

University of Pretoria

Undergraduate Faculty Brochure

Engineering, Built Environment and Information Technology

2014/15



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
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2014/15

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Message from the Dean

The Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria is a highly sought after source of graduates in engineering, the built environment and information technology. We focus on the intellectual and industry-directed development of our students through the presentation of challenging formal programmes, supported by innovative research by leading academics that is relevant to the problems in industry today. The Faculty has extensive and cutting-edge teaching, learning and laboratory facilities integrated into the excellent suite of facilities and services offered by the University. We expand access to our qualifications through our extended supportive study programmes, but expect a lot of our students in terms of commitment to individual and group work to shape them as future leaders. We invite you to consider enrolling in one of our study programmes if you share our vision of excellence and want to position yourself as a leader in the professions that we support.

The Faculty is organised into four schools: the School of Engineering, the School for the Built Environment, the School of Information Technology and the Graduate School of Technology Management. The School of

Engineering is the largest of its kind in the country in terms of student numbers, graduates and research contributions, and offers programmes in all the major engineering disciplines, with many specialisations offered at undergraduate and postgraduate level. The School for the Built Environment also offers the entire spectrum of programmes in the built environment, with studio-based education in the architectural degrees, and close ties and alignment with the building industry. The School of Information Technology is unique and the first of its kind in South Africa, where students have the advantage of an integrated approach to information technology (IT) with study programmes and modern laboratories in computer science, informatics and information science.

The University of Pretoria aims to be internationally competitive, while also locally relevant. Advisory boards at both faculty and departmental level direct and support our activities. Where applicable and available, our study programmes are accredited by statutory and professional bodies at both national and international level.

The Faculty strives to accommodate students that meet our admission criteria, but learners are advised to excel in their studies and to apply early, as places are limited. The University also has various financial schemes to assist deserving students with bursaries and loans.

Thank you for considering our degree offerings. We look forward to receiving your application to join one of our study programmes and trust that we may enter into a lifelong partnership to facilitate your education and professional career.

Prof Roelf Sandenbergh
Dean: Faculty of Engineering, Built Environment and Information Technology

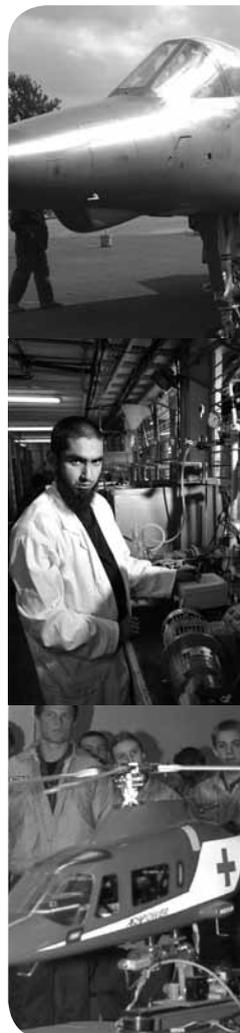


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Comments and queries can be directed to csc@up.ac.za or tel: +27 (0)12 420 311.

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Undergraduate study programmes



Faculty of Engineering, Built Environment and Information Technology

Important information on undergraduate study programmes for 2015

• In order to register NSC/IEB/Cambridge candidates must comply with the minimum requirements for degree studies as well as with the minimum requirements for the relevant study programme. • Life Orientation is excluded when calculating the APS. • Grade 11 results are used in the provisional admission of prospective students. • A valid National Senior Certificate (NSC) with admission to degree studies is required. • Minimum subject and achievement requirements, as set out below, are required. On first-year level a student has a choice between Afrikaans and English as language medium. In certain cases, tuition may be presented in English only, for example in electives, where the lecturer may not speak Afrikaans or in cases where it is not economically or practically viable. • Provisional admission to the Four-year degree in the School of Engineering is only guaranteed if a prospective student complies with ALL the requirements below.

