotherapy clinics where apparatus and facilities are available to undertake the five main forms of treatment, viz massage and mechanotherapy, electrotherapy, phototherapy, hydrotherapy and ultrasonic therapy.

Physiotherapists can work in sections for adults or children; sections for medical, orthopaedic and surgical cases; sections for heart, maternity or accident cases, in intensive care units or centres for those with cerebral palsy. In addition to these, there are favourable opportunities for them in the Department of Health, mines, private medical clinics and in private practice.

At present there is a great shortage of physiotherapists, and lecturers in this field are particularly scarce. Thus promotion for able persons (women as well as men) is very fast. Registration as a physiotherapist with the South African Medical and Dental Council is compulsory.

Also consult Tertiary Training in connection with the course offered by the Pretoria College of Physiotherapy.

POLICE SCIENCE

University: South Africa

Degree

Bachelor of Arts (Police Science): B.A. (Pol.)

Diploma

Diploma for Police

DEGREE

Bachelor of Arts (Police Science): B.A. (Pol.)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years. The curriculum consists of ten courses. The major subjects are Criminology III and Police Science III. Other compulsory subjects are Criminal Procedure, Criminal Law I and Evidence. The tenth course is chosen from subjects such as Medical Jurisprudence, Private Law I, Psychology I, Sociology I, Anthropology I.

DIPLOMA

Diploma for Police

Admission requirement: A Senior Certificate.

Curriculum: Three years. The curriculum comprises the following subjects: Police Science III, Criminology II, Introduction to the Theory of Law, Criminal Law I, Criminal Procedure, Evidence and a course in English or Afrikaans or an African language.

VOCATIONAL SERVICE

The uniform, detective and security branches in which the SA Police is organized, offer virtually unlimited possibilities for promotion to ambitious men and women. Promotion to higher ranks occurs mainly after the successful completion of internal examinations but this can be expedited if a person already holds an appropriate degree or diploma.

Also consult Tertiary Training for particulars on training in the police service.

QUANTITY SURVEYING

Universities: Cape Town, Natal, Orange Free State, Port Elizabeth, Pretoria, Witwatersrand

Degrees

Bachelor of Science in Quantity Surveying: B.Sc. (Q.S.) (UCT) or B.Sc. (Q.S.) (UOFS, UW) or B.Sc. Q.S. (UN)

Baccalaureus Scientiae in Quantity Surveying: B.Sc. (Q.S.) (UPE)

Bachelor of Quantity Surveying: B.Sc. (Q.S.) (UP)

Master of Science in Quantity Surveying: M.Sc. (Q.S.) (UOFS, UW) or M.Sc. Q.S. (UN)

Magister Scientiae in Quantity Surveying: M.Sc. (Q.S.) (UPE)

Master of Quantity Surveying: M.Sc. (Q.S.) (UP)

Doctor of Philosophy: Ph.D. (UN, UW)

Doctor of Science in Quantity Surveying: D.Sc. (Q.S.) (UW) or D.Sc. Q.S. (UN)

Philosophiae Doctor in Quantity Surveying: Ph.D. (UPE)

DEGREES

Bachelor of Science in Quantity Surveying: B.Sc. (Q.S.) or

Baccalaureus Scientiae in Quantity Surveying: B.Sc. (Q.S.) or

Bachelor of Quantity Surveying: B.Sc. (Q.S.)

(Cape Town, Orange Free State, Port Elizabeth, Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption.)

Additional requirements

Cape Town: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, and a pass in a science subject on the Standard Grade.

Orange Free State: See p. 90.

Port Elizabeth: A pass in Mathematics of at least 40 per cent on the Standard Grade.

Pretoria: A pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade, as well as a pass in Physical Science on the Higher Grade or at least 40 per cent on the Standard Grade.

Curriculum: The curriculum extends over a period of five years, comprising two years of full-time study and three years of part-time study (Orange Free State, Pretoria) or three years of full-time study and two years of part-time study (Cape Town, Port Elizabeth). A candidate is required to be employed full-time in the office of a registered quantity surveyor during the period in which he is studying part-time.

The curriculum includes, inter alia, the following courses: Quantities V or Quantity Surveying V (Orange Free State), Professional Practice, Specification, Building Construction or Building Technology or Building Materials.

Bachelor of Science in Quantity Surveying: B.Sc. Q.S. (Natal)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Four years of full-time study and one year's practical experience. The curriculum includes, inter alia, the following courses: Quantities IV, Professional Practice, Building Technology III, Building Economics, Theory and Design of Structures III.

Bachelor of Science in Quantity Surveying: B.Sc. (Q.S.) (Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass on the Higher Grade or at least 60 per cent on the Standard Grade in Mathematics and in one of the following subjects: Biology, Physical Science, Physiology.

Curriculum: Four years of full-time study. The curriculum comprises Parts I, II and III. At the end of each year of study in Parts I and II a student must spend the next succeeding long vacation working in the office of a registered quantity surveyor, or a quantity surveying office of a Government department, provincial administration, or local authority.

The curriculum includes, inter alia, the following subjects: Building Science, Theory and Practice of Quantity Surveying, Mathematics, Economics, Cost Evaluation and Control, Structure.

VOCATIONAL SERVICE

The quantity surveyor's field covers all aspects of building costs and he is often referred to as the technical accountant of the building industry. He works in close collaboration with the architect, engineer and building contractor. In addition, he is a professional adviser, for example, in the case of a lawsuit in connection with a building contract, the appraisal of properties with a view to insurance, or advice to estate developers and investors in real estate.

The Public Service offers the quantity surveyor the opportunity of being active in practically any branch of quantity surveying. Persons employed by the Departments of Defence, Plural Relations and Development, Community Development and Public Works are stationed in Pretoria. Quantity surveyors of the provincial administrations are stationed at the different administrative head-offices.

Opportunities for quantity surveyors are virtually unlimited in the private sector, while ample job opportunities also exist with municipalities; the Railways; the CSIR, and universities. In the course of time a quantity surveyor may embark upon an undertaking of his own and today this is most rewarding.

The profession is not limited to men only. Women are equally welcome and there is reason to believe that persons with the appropriate aptitude and interest may be very successful in this career.

Also consult Tertiary Training for particulars on the National Diploma for Building Surveyors.

RADIOGRAPHY

Universities: Cape Town, Orange Free State, Pretoria

Diplomas

Diploma in Diagnostic Radiography (UOFS)
Diploma in Therapeutic Radiography (UOFS)
Diploma in Radiographic Diagnosis (UP)
Diploma in Radiographic Therapy (UP)
Diploma in Radiation Protection for Sisters (UP)
Diploma in Teaching Radiography (UCT)

DIPLOMAS

Diplomas in Diagnostic Radiography and Therapeutic Radiography (Orange Free State)

Admission requirements: At least a Senior Certificate with a pass in Mathematics and preferably, in addition, a pass in Physics or Physical Science.

Applications for admission to the course should be addressed to: The Medical Superintendent, National Hospital, Bloemfontein 9301.

Curriculum: Three years of full-time study for the Diploma in Diagnostic Radiography. The Diploma in Therapeutic Radiography will be awarded after further study of three semesters after obtaining the Diploma in Diagnostic Radiography.

The courses are offered in co-operation with the National Hospital.

Diagnostic Radiography: The course includes the following subjects: Radiography I, II and III; Anatomy; Physiology; Pathology I, II and III; Biophysics I and II; Radiographic Image Formation I and II and Diagnostic Apparatus I and II.