Note: Candidates who do not comply with the minimum requirements, set out above, but who have obtained a minimum APS of 30, an achievement level of 5 for English or Afrikaans, 6 for Mathematics and 5 for Physical Science, will be considered for provisional admission to either the Four-year Programme or the ENGAGE Programme based on the results of the compulsory NBT.

• Admission to ENGAGE in the School of Engineering will be determined by the results of the NBT, NSC results, an achievement level of 5 in Mathematics and 4 in Physical Science, as well as an achievement level of 4 in Afrikaans or English, together with an APS of 25. • Students may apply directly to be considered for the ENGAGE Programme.

University of Pretoria website: www.up.ac.za National Benchmark Test website: www.nbt.ac.za

Study programme Duration Closing dates Careers	Minimum requirements for 2015													APS
	Afrikaans or English				Mathematics				Physical Science					
	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level		
SCHOOL OF ENGINEERING														
BEng (Industrial Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Careers: Industrial engineers design, test, implement and manage a wide range of man/machine systems for the delivery of production and services. Organisational matters that require optimisation include site selection and layout of facilities, manufacturing, inventory control, materials handling, supply chain management, quality management, cost control, financial services, maintenance, reliability, computer simulation, information systems, human resources and business law.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
BEng (Chemical Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Careers: Chemical engineers are involved in industrial processes that convert raw materials into products with a higher economic value. This is achieved by means of physical, thermal, chemical, biochemical and mechanical changes and processes. Chemical engineers apply their specialised knowledge in the petroleum, food, minerals processing, power generation, and the paper and pulp industries. Water and effluent treatment, as well as environmental engineering activities, including air pollution control. Like other engineering disciplines, chemical engineers are involved in research and development, techno-economic evaluation, equipment and plant design, process control and optimisation, construction, commissioning, operation and management and final product marketing and distribution.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
BEng (Civil Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Careers: Civil engineers design, build and maintain constructions such as tower blocks and skyscrapers, dams, canals and pipelines, roads, bridges, tunnels, railways, airports, power stations, television towers, water works and outfall installations. They are involved in financial modelling, feasibility studies and the management and rehabilitation of large asset portfolios.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
BEng (Electrical Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Careers: Electrical engineers are active in the generation, storage, transmission, distribution and utilisation of electrical energy. There is a brilliant future in renewable energy. Electrical engineers design, supervise the construction, oversee the optimal operation and assure perfect and timely maintenance of all electrical installations for municipalities, residential areas, commercial buildings, factories, mines and industries. Rail transport, water pumping, electrical grids, telecommunications, energy management and smart lighting are all fields of application of electrical engineering.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
BEng (Electronic Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Careers: Electronic engineers are active in various fields, such as telecommunications (fixed networks, wireless, satellite, television, radar and radio frequency networks), entertainment and medical (magnetic resonance imaging, X-rays, cardiopulmonary resuscitation, infrared tomography, electroencephalograms (EEG), electrocardiograms (ECG), rehabilitation engineering and biokinetics), integrated circuit design, bioengineering, military (vehicle electronics, smart bombs, night vision, laser systems), transport (e-tags, speed measuring, railway signalling, global positioning system (GPS) and mapping), "smart" dust, safety and security systems (face and speech recognition), banking (ATMs), commerce, robotics, education, environmental management, tourism and many more.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
BEng (Mechanical Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Careers: Mechanical and aeronautical engineers are concerned with power-generating machines and systems such as vehicles, ships, air conditioners, pebble bed nuclear reactors, aeroplanes, engines and turbines, robots and biomedical systems. Areas of specialisation include product design and manufacturing (such as design, testing and improvement of mechanical, electrical, pneumatic and hydraulic systems), marine engineering and naval architecture, biomedical engineering, air-conditioning and refrigeration, aerospace systems and aircraft/missile engineering, vehicle engineering, maintenance engineering and energy management (gas and steam turbines, nuclear power reactors, petrol engines, cooling towers and renewable energy systems).	5	3	C	C	6	2	B	B*	6	2	B	B*	35	

* A-Level: C symbols for Mathematics, Physics and Chemistry will be considered for admission providing the required APS has been obtained.

Study programme Duration Closing dates Careers	Minimum requirements 2015													APS
	Achievement level													
	Afrikaans or English				Mathematics				Physical Science					
SCHOOL OF ENGINEERING	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level		
BEng (Metallurgical Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Only presented in English from second year Careers: Metallurgical engineers unlock the riches of deposits of metal ores, coal and diamonds and optimise the manufacture of metal components. They work in plants where valuable minerals are recovered from ore, where metals are produced out of the minerals and where the metals are converted into useful materials – such as steel or aluminium. Careers include production engineers, plant managers, consultants and researchers.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
BEng (Mining Engineering) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Only presented in English Careers: Mining engineers have a wide range of opportunities, namely mining (mine management, technical management of ventilation, rock mechanics, rock breaking, mineral resources), financial evaluation and management (mine design, mine financial evaluation, mine feasibility studies, mine environmental impact studies), mining and drilling contracting (mining, tunnelling, shaft sinking, mine development, ore evaluation), mining research, mining equipment design and manufacture, mining marketing and mining administration at national, provincial or international level.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
BEng (Computer Engineering) [4 years] Closing dates: SA – 30 September; Non-SA – 31 August Careers: Computer engineers are active in all fields of the information superhighway and the information and communication technology (ICT) world, which include computer systems, software engineering, computer and communications networks, wireless sensor networks, embedded software, electronics, smart control systems and automation, data security, e-commerce, pattern recognition (face and speech recognition), and artificial intelligence. They specialise in combining hardware, software and communication technologies to optimise system performance.	5	3	C	C	6	2	B	B*	6	2	B	B*	35	
Engineering Augmented Degree Programme (ENGAGE) [5 years] Candidates who do not comply with the minimum requirements mentioned above, but who do comply with these requirements, must write the NBT.	4	3	D	D	5	3	C	C	4	3	D	D	25	

* A-Level: C symbols for Mathematics, Physics and Chemistry will be considered for admission providing the required APS has been obtained.

Study programme Duration Closing dates Careers	Minimum requirements for 2015													APS
	Achievement level													
	Afrikaans or English				Mathematics				Physical Science					
SCHOOL FOR THE BUILT ENVIRONMENT	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level		
BScArch – Bachelor of Science Architecture [3 years] Closing dates: SA – 30 June Non-SA – 30 June Will only be considered as first study choice Selection programme: Selection includes an interview. Careers: The BScArch study programme enables graduates to register with the South African Council for the Architectural Profession (SACAP) as candidate architectural technologists. The qualification is the first step to future registration as a candidate senior architectural technologist or a candidate architect. In practice, technologists and/or junior designers provide assistance in the disciplines of architecture, interior design and urban design. Their responsibilities include design development, documentation of projects, project administration and site management.	5	3	C	C	4	3	D	D	4	3	D	D	27	
BScInt – Bachelor of Science Interior Architecture [3 years] Closing dates: SA – 30 June Non-SA – 30 June Will only be considered as first study choice Selection programme: Selection includes an interview. Careers: The BScInt study programme enables graduates to register with the South African Institute for the Interior Design Professions (IID) as candidate interior designers. This qualification is the first step to future registration as a candidate senior interior designer or a candidate interior architect. In practice, candidate designers provide assistance in the disciplines of interior design and architecture. Their responsibilities include design development, the documentation of projects, project administration and site management. The study programme also enables graduates to access the related fields of exhibition, stage and lighting design.	5	3	C	C	4	3	D	D	4	3	D	D	27	
BScLArch – Bachelor of Science Landscape Architecture [3 years] Closing dates: SA – 30 June Non-SA – 30 June Selection programme: Selection includes an interview. Careers: The BScLArch study programme enables graduates to register with the South African Council for the Landscape Architectural Profession (SACLAP) as candidate landscape architectural technologists. This qualification is the first step to future registration as a candidate landscape architect. In practice, technologists and/or junior designers provide assistance in the disciplines of landscape architecture, environmental planning and management, architecture and urban design. Their responsibilities include design development, the creation of assessments and reports, the documentation of projects, project administration and site management.	5	3	C	C	4	3	D	D	or Geography or Life Sciences 4	or Geography or Life Sciences 3	or Geography or Life Sciences D	or Geography or Life Sciences D	27	