Therapeutic Radiography: The course includes the following subjects: Radiation Therapy; Biophysics; Radiobiology and Oncology.

Diploma in Radiographic Diagnosis (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes in Mathematics and either Physical Science or Biology (preferably both).

With a view to selection for the course each candidate must take a preliminary course in nursing at the H.F. Verwoerd Hospital for five weeks.

Each student must apply for registration with the SA Medical and Dental Council as a student in Radiography immediately after admission to the first year of study.

Curriculum: Three years of full-time study. During this period each candidate must be attached to the Department of Radiodiagnosis of the H.F. Verwoerd Hospital as a student radiographer.

The curriculum comprises twelve courses. The major subjects are Medical Physics III and Radiographic Diagnosis III.

Diploma in Radiographic Therapy (Pretoria)

Admission requirement: Diploma in Radiographic Diagnosis.

Curriculum: One year of full-time study. During this period the candidate must be attached to the Department of Radiotherapy of the H.F. Verwoerd Hospital as a student radiographer.

The curriculum consists of one major subject, Radiographic Therapy, and four ancillary subjects.

Diploma in Radiation Protection for Sisters (Pretoria)

Admission requirements: A Senior Certificate and the status of a sister in a general hospital.

Curriculum: One year of full-time study. During this period each candidate must be attached to the departments of Radiodiagnosis and Radiotherapy of the H.F. Verwoerd Hospital as a sister-student radiographer.

Diploma in Teaching Radiography (Cape Town)

Admission requirements: Candidates must

- have passed the Matriculation examination or any other examination approved by the Senate;
- hold a qualification in the appropriate branch of Radiography which is registrable with the SA Medical and Dental Council;
- have had at least four years' approved experience in the appropriate branch of Radiography.

Curriculum: One year of full-time study. Training is offered in any of the three disciplines of Radiography, namely in Radiodiagnosis, in Radiotherapy or in Nuclear Medicine. The curriculum covers educational methods as well as clinical instruction in modern trends in treatment affecting Radiography.

VOCATIONAL SERVICE

Radiography embraces the two branches of radiographic diagnosis (examination of a patient with the aid of X-ray apparatus) and radiotherapy (X-ray treatment of outwardly invisible ailments). Both these fields are interesting and they include a variety of duties which must be carried out in co-operation with doctors and hospital officials but mainly under the supervision and according to the prescription of a radiologist. (The radiologist is a qualified medical practitioner who has also specialized in radiotherapy and/or radiographic diagnosis.)

The occupation is normally practised by women. There is, however, a need for qualified men as well and favourable prospects exist. Misconceptions concerning X-rays, their use and attendant dangers have in the past caused hesitation in the minds of persons interested in this occupation. Today, however, adequate precautionary measures are taken to protect the radiographer against possible radiation, and the occupation is thus absolutely safe.

Radiographers are employed by all the hospitals in the country and the doubly qualified radiographer (in radiographic diagnosis as well as radiotherapy), in particular, should experience no difficulty in obtaining a suitable post. Many radiographers are also appointed in the private practices of radiologists. The South African qualification is recognized internationally and the double qualification, in particular, paves the way for experience abroad in diagnostic and therapeutic work.

Also consult Tertiary Training for particulars on the National Diploma in Radiography.

SOCIAL SCIENCE/SOCIAL WORK

Universities: All the universities

Degrees

- Bachelor of Social Science: B.Soc.Sc. (UCT, UN, UOFS, Rhodes)
- Bachelor of Social Science in Social Work: B.Soc.Sc. (S.W.) (UCT, UOFS)
- Bachelor of Social Science (Social Work): B.Soc.Sc. (Soc.Work) (Rhodes)
- Baccalaureus Artium in Social Work: B.A. (S.W.) (UPE)
- Bachelor of Arts in Social Work: B.A. (S.W.) (PU for CHE, UP, RAU, US) or
B.A. (Social Work) (UW)
- Bachelor of Arts in Social Science: B.A. (S.S.) (Unisa)
- Bachelor of Social Science Honours: B.Soc.Sc. (Hons.) (UCT, UOFS) or B.Soc.Sc. Hons. (Natal)
- Bachelor of Social Science with Honours: B.Soc.Sc. (Hons.) (Rhodes)
- Bachelor of Social Science in Social Work (Honours): B.Soc.Sc. (S.W.) (Hons.) (UCT, UOFS)
- Baccalaureus Artium Honores: B.A. Hons. (UPE)
- Honours Bachelor of Arts: Honns. B.A. (PU for CHE)
- Honours Bachelor of Arts in Social Science: Hons. B.A. (S.S.) (Unisa)
- Honours Bachelor of Arts in Social Work: B.A. Social Work Hons. (US)
- Honours Bachelor of Arts in Social Work (Medical Social Work field): B.A. Social Work (Medical Social Work) (Hons.) (US)

Master of Social Science: M.Soc.Sc. (UCT, UN, UOFS, Rhodes)
 Master of Public Administration: M.Pub.Ad. (UCT)
 Master of Social Science in Social Work: M.Soc.Sc.(S.W.) (UOFS)
 Master of Social Science (Clinical Psychology): M.Soc.Sc. (Clinical Psychology)
 (UOFS)
 Magister Artium: M.A. (UPE, PU for CHE)
 Master of Arts in Social Work: M.A.(S.W.) (UP, RAU) or M.A.(Social Work) (UW)
 Master of Arts in Social Science: M.A.(S.S.) (Unisa)
 Master of Arts in Social Science in Mental Health: M.A.(S.S.) (Mental Health) (Unisa)
 Master of Arts in Social Work: M.A. in Social Work (US)
 M.A. in Social Work (Medical Social Work field) (US)
 Doctor of Philosophy: Ph.D. (UCT, UN, Rhodes, UW)
 Doctor of Social Science: D.Soc.Sc. (UCT, UN, UOFS, Rhodes)
 Doctor of Social Science in Social Work: D.Soc.Sc.(S.W.) (UOFS)
 Doctor Philosophiae: D.Phil. (UPE, PU for CHE, UP, US)
 Doctor of Literature and Philosophy: D.Litt. et Phil. (RAU)
 Doctor of Philosophy: D.Phil. (Unisa)

Diplomas

Diploma in Social Science (Social Work): Dip.Soc.Sc.(S.W.) (UCT)
 Diploma in Social Work (UOFS, PU for CHE, Rhodes)
 Advanced Diploma in Psychiatric Social Work (UCT)
 Diploma in Applied Social Sciences (UN)
 Advanced Diploma in Social Work (UOFS)
 Diploma in Social Studies: Dip. Soc. Studies (Rhodes)
 Advanced Diploma in Social Work (Supervision) (US)
 Higher Diploma in Advanced Social Work Practice (UW)

DEGREES

Bachelor of Social Science: B.Soc.Sc. (Cape Town, Natal, Rhodes)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Three years of full-time study or four years of part-time study (Natal). The curriculum includes nine or ten courses depending on the university. Students select their courses from subjects such as Anthropology (Rhodes), Economic History, Economics, Geography, Philosophy, Political Science, Psychology, Social Anthropology (Natal) and Sociology.

At the University of Cape Town students must take three courses in a first major in the Faculty of Social Science, viz in Psychology, Public Administration or Sociology.

At the University of Natal students who wish to qualify as social workers take three courses in Social Work and two courses each in Sociology and Psychology. The second major subject is either Sociology or Psychology. Students are also required to do the prescribed practical work.

Bachelor of Social Science: B.Soc.Sc. (Orange Free State)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: At least six semesters of full-time study. The curriculum consists of 22 semester courses. Two of the following must be major subjects: Criminology, Industrial Psychology, Industrial Sociology, Psychology or Guidance Psychology, Sociology.

Bachelor of Social Science in Social Work: B.Soc.Sc.(S.W.) or

Baccalaureus Artium in Social Work: B.A.(S.W.) or

Bachelor of Arts in Social Work: B.A.(S.W.) or

Bachelor of Social Science (Social Work): B.Soc.Sc.(Soc.Work)

(Cape Town, Orange Free State, Port Elizabeth, Pretoria, Rhodes, Stellenbosch)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements

Pretoria: See p.18.

Curriculum: Four years of full-time study or five years of part-time study (Pretoria). The University of Stellenbosch will only offer the four-year course from 1980.

The curriculum usually includes ten or eleven courses comprising four courses in Social Work, three courses in Sociology or Psychology and at least two courses in Sociology or Psychology (the subject which was not chosen as second major). Other courses are selected as follows:

Cape Town: A course in English, Afrikaans or an African language, or Religious Studies, or Public Administration.

Orange Free State: Industrial Sociology I and Criminology I are compulsory. Students are required to complete a second-year course in one of these subjects.

Port Elizabeth: One of the following: Anthropology I, Pedagogics I, Private Law I, Professional Afrikaans I or English Special I.

Pretoria: Welfare Law and one of the following: Christian Social Care; Economics I and II; Criminology I, II and III; Sociology III or Psychology III; Anthropology I; Philosophy I; one course in any language; Mathematical Statistics I.

Rhodes and Stellenbosch: Courses are selected in subjects from the ordinary B.A. degree. A student is usually required to do practical social work with an organization employing a trained social worker.

Students who have completed the B.A.(S.W.) degree successfully at the University of Pretoria, may continue directly with the M.A.(S.W.) degree course.

Bachelor of Arts (Social Work): B.A.(S.W.) (Potchefstroom)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Students are selected.

Curriculum: Four years of full-time study. The curriculum consists of twelve and a half courses and comprises Social Work IV, Psychology III, Sociology II, Criminology II, one other course selected from subjects for the ordinary B.A. degree, as well as practical work in Social Work. Students are strongly advised to include Sociology III and a course in an official language, other than the first language, in the curriculum.

Bachelor of Arts in Social Work: B.A.(S.W.) (Rand Afrikaans University)

Admission requirements: See p.21.

Curriculum: Four years of full-time study. The curriculum consists of 26 semester courses. The major subjects are Social Work IV and Psychology III. Compulsory ancillary subjects are Sociology II and Persons and Family Law (2 semesters). Three or four semester courses are selected from subjects such as the following: Statistical Methods A (strongly recommended), Ethics, Philosophy, Anthropology, Economics and any language course. Statistical Methods A is a compulsory minor subject for M.A.(S.W.) study.

Bachelor of Arts in Social Sciences: B.A.(S.S.) (South Africa)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

A student shall be admitted only with the special permission of the Senate, and only after having submitted evidence that arrangements for practical work at an approved organization can be made and that supervision will be carried out by a suitable person.

Curriculum: At least four years. The curriculum comprises at least eleven courses and practical social work. The major subjects are Social Work IV and either Sociology III or Psychology III. The remaining courses are as follows: Two courses in Sociology or Psychology (the subject which was not selected as the second major subject) and courses in subjects such as Afrikaans en Nederlands I or Practical Afrikaans, an African language, Marriage Guidance and Counselling, Communication I, II and III, Criminology I, II and III, Criminal Law I, Psychology III or Sociology III (as the case may be).

Bachelor of Arts in Social Work: B.A. (Social Work)

(Witwatersrand)

Admission requirements: See p.30.

Curriculum: Four years of full-time study. The curriculum comprises Social Work Theory and Practice IV, Field Instruction in Social Work Practice IV, Psychiatry and Mental Hygiene for Social Workers or, by permission of the Senate, a course in an ordinary B.A. subject, Psychology III or Sociology III, Afrikaans or Afrikaans en Nederlands I or English I or a course in another language and a course selected from subjects for the ordinary B.A. In the fourth year of study a dissertation on an approved topic is required.

DIPLOMAS

Diploma in Social Science (Social Work): Dip.Soc.Sc.(S.W.)

(Cape Town)

Admission requirement: A Senior Certificate.

Curriculum: Three years of full-time study. The curriculum consists of nine courses and includes, inter alia, Social Work III; Sociology III and Psychology II or Psychology III and Sociology II.

Diploma in Social Work (Orange Free State, Potchefstroom, Rhodes)

Admission requirement: A Senior Certificate.

Curriculum: Four years of full-time study.

The curriculum is the same as that laid down for the degree of B.Soc.Sc.(S.W.) or B.A.(S.W.) according to the university offering the Diploma course.

Advanced Diploma in Psychiatric Social Work (Cape Town)

Admission requirement: An Honours degree in Psychiatric Social Work or its recognized equivalent.

Curriculum: The course lasts for a minimum of a half-year and consists of prescribed field and clinical practice together with specified written study assignments.

Diploma in Applied Social Sciences (Natal)

Admission requirements: A graduate who is qualified in one or more of the following subjects: Business Administration, Comparative African Government and Administration, Economics, Industrial Psychology, Industrial Sociology, Political Science, Psychology, Social Anthropology, Social Work, Sociology, Town and Regional Planning.

Curriculum: One year of full-time study or two years of part-time study.

Advanced Diploma in Social Work (Orange Free State)

Admission requirement: A recognized university diploma in Social Work.

Curriculum: One year of full-time study.

The curriculum is the same as that laid down for the degree of B.Soc.Sc.(Hons.) in Social Work.

Diploma in Social Studies (Rhodes)

Admission requirement: A Senior Certificate.

Curriculum: Two years of full-time study. The curriculum consists of eight courses. Five courses must be selected from subjects such as Anthropology, Economic History, Economics, Industrial Sociology, Psychology, Sociology. The Diploma offers only general training in Social Science.

Advanced Diploma in Social Work (Supervision) (Stellenbosch)

Admission requirements: A Bachelor's degree in Social Work or an approved Diploma in Social Work. Only candidates who have been in Social Work practice for at least three years are admitted. Selection is done by a personal interview. Not more than 6 and not less than 3 students are admitted to the course each year.

Curriculum: One year of full-time study.

Higher Diploma in Advanced Social Work Practice (Witwatersrand)

Admission requirement: A B.A. degree in Social Work.

Curriculum: Two years of part-time study. The curriculum comprises five prescribed courses and a dissertation.

VOCATIONAL SERVICE

Social work deals with the effective social functioning of man within, and outside the family context in groups and in the community. In addition to handling the usual problems which arise in the individual and family context, such as, for instance, marital problems, adoptions, drug addiction and other personal problems, the social worker is also faced by the challenge to assist in finding solutions to problems in respect of personal and social adaptation which threaten nations, and more particularly the youth of today. The aim of the social worker is therefore to assist people from all spheres and groups of society to help themselves, to enable them once again to play a meaningful part in society by including them in the normal social and economic service set-up. Three primary methods are applied to cope with the work, viz case studies, social group work and community work. Apart from particular personality traits, the social worker must have professional training (degree or diploma) which will equip him for the demands of this specialized profession.