Study programme Duration Closing dates Careers	Minimum requirements for 2015												APS
	Achievement level												
	Afrikaans or English				Mathematics				Physical Science				
SCHOOL FOR THE BUILT ENVIRONMENT	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	
BSc Construction Management [3 years] Closing dates: SA – 30 June Non-SA – 30 June Selection programme	5	3	C	C	4	3	D	D	or Account- ing 4	or Account- ing 3	or Account- ing D	or Account- ing D	27
Careers: After completing the three-year undergraduate study programme, graduates could enter careers, in among others, construction site management or subcontract work. On completion of the ensuing two-year honours programme, graduates are able to register as professional construction managers and opportunities become much wider, including project management, property development, portfolio management, commercial marketing and managerial positions in the corporate environment.													
BSc Real Estate [3 years] Closing dates: SA – 30 June Non-SA – 30 June Selection programme	5	3	C	C	4	3	D	D	or Account- ing 4	or Account- ing 3	or Account- ing D	or Account- ing D	27
Careers: Apart from a future in areas such as property investment, property finance and facilities and property management, further studies to obtain an honours degree in real estate can lead to registration as professional property valuers. Career opportunities encompass the whole spectrum of the property sector, whether as entrepreneurs in the private sector or as employees in the private, government or semi-government sectors.													
BScQS – Bachelor of Science Quantity Surveying [3 years] Closing dates: SA – 30 June Non-SA – 30 June Selection programme	5	3	C	C	4	3	D	D	or Account- ing 4	or Account- ing 3	or Account- ing D	or Account- ing D	27
Careers: Quantity surveying is the science that delivers specialised financial and contractual services and advice to clients in the building and construction industry, as well as related industries. The three year undergraduate degree is the first step towards registration as quantity surveyors. The ensuing two-year honours programme leads to registration as candidate professional quantity surveyors. Career opportunities, apart from those in the private, government or semigovernment sectors, also exist in the property, banking, mining and manufacturing industries.													
BT&RP – Bachelor of Town and Regional Planning [4 years] Closing dates: SA – 30 June Non-SA – 30 June Selection programme	5	3	C	C	4	3	D	D					27
Careers: Town and regional planners, development practitioners, urban managers, real estate analysts and researchers. While most town and regional planners act as private consultants to the public and private sector, they are also employed by all three spheres of government, research agencies such as the Council for Scientific and Industrial Research (CSIR) and the Human Sciences Research Council (HSRC), non-governmental organisations, community-based organisations, major financial institutions and property development groups. The qualification will enable graduates to register as professional town and regional planners with the South African Council for Planners.													