At present the Public Service is the largest single employer of men and women who have qualified in the social sciences. The activities comprise such a broad field that provision has been made for a large number of high professional posts. The Departments which are concerned with welfare and related services, are those of Social Welfare and Pensions and Plural Relations and Development. Other bodies which render social services or where social work is secondary to the main aim are, for example, The South African National Council on Alcoholism and Drug Dependence, the Christelike Maatskaplike Raad, hospitals, municipalities, prisons, the Railways, the Defence Force, Posts and Telecommunications, child welfare associations, marriage bureaux, the mines, Iscor, Sasol and other large industrial concerns. Important posts in personnel management are at present held by social workers, whereas persons with the necessary qualifications and experience may obtain posts as lecturers at universities. The subject Social Work is not restricted to the profession of social work. As a subject for practically any B.A. field of study, it is of particular value to ministers, nurses, teachers, psychologists, sociologists, and so on.

Also see Sociology, p.42 and other Social Sciences in Chapter 2.

SPEECH THERAPY AND AUDIOLOGY/LOGOPAEDICS

Universities: Cape Town, Pretoria, Witwatersrand

Degrees

Bachelor of Science (Logopaedics): B.Sc. (Log.) (UCT)
Bachelor of Arts in Logopedics: B.A. (Log.) (UP)
Bachelor of Arts in Speech and Hearing Therapy: B.A. (Sp. & H. Therapy) (UW)
Master of Arts in Logopedics: M.A. (Log.) (UP)
Master of Arts in Audiology: M.A. (Audiology) (UW)
Master of Arts in Speech Pathology: M.A. (Speech Pathology) (UW)
Doctor of Philosophy: D.Phil. (UP)
Doctor of Philosophy: Ph.D. (UW)
Doctor of Literature: D.Litt. (UW)

Diploma

Diploma for Therapists (Special Education): D.T.S.E. (Unisa) See p.128.

DEGREES

Bachelor of Science (Logopaedics): B.Sc. (Log.) (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics. It is recommended that Biology be a subject for the Std 10 examination.

Curriculum: Four years of full-time study. The curriculum includes the following courses: Speech Pathology and Therapy IV, Audiology II, Psychology III, Structural and Functional Anatomy I, Phonetics I, Linguistics I and Neuro-Sciences I (half course). A report based on guided research on an approved topic is required in the fourth year. Students are required to undertake practical work.

Bachelor of Arts in Logopedics: B.A. (Log.) (Pretoria)

Admission requirements: As for the ordinary B.A. degree (see p.18) and preferably with passes in Mathematics as well as Biology and/or Physics.

Curriculum: Four years of full-time study. The curriculum includes, inter alia, the following courses: Speech Therapy IV; Audiology III; Psychology III; Neurology of Speech, Voice and Hearing; Pathology of the Speech, Voice and Hearing Organs and Clinical Neurology; Speech Science II; two courses in any modern language and a dissertation on an approved specific section of either Speech Therapy or Audiology.

Students are required to do practical work in their second, third and fourth years of study.

Bachelor of Arts in Speech and Hearing Therapy: B.A. (Sp. & H. Therapy) (Witwatersrand)

Admission requirements: As for the ordinary B.A. degree (see p.30) with a pass in Mathematics on the Higher Grade or at least 50 per cent on the Standard Grade.

Curriculum: Four years of full-time study. The curriculum comprises, inter alia, the following courses: Speech Pathology IV, Clinical Practicum in Speech Pathology IV, Audiology III, Clinical Practicum in Audiology III, Psychology III, Phonetics and Linguistics I, Phonetics II, Neurology of Speech, Voice and Hearing Organs, Afrikaans or Afrikaans en Nederlands I or English I or a course in another language. A report based on research on an approved topic is required in the fourth year of study.

VOCATIONAL SERVICE

There is a growing awareness of the importance of this profession, which can be practised by both men and women. In contrast with Speech (as found in Speech Training and Drama fields of study), in which an attempt is made to improve the standard of normal speech, speech therapy is applied to persons with voice, speech and hearing disturbances or deviations. Deficiencies in communication which are treated by the speech therapist are, for example, speech defects which arise as a result of hearing defects, problems with certain sounds, stuttering, reading difficulties, the cleft palate and brain damage which has a deleterious effect on speech, voice aberrations (e.g. hoarseness), deviations which originate as a result of psychological problems, et cetera.

The qualified speech therapist will have no difficulty in obtaining a post in accordance with his or her aptitude and interest and the occupation may, for example, be pursued through

- entering the service of a provincial education department or the Department of National Education (in some cases a teacher's qualification and/or teaching experience may be required);
- serving in hospitals or hospital clinics, in co-operation with ear, nose and throat specialists, neurologists, pediatricians, plastic surgeons and psychiatrists;
- an appointment in a speech, voice and hearing clinic at the university;
- a clinic of one's own and private practice;
- an appointment as audiologist in the SA Defence Force where, for example, the hearing of pilots is tested.

One may derive much personal satisfaction from speech therapy as a career. Helping someone to regain his place in the community is an experience which brings great happiness; assisting him or her to communicate normally is indeed worth the trouble.

THEOLOGY/DIVINITY

Universities: Natal, Potchefstroom, Pretoria, Rhodes, South Africa, Stellenbosch

The Universities of the Orange Free State and Port Elizabeth and the Rand Afrikaans University also offer curricula for the B.A. Admission degree.

Degrees

Bachelor of Arts: B.A. (UN)
Bachelor of Arts (Honours): B.A.Hons. (UN)
Bachelor of Theology: Th.B. (Rhodes) or B.Th. (Unisa)
Honours Bachelor of Theology: Hons.B.Th. (Unisa)

Post-graduate Degrees

Potchefstroom

Bachelor of Theology: Th.B.
Master of Theology: Th.M.
Doctor of Theology: Th.D.

Rhodes

Bachelor of Divinity: B.D.
Doctor of Philosophy: Ph.D.
Doctor of Divinity: D.D.

Stellenbosch

Bachelor of Theology: B.Th.
Master of Theology: M.Th.
Doctor of Theology: D.Th.
Licentiate in Theology

Diplomas and Certificate

Post-graduate Diploma in Theology (UP)
Certificate in Religious Knowledge (Rhodes)
Diploma in Theology: Dip.Theol. (Rhodes)
Diploma in Theology (Unisa)

DEGREES

Bachelor of Arts: B.A. (Natal)

The University of Natal offers both Biblical Studies and Theology as major subjects in which two qualifying courses may be taken. A candidate who has completed two qualifying courses in either of these two subjects for his B.A. degree may take an Honours course in Divinity.

See Chapter 2: University of Natal (p.10) for further particulars concerning the B.A. degree course.

Bachelor of Theology: Th.B. (Rhodes)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: Four years of full-time study. The curriculum includes the following subjects: Biblical Studies, Systematic Theology, Ecclesiastical History, Pastoral Work, Hellenistic Greek or Hebrew or another approved course.

This degree may be taken in two further years of study after a degree in another faculty depending on the subjects passed.

Bachelor of Theology: B.Th. (South Africa)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Curriculum: At least three years and not more than ten years. The curriculum consists of at least 30 modules (see p. 101). The following subjects at first-year level are compulsory: Old Testament, New Testament, Church History, Missiology and Science of Religion, Systematic Theology, Theological Ethics, Practical Theology. At least two of these subjects must be major subjects.

POST-GRADUATE DEGREES

Bachelor of Theology: Th.B. (Potchefstroom)

Admission requirements: A B.A. degree. The following courses must be completed: Semitic Languages II, Hebrew II, Greek II (including New Testament Greek), Latin I, Philosophy II.

A student may not include the subject Biblical Studies in his curriculum for the B.A. degree. A student must give proof of a satisfactory reading knowledge of German.

Curriculum: Four years of full-time study.

Bachelor of Divinity: B.D. (Pretoria)

Admission requirements

Division A - Dutch Reformed Church of Africa (Ned.Hervormde Kerk van Afrika): A Bachelor's degree and credit for Latin I or IB, Biblical Studies II or Philosophy II, Greek II and Hebrew II.

Any two of the above-mentioned second-year subjects may be taken as major subjects provided that at least one of the two must be either Greek III or Hebrew III.

Division B - Dutch Reformed Church (Nederduits Gereformeerde Kerk): A Bachelor's degree and credit for Biblical Studies I, Latin Special or German IB, Greek II (including New Testament Greek) and Hebrew II: Provided that a candidate who passed Latin or German in the Std 10 examination may be exempted from taking Latin Special or German IB.

A candidate who wishes to become a missionary must complete a course in either a Bantu language or Anthropology or Applied Anthropology.

Curriculum: Three years of full-time study.

A candidate who wishes to be trained as a minister of the Dutch Reformed Church (Ned. Geref.Kerk) must also obtain the Post-graduate Diploma in Theology. This course extends over one year of full-time study.

Bachelor of Divinity: B.D. (Rhodes)

Admission requirements: The Th.B. degree or a Bachelor's degree in another faculty, preferably a B.A. degree with two major subjects from Biblical Studies, Systematic Theology and Ecclesiastical History.

Curriculum: One year of full-time study after the Th.B. degree; two years of full-time study after a B.A. degree with the above-mentioned subjects, otherwise three years.

Bachelor of Divinity: B.D. (South Africa)

Admission requirements: A candidate must hold a Bachelor's degree, and have passed Classical Hebrew II and either Greek II or Hellenistic Greek II and either Latin I or Latin IB or have passed in such special examinations in these subjects as may be determined by the Senate: provided that a student may take a maximum of two of the language courses concurrently with specific parts of the B.D. curriculum.

A reading knowledge of German is desirable.

Curriculum: At least three years. The degree has to be completed within ten years after first registration for the degree.

Bachelor of Theology B.Th. (Stellenbosch)

Admission requirements: A Bachelor's degree obtained in another faculty than the Faculty of Theology. The following subjects must have been passed: Biblical Studies I; Hebrew II and Greek II (A or B) or an approved two-year course in Hebrew and Greek.

The subject Church Assistance must not form part of the minimum ten courses required for the B.A. degree.

In view of prescribed work students are strongly advised to acquire a reading knowledge of German by taking Special German or German I, if necessary.

In view of academic preparation and service in one of the undermentioned divisions of the Dutch Reformed Church, students are strongly advised to include the following subjects as indicated in each division, in their Bachelor's degree course:

- (i) Mother-church: Afrikaans-Nederlands, Philosophy, Psychology and Sociology
 - (ii) Missionary church: Afrikaans-Nederlands and Sociology
 - (iii) Bantu church: Afrikaans-Nederlands, English, a Bantu language and Anthropology.
- Curriculum: Three years of full-time study. The curriculum includes six subjects, all of which are major subjects.

Licentiate in Theology (Stellenbosch)

Students who have obtained the B.Th. degree may be admitted to the fourth-year course to obtain the Licentiate in Theology.

The curriculum consists of a dissertation and continued study in the six subjects which were taken for the B.Th. degree.

DIPLOMAS AND CERTIFICATE

Certificate in Religious Knowledge (Rhodes)

Admission requirements: Mature non-matriculants who only have two years at their disposal to attend the University.

Curriculum: Two years of full-time study. The Certificate is designed to provide an elementary training for prospective ministers, missionaries and teachers.

The following courses are included in the curriculum: Biblical Studies I and II, Ecclesiastical History I and II, Systematic Theology I, any B.A. subject, Pastoral Work I or another approved subject, Sociology I or Anthropology I or Psychology I or Philosophy I or Pastoral Work II.

Diploma in Theology: Dip. Theol. (Rhodes)

Admission requirements: Mature non-matriculants sent to the University for training by their ecclesiastical authorities.

Curriculum: Three years of full-time study. The curriculum includes approximately the same courses as for the Certificate in Religious Knowledge for the first two years. In the third year students take, inter alia, Biblical Studies III, Systematic Theology III, Ecclesiastical History II.

Diploma in Theology (South Africa)

Admission requirement: A Senior Certificate or equivalent certificate.

Curriculum: At least two years. The curriculum comprises courses in the following subjects: Old Testament, New Testament, Church History, Missiology and Science of Religion, Systematic Theology, Theological Ethics and Practical Theology.

Note: The University of South Africa also grants the degrees, Baccalaureus Diaconologiae (B.Diac.) and Honours Bachelor of Diaconiology (Hons.B.Diac.). These degree courses may be taken only by students of the Huguenot College, Wellington.

VOCATIONAL SERVICE

Even more than in the case of most of the other fields of study, intending students should obtain clarity beforehand about questions centering around a study of Theology. As South Africa is a country in which there is religious tolerance and the many denominations are allowed to pursue and to expand their activities virtually without any restrictions, and because they differ so much from one another as regards their organization, training and conditions of service of clergymen, etc., it is impossible to give comprehensive details about all of them. It is therefore recommended that interested persons should of their own account obtain the required information from authoritative sources in their particular church organizations.

Owing to the rapid increase in the population it is evident that this is a field which offers challenging possibilities. The girl as well, particularly the one interested in missionary work, need not fear unemployment.

TOWN AND REGIONAL PLANNING

Universities: Cape Town, Natal, Orange Free State, Potchefstroom, Pretoria, Stellenbosch, Witwatersrand

Degrees

Bachelor of Arts and Science (Planning): B.Art. et Scien. (Planning) (PU for CHE)
Bachelor of Town and Regional Planning: B.Sc. (Town and Reg.Planning) (UP)
Bachelor of Science in Town and Regional Planning: B.Sc.(T.R.P.) (UW)
Master of City and Regional Planning: M.C.R.P. (UCT)
Master of City Planning and Urban Design: M.C.P.U.D. (UCT)
Master of Town Planning: M.T.P. (UN)
Master of Science in Town and Regional Planning: M.Sc. T.P. (UN)
Master of Arts and Science (Planning): M.Art et Scien. (Planning) (PU for CHE)
Master of Town and Regional Planning: M.Sc. (Town and Reg.Planning) (UP)
Master of Town and Regional Planning: M. of Town and Regional Planning (UOFS, US)
Master of Science in Town and Regional Planning: M.Sc. (T.R.P.) (UW)
Master of Environmental Planning: M.E.P. (UW)
Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Doctor of Town and Regional Planning: D.Sc. (Town and Reg. Planning) (UP)
Doctor Philosophiae: D.Phil. (PU for CHE, US)
Doctor of Town and Regional Planning: D.T.R.P. (UW)
Doctor of Science in Town and Regional Planning: D.Sc. (T.R.P.) (UW)

Diplomas

Diploma of City and Regional Planning: Dip.C.R.P. (UCT)
Diploma of City Planning and Urban Design: Dip.C.P.U.D. (UCT)
Higher Diploma in Planning for Developing Areas (UW)

DEGREES

Bachelor of Arts and Science (Planning): B.Art. et Scien. (Planning) (Potchefstroom)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade or at least a C symbol on the Standard Grade. Students are selected.