Study programme Duration Closing dates Careers	Minimum requirements for 2015										APS
	Achievement level										
	Afrikaans or English					Mathematics					
SCHOOL FOR INFORMATION TECHNOLOGY	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level			
BIT – Bachelor of Information Technology (Information Systems) [3 years] Closing dates: SA – 30 September Non-SA – 31 August	5	3	C	C	5	3	C	C			30 (26–29 admission based on the NBT)
Should a candidate obtain an APS of 26 to 29, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached.											
Careers: Programmers, systems analysts, consultants, database administrators, business analysts, project managers, GIS specialists, computer auditors, e-Tax specialists, e-Business developers, e-Entrepreneur											
BSc (Computer Science) [3 years] Closing dates: SA – 30 September Non-SA – 31 August	5	3	C	C	5	3	C	C			30 (26–29 admission based on the NBT)
Should a candidate obtain an APS of 26 to 29, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached.											
Careers: Programmers, systems analysts, systems architects, consultants, database administrators, network analysts and researchers											
BIS (Multimedia) [3 years] Closing dates: SA – 30 September Non-SA – 31 August	4	3	D	D	5	3	C	C			30 (26–29 admission based on the NBT)
Should a candidate obtain an APS of 26 to 29, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached.											
Careers: Programmers, web designers, animation specialists, video editors, electronic artists. The study programme prepares candidates for positions at any of the following content producers: paper publications, television, radio, phone technologies and the web. Graduates can become coders and work for programming companies. They can develop skills in their particular areas of interest, such as digital music or video, programming, graphic, games or web development.											

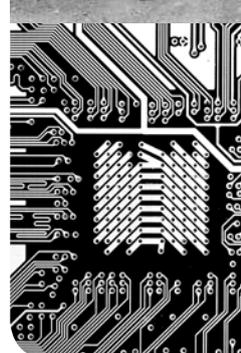
Study programme Duration Closing dates Careers	Minimum requirements for 2015								
	Achievement level								APS
	Afrikaans or English				Mathematics				
SCHOOL FOR INFORMATION TECHNOLOGY	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	
BIS (Multimedia) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Should a candidate obtain an APS of 23 to 25, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached. Careers: Programmers, web designers, animation specialists, video editors, electronic artists. The study programme prepares candidates for positions at any of the following content producers: paper publications, television, radio, phone technologies and the web. Graduates can become coders and work for programming companies. They can develop skills in their particular areas of interest, such as digital music or video, programming; graphic, games or web development.	4	3	D	D	4	3	D	D	26 (23–25 admission based on the NBT)
BSc IT (Information and Knowledge Systems) [3 years] Closing dates: SA – 30 September Non-SA – 31 August Should a candidate obtain an APS of 26 to 29, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached. Careers: Graduates will differentiate themselves in an application environment by choosing one of the following options: applied mathematics, bioinformatics, geographical information systems, IT and enterprises, IT and law, and music, operational research, philosophy, psychology or software development.	4	3	D	D	5	3	C	C	30 (26–29 admission based on the NBT)
BSc IT (Information and Knowledge Systems) [4 years] Closing dates: SA – 30 September Non-SA – 31 August Should a candidate obtain an APS of 23 to 25, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached. Careers: Graduates will differentiate themselves in an application environment by choosing one of the following options: applied mathematics, bioinformatics, geographical information systems, IT and enterprises, IT and law, IT and music, operational research, philosophy, psychology or software development.	4	3	D	D	4	3	D	D	26 (23–25 admission based on the NBT)
BIS (Information Science) [3 years] Closing dates: SA – 30 September Non-SA – 31 August Should a candidate obtain an APS of 25 to 27, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached. If informatics is selected at first-year level, an achievement level of 5 is required in Mathematics. Careers: Information and knowledge managers (manage information and knowledge resources), information or e-commerce specialists (organise, retrieve and add value to information), consultants on information products (services and systems), information brokers (act as infopreneurs and buy and sell information products and services), and system specialists/analysts/technologists (develop information systems).	4	3	D	D			-		28 (25–27 admission based on the NBT)
BIS (Publishing) [3 years] Closing dates: SA – 30 September Non-SA – 31 August Should a candidate obtain an APS of 25 to 27, consideration for admission will be based on the results of the NBT, provided the quotas regarding student numbers have not been reached. Careers: Entry-level job opportunities include assisting specific role-players in the publishing value chain (such as MDs of publishing houses, commissioning editors, editors, and production or marketing managers), market or picture research, copyright negotiations, copyediting and proofreading, marketing and promotion, distribution and delivery.	5	3	C	C			-		28 (25–27 admission based on the NBT)
BCom (Informatics) [3 years] Closing dates: SA – 30 September Non-SA – 31 August This study programme is administered by the Faculty of Economic and Management Sciences.	5	3	C	C	5	3	C	C	30