Curriculum: A minimum period of four years of full-time study.

A candidate must pass in at least eighteen and a half courses. The two major subjects are Town Planning IV and Regional Planning IV. The other courses are the following: SA Administrative and Planning Legislation, Methods of Regional Analysis, Geography II, Economics III, Sociology II, Statistical Methods, Engineering in relation to Planning.

In the final year of study a candidate must also submit a satisfactory paper on an approved subject.

Bachelor of Town and Regional Planning: B.Sc. (Town and Reg. Planning) (Pretoria)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional requirements are the same as for the B.Sc. (Eng.) degree. See p. 156.

Curriculum: Four years of full-time study. A candidate must pass in approximately 23 courses and submit a paper in the fourth year of study. The curriculum includes, inter alia, the following courses: Town Planning IV, Regional Planning IV, Engineering for Planners, Planning Law, Economics III or Sociology III or Geography III, Geology.

Bachelor of Science in Town and Regional Planning: B.Sc. (T.R.P.) (Witwatersrand)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass on the Higher Grade or at least 60 per cent on the Standard Grade in Mathematics.

Curriculum: Four years of full-time study. Students are required to perform practical work during university vacations and to participate in prescribed visits and tours. The curriculum includes, inter alia, the following courses: Town and Regional Planning Practice IV, Town and Regional Planning Theory IV, Town and Regional Planning Law, Geography for Planners, Economics for Planners, Sociology I, Geography I, Mathematics I.

Candidates must submit a dissertation in the fourth year of study.

Master of City and Regional Planning: M.C.R.P. (Cape Town)

Admission requirement: A recognized degree from an approved institution.

Curriculum: Two years of full-time study.

Master of City Planning and Urban Design: M.C.P.U.D. (Cape Town)

Admission requirement: A degree in Architecture from any recognized institution approved by the Senate.

Curriculum: Two years of full-time study.

Master of Town Planning: M.T.P. (Natal)

Admission requirement: A Bachelor's degree in an approved field.

Curriculum: Two years of full-time study.

Master of Science in Town and Regional Planning: M.Sc.T.P. (Natal)

Admission requirements: A graduate in Architecture, Building, Engineering, Land Surveying, Town Planning or Quantity Surveying or a graduate who holds a Bachelor's degree in another approved field.

Curriculum: One year of full-time study or two years of part-time study.

Master of Town and Regional Planning: M. of Town and Regional Planning (Orange Free State)

Admission requirements: (i) Persons who hold a degree in Town and Regional Planning or a degree in a related field with a Diploma in Town and Regional Planning or other equivalent qualifications. (ii) Persons with little or no training in planning and related fields, but with a degree in an appropriate field or who hold other appropriate qualifications.

Curriculum: (i) One year of full-time study or two years of part-time study for those admitted under (i).

(ii) Two years of full-time study or three years of part-time study for those admitted to the course under (ii).

Master of Town and Regional Planning (Stellenbosch)

Admission requirements: A candidate must hold one of the following qualifications:

- B.A. degree with at least one of the following as a major subject: Geography A, Economics, Sociology
- B.Sc. degree with at least one of the following as a major subject: Geography B, Geology, Mathematics
- B.Sc. degree in Agriculture (Agricultural Economics)
- B.Com.
- B.Econ.
- B.Admin.
- B.Eng. (Civil Engineering)
- B.Sc. in Forestry
- A Bachelor's degree in Architecture
- A Bachelor's degree in Surveying.

Curriculum: Two years of full-time study.

Students who hold a four-year Bachelor's degree in Town and Regional Planning may also be admitted to the course. They must follow an approved curriculum of research and/or advanced study at this University or other approved place and they are required to submit a satisfactory dissertation.

DIPLOMAS

Diploma of City and Regional Planning: Dip. C.R.P. (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) or any other equivalent certificate; and a diploma or professional qualification approved by the Senate.

Curriculum: Two years of full-time study.

Diploma of City Planning and Urban Design: Dip. C.P.U.D. (Cape Town)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) or any other equivalent certificate; and a diploma or professional qualification in Architecture approved by the Senate.

Curriculum: Two years of full-time study.

Higher Diploma in Planning for Developing Areas (Witwatersrand)

Admission requirements: A Bachelor's degree in Architecture, Town and Regional Planning, Building, Civil Engineering or Land Surveying or a B.A. or B.Sc. degree with three courses in Economics and/or Geography or other approved degree or equivalent qualifications.

Curriculum: One year of full-time study.

VOCATIONAL SERVICE

Town and Regional Planning is one of the professions which in recent times has gained in importance. In South Africa also there has lately been a strong demand for qualified planners, owing to the fact, *inter alia*, that many of the cities and larger towns have reached the stage where urban innovation, i.e. the replacement of old and unsuitable buildings and inadequate road systems by modern ones, have become essential. Furthermore, the concentration of population at growth points necessitates thorough planning for the future which will comprise comprehensive surveys of sources, the evaluation thereof and research into the best utilization of these sources in the entire occupational pattern. The planner serves to a large extent as a link between architect and engineer, between economist and sociologist and between public interests and industry.

The majority of planners are at present employed by the larger municipalities, whereas about one third of them are attached to the Government Departments of Planning and the Environment, Community Development and Plural Relations and Development. The rest of them are either employed by the four provincial administrations or have private practices. Additional training in planning is of exceptional value to the civil engineer, architect or land surveyor and may lead to senior posts, particularly in the Public Service. Post-graduate study will also be required for appointment to a post as lecturer at a university. There are academic posts at some colleges for advanced technical education as well.

Also consult Tertiary Training for particulars on the National Diploma for Technicians (Town and Regional Planning).

TRANSLATION

Universities: Rhodes, South Africa

Degree

Bachelor of Arts (Translation): B.A. (Trans.) (Rhodes)

Diplomas

Post-graduate Diploma in Translation: Dip.Trans. (Rhodes)
Diploma in Translation (Unisa)

DEGREE

Bachelor of Arts (Translation): B.A. (Trans.) (Rhodes)

Admission requirements: As for the B.A. degree. See p.23.

Curriculum: Three years of full-time study. A candidate must obtain credit in at least ten courses selected from the list of subjects for the ordinary B.A. degree (see p.24). The curriculum must include Translation I, II and III; a second major subject chosen from the major subjects for the B.A. degree; Linguistics I; English I and Afrikaans/Nederlands I or Afrikaans I.

DIPLOMAS

Post-graduate Diploma in Translation: Dip.Trans. (Rhodes)

Admission requirements: A candidate must have been admitted to a degree approved for the purpose; or have been admitted to the status of such degree; and have satisfied the requirements for the Translation Aptitude Test.

Curriculum: At least one academic year. Candidates for the Diploma are required to work for at least four weeks in an approved institution for translation during the period of study to gain practical experience.

Diploma in Translation (South Africa)

Admission requirements: A candidate must

- hold a recognized Bachelor's degree; and
- have passed the third course in each of the two languages in which tuition in translation is offered and in Linguistics I/General Linguistics I or an equivalent course; or
- have had at least two years' satisfactory experience as a translator in respect of the languages for which tuition is required with a recognized translation institution or organization.

The Department of Linguistics may require candidates to sit for a language and translation test.

Curriculum: At least one academic year. A student shall attend a group session (lectures and discussions) of one week per year. Group sessions are arranged in Cape Town and Pretoria and are normally held in November.

The curriculum comprises four papers, viz Elements of Language, Translation Practice I and II, Elements of Translation.

VOCATIONAL SERVICE

Apart from an excellent command of language, a translator must have a versatile mind which is capable of functioning with ease in any of a great number of fields of knowledge, and of grasping complex and subtle concepts in one language and conveying them in another language, at the level of the expert. He should be a person with wide interests and be well informed on topical matters such as those of a political, economic, educational, social, scientific and technological nature.

The justification for the existence of this profession is based on the claim to equal status of both official languages. Competent translators will always be in demand in the public as well as the private sector.

VETERINARY SCIENCE

University: Pretoria

Degrees

Bachelor of Veterinary Science: B.V.Sc.

Bachelor of Veterinary Science (Honours): B.V.Sc. (Hons.)

Master of Veterinary Medicine: M.Med.Vet.

Doctor of Veterinary Science: D.V.Sc.

Undergraduate Diploma

Diploma in Animal Nursing: Dip.Cur.Anim.

Post-graduate Diploma

Diploma in Veterinary Public Health

DEGREES

Bachelor of Veterinary Science: B.V.Sc.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional requirements are the same as for the B.Sc. degree. See p. 96.

Curriculum: Five and a half years of full-time study. As only a limited number of first-year students are allowed to continue with the second year of study, students are selected after passing the first-year examinations. Those who are not selected are allowed to enrol for another course of study for which they have satisfied the admission requirements.

The subjects for the first year are Anatomy, Chemistry, Biological Science and Physics. Subjects taken during the other four and a half years are, inter alia, the following: Anatomy, Pathology, Physiology, Pharmacology, Bacterial Diseases, Poultry Diseases, Food Hygiene and Public Health, Surgery, Interdisciplinary Veterinary Medicine, Medicine, Zootechnology.

A candidate must have mastered both official languages sufficiently to be able to follow the lectures in Afrikaans as well as in English. A candidate may choose in which official language he wishes to write the examinations.

Students are required to undertake practical work during university vacations, and to submit proof thereof to the Registrar before the end of the final year.

UNDERGRADUATE DIPLOMA

Diploma in Animal Nursing: Dip.Cur.Anim.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with pass marks in Mathematics and Physical Science or Biology of at least 40 per cent on the Higher Grade or at least 50 per cent on the Standard Grade. Only women students are admitted.

Curriculum: Two years of full-time study. The curriculum consists of twelve subjects. They are, inter alia, Anatomy, Physiology, Microbiology and Parasitology, General Nursing, Radiography and Physiotherapy, Medical Nursing, Theatre Practice.

Students are required to do clinical work at the Faculty and in approved private practices during the two years of study.

A candidate must have mastered both official languages sufficiently to be able to follow the lectures in English as well as in Afrikaans. A candidate may choose in which language she wishes to write the examinations.

POST-GRADUATE DIPLOMA

Diploma in Veterinary Public Health

Admission requirements: A candidate must hold the degree of B.V.Sc. or an equivalent degree and must be registered with the South African Veterinary Board as a Veterinary Surgeon.

Curriculum: One academic year for full-time candidates and two academic years for part-time candidates. The curriculum comprises Parts I and II. Part I consists of five examination subjects such as Microbiology; Town Planning and Physiology; Parasitology. Part II includes, inter alia, Legislation and Administration; Sanitation and Hygiene; Veterinary Public Health.

VOCATIONAL SERVICE

The qualified veterinary surgeon usually experiences no difficulty in obtaining a satisfactory position in one of the many branches of the profession. On the contrary, there is a need for veterinary surgeons with private practices, particularly in the rural areas.

Since veterinary science is concerned with the prevention and treatment of animal diseases, job opportunities for the veterinary surgeon arise mainly from his interest in the fol-

lowing branches:

- Government veterinary surgeons in the employ of the Department of Agricultural Technical Services. Basically they are concerned with:

- . Research on a large and intensive scale in the research institute at Onderstepoort. Here there are opportunities to specialize in one of more than twelve sections. Activities also include the manufacture and distribution of vaccines.
- . Field service and guidance, which includes visits to farmers, assistance to government departments, routine laboratory duties etc. A Government veterinary surgeon is also assisted by a number of cattle inspectors at outposts in his area.

- The private practitioner, sometimes also in partnership with other veterinary surgeons, with his own consulting rooms. Some of them also specialize and then treat only one kind of animal.

- Veterinary surgeons in the service of municipalities to watch over public health.

- Veterinary surgeons in the employ of agricultural co-operatives for the benefit and convenience of members.

- Veterinary surgeons in the employ of private concerns such as manufacturers of cattle remedies, and animal produce, owners of large cattle stud-farms, poultry farms, etc.

- There is also the possibility of a lecturing post at the University of Pretoria.

The Diploma in Animal Nursing offers the only formal training of veterinary nurses in the RSA. The course is intended for women only and it is the task of qualified persons to assist veterinary surgeons in a large variety of ways. These nurses always work under the supervision of a veterinary surgeon in a private practice, in any institution at which research is undertaken with or on animals and in animal hospitals or clinics. The work is rarely of a routine nature and is usually performed under pleasant circumstances. The prospects are good and women who can handle animals sympathetically and who are practical, patient, accurate and neat are offered the opportunity of an interesting career.

Also consult Tertiary Training for particulars on the National Diploma in Veterinary Technology.

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A P P E N D I C E S

A. USEFUL ADDRESSES

1. UNIVERSITIES

Enquiries should be addressed to the Registrar.

University of Cape Town
Private Bag
RONDEBOSCH
7700

University of Natal
King George V Avenue
DURBAN
4001

OR

The Secretary
University of Natal
P.O. Box 375
PIETERMARITZBURG
3200

University of the Orange Free State
P.O. Box 339
BLOEMFONTEIN
9300

University of Port Elizabeth
P.O. Box 1600
PORT ELIZABETH
6000

Potchefstroom University for Christian
Higher Education
POTCHEFSTROOM
2520

University of Pretoria
Brooklyn
PRETORIA
0181

Rand Afrikaans University
P.O. Box 524
JOHANNESBURG
2000

Rhodes University
P.O. Box 94
GRAHAMSTOWN
6140

University of South Africa
P.O. Box 392
PRETORIA
0001

University of Stellenbosch
STELLENBOSCH
7600

University of the Witwatersrand
Jan Smuts Avenue
JOHANNESBURG
2001

2. COLLEGES FOR ADVANCED TECHNICAL EDUCATION

The Registrar
Cape College for Advanced Technical
Education
P.O. Box 652
CAPE TOWN
8000

The Rector
College for Advanced Technical Education
Private Bag X6011
PORT ELIZABETH
6000

The Registrar
Vaal Triangle College for Advanced
Technical Education
Private Bag X021
VANDERBIJLPARK
1900

The Registrar
Natal College for Advanced Technical
Education
P.O. Box 953
DURBAN
4000

The Registrar
Pretoria College for Advanced Technical
Education
420 Church Street East
PRETORIA
0002

The Registrar
Witwatersrand College for Advanced
Technical Education
P.O. Box 3293
JOHANNESBURG
2000

3. GOVERNMENT DEPARTMENTS

Unless otherwise stated enquiries should be addressed to the Secretary.

Bureau of National and International
Communication
Private Bag X152
PRETORIA
0001

Department of Agricultural Credit and
Land Tenure
Private Bag X118
PRETORIA
0001

Department of Agricultural Economics and
Marketing
Private Bag X250
PRETORIA
0001

Department of Agricultural Technical
Services
Private Bag X116
PRETORIA
0001

The Auditor-General
Department of the Auditor-General
P.O. Box 446
PRETORIA
0001

Department of Coloured, Rehoboth and
Nama Relations
Private Bag X9058
CAPE TOWN
8000

Department of Commerce
Private Bag X84
PRETORIA
0001

Department of Community Development
Private Bag X149
PRETORIA
0001

Department of Customs and Excise
Private Bag X47
PRETORIA
0001

Department of Education and Training
Private Bag X212
PRETORIA
0001

Department of Finance
Union Buildings
PRETORIA
0002

Secretary to the Treasury
Department of Finance
Private Bag X115
PRETORIA
0001

Department of Foreign Affairs
Union Buildings
PRETORIA
0002

Department of Forestry
Private Bag X93
PRETORIA
0001

Department of Health
Private Bag X88
PRETORIA
0001

Department of Immigration
P.O. Box 2072
PRETORIA
0001

Department of Indian Affairs
Private Bag X92
PRETORIA
0001

Department of Industries
Private Bag X342
PRETORIA
0001

Department of Inland Revenue
P.O. Box 402
PRETORIA
0001

Department of the Interior
Private Bag X114
PRETORIA
0001

Department of Justice
Private Bag X81
PRETORIA
0001

Department of Labour
Private Bag X117
PRETORIA
0001

Department of Mines
Private Bag X59
PRETORIA
0001

Department of National Education
Private Bag X122
PRETORIA
0001

Department of Planning and the Environment
Private Bag X213
PRETORIA
0001

Department of Plural Relations and
Development
P.O. Box 384
PRETORIA
0001

The Department of the Prime Minister
Union Buildings
PRETORIA
0002

Commissioner of Prisons
Department of Prisons
Private Bag X136
PRETORIA
0001

Office of the Public Service Commission
Private Bag X121
PRETORIA
0001

Department of Public Works
Private Bag X65
PRETORIA
0001

Department of Social Welfare and Pensions
Private Bag
PRETORIA
0001

The Commandant-General of the South
African Defence Force
Department of Defence
Private Bag X160
PRETORIA
0001

Commissioner of the South African Police
Department of the South African Police
Private Bag X94
PRETORIA
0001

Department of Sport and Recreation
Private Bag X269
PRETORIA
0001

Department of Statistics
Private Bag X44
PRETORIA
0001

Department of Tourism
Private Bag X262
PRETORIA
0001

Department of Transport
Private Bag X193
PRETORIA
0001

Department of Water Affairs
Private Bag X313
PRETORIA
0001

4. REGIONAL OFFICES OF THE PUBLIC SERVICE COMMISSION

PRETORIA

315 Northvaal Building
Vermeulen Street
PRETORIA
0002
Tel.: 48-4722

JOHANNESBURG

P.O. Box 6371
1203 Kelhof
112 Pritchard Street
JOHANNESBURG
2000
Tel.: 22-8143

BLOEMFONTEIN

P.O. Box 517
831 H.F. Verwoerd Building
St Andrew Street
BLOEMFONTEIN
9301
Tel.: 71180

KIMBERLEY

304 Saambou Building
Du Toitspan Road
KIMBERLEY
8301
Tel.: 25612

CAPE TOWN

P.O. Box 7136
M47 Customs House
Lower end of Heerengracht and Long Streets
ROGGE BAY
8012
Tel.: 228845

PORT ELIZABETH

P.O. Box 3192
59 Eben Dönges Building
Hancock Street
North End
PORT ELIZABETH
6000
Tel.: 49931

DURBAN

507 Escoval House
437 Smith Street
DURBAN
4001
Tel.: 68829

5. PROVINCIAL ADMINISTRATIONS

The Provincial Secretary
Provincial Administration of the Cape
of Good Hope
P.O. Box 659
CAPE TOWN
8000

The Provincial Secretary
Provincial Administration of the Orange
Free State
P.O. Box 517
BLOEMFONTEIN
9300

The Provincial Secretary
Provincial Administration of Natal
Private Bag X9037
PIETERMARITZBURG
3200

The Provincial Secretary
Provincial Administration of the Transvaal
Private Bag X64
PRETORIA
0001

6. EDUCATION DEPARTMENTS

The Director of Education
Department of Education, Cape of Good
Hope
P.O. Box 13
CAPE TOWN
8000

The Director of Education
OFS Department of Education
P.O. Box 521
BLOEMFONTEIN
9300

The Secretary
Department of National Education
Private Bag X122
PRETORIA
0001

The Director of Education
Natal Education Department
Private Bag X9044
PIETERMARITZBURG
3200

The Director of Education
Transvaal Education Department
Private Bag X76
PRETORIA
0001

7. OTHER BODIES AND ORGANIZATIONS

The President
Human Sciences Research Council
Private Bag X41
PRETORIA
0001

The Deputy Postmaster General
Telecommunication Head Office
Private Bag X74
PRETORIA
0001

The Director of Hospital Services
Cape Provincial Hospitals Department
P.O. Box 2060
CAPE TOWN
8000

The Director of Hospital Services
OFS Division Hospital Services
P.O. Box 517
BLOEMFONTEIN
9300

The Director
National Institute for Personnel Research
P.O. Box 10319
JOHANNESBURG
2000

The Director
South African Bureau of Standards
Private Bag X191
PRETORIA
0001

The Personnel Manager
South African Coal, Oil and Gas
Corporation Limited
P.O. Box 1
SASOLBURG
9570

The Corporative Manager (Personnel)
South African Iron and Steel Industrial
Corporation Limited
P.O. Box 450
PRETORIA
0001

The Personnel Officer
Atomic Energy Board
Private Bag X256
PRETORIA
0001

The Personnel Manager
Electricity Supply Commission
P.O. Box 1091
JOHANNESBURG
2000

The Director of Hospital Services
Natal Department of Hospital Services
Private Bag X9051
PIETERMARITZBURG
3200

The Director of Hospital Services
Transvaal Department of Hospital Services
Private Bag X221
PRETORIA
0001

The Director: Personnel
South African Broadcasting Corporation
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The Secretary
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B. LIST OF ABBREVIATIONS

AECI	African Explosives and Chemical Industries Ltd
AEB	Atomic Energy Board
CATES	Colleges for advanced technical education
CMR	Christelike Maatskaplike Raad
CSIR	Council for Scientific and Industrial Research
Escom	Electricity Supply Commission
HSRC	Human Sciences Research Council
IDC	Industrial Development Corporation of South Africa Ltd
IRS	Information and Research Services (CSIR)
ISCOR	South African Iron and Steel Industrial Corporation Ltd
MRC	South African Medical Research Council
NIPR	National Institute for Personnel Research (CSIR)
PHOSCOR	Phosphate Development Corporation Ltd
SAAU	South African Agricultural Union
SABC	South African Broadcasting Corporation
SABS	South African Bureau of Standards
SASOL	South African Coal, Oil and Gas Corporation, Ltd
SOECOR	Southern Oil Exploration Corporation (Pty) Ltd
<u>Tertiary Training</u>	Tertiary training outside universities and career opportunities (See Bibliography.)

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