“I am a second-year BEng (Computer Engineering) student. I greatly admire the professional and highly qualified lecturers of the Department of Electrical, Electronic and Computer Engineering. The Department ensures that we have laboratories that are up to date with the latest technology. The Faculty assists its students to live a balanced life and it exposes them to every aspect of university life.

I was given a full bursary by the Sasol Inzalo Foundation before I came to study and, as the top first-year Computer Engineering student, I received R500 in prize money. My dream is to be the CEO of my own firm some day. However, I want to become a professional computer engineer first. //

Cobus Herman



School of Engineering

Department of Chemical Engineering

BEng (Chemical Engineering)

What does the study programme entail?

Chemical engineering involves all the facets of industrial processes where raw materials are converted into higher-value products by means of physical, chemical, thermal, biochemical or mechanical changes. Such processes are applied in the oil, coal, fuel, paper, food and textile industries, and also in minerals processing, water and effluent treatment, and water that is needed in steam turbines for the generation of electrical power. These industries are collectively referred to as the process industry. Most industries employ people with training in chemical engineering.

Career opportunities

A chemical engineer may be involved in any of the stages of a typical project, from the inception of the idea to the sale of the final product, as indicated below:

- research and development
- techno-economic evaluation
- plant design and optimisation
- plant construction and commissioning
- project management
- plant operation and management
- problem-solving in production or in product applications
- manufacturing of equipment
- marketing of products

An increasingly important aspect of chemical engineering is the protection of the environment from pollution. As more and more companies and countries become aware of this responsibility, chemical engineers play an increasingly important role in conservation and the protection of the environment. Chemical engineers are also increasingly becoming involved in areas where biotechnology is applied on an industrial scale, as well as in the medical applications of engineering.

One of the characteristic qualities of chemical engineers is their ability to examine an engineering problem at different levels, from the detailed knowledge needed to manipulate the behaviour of molecules under very

specific conditions to the knowledge needed to study and explain the effect of large chemical plants on a country's economy and also on its environment. Apart from the opportunity to be part of a team that successfully plans, designs and operates large processing plants, one could also decide to specialise in the application of modern tools, such as computers and computer packages to design processing equipment, to compare alternative designs or to control a plant – even by means of remote control techniques. Chemical engineers are especially in demand at companies that develop such computer software.

Behind the scenes

Since chemical engineers are involved in such a variety of aspects of the process industry, people with widely divergent interests and temperaments can find themselves in interesting and challenging careers in that industry. Engineering mainly entails teamwork. The ability to act as a team member and as a team leader is important. This profession is exceptionally suited to women, and the number of females in the group is growing. In the past three years, 40% of the Department's graduates were female.

Due to the importance of the environment, the Department has been specialising in this field since 1970. Important work is being done in the fields of water purification, the general utilisation of water, air pollution control and waste management. Other departmental interests include process control of chemical production plants, optimisation, materials (with an emphasis on polymers), tribology (lubrication) and bioreaction engineering.

Contact information

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Graphical Communication • Calculus • Physics • General Chemistry • Chemical Engineering • Humanities and Social Sciences 1 	<ul style="list-style-type: none"> • Calculus • Linear Algebra • Electricity and Electronics • Mechanics • General Chemistry • Chemical Engineering • Humanities and Social Sciences 2 • Workshop Practice



W I am currently completing my second honours year, specialising in geotechnical engineering. Geotechnical engineering is a relatively new branch of civil engineering, which provides the prospect for new and innovative ideas. I particularly enjoy this course, as it provides an in-depth understanding of several critical areas in the field. Renowned professors across all fields are involved with the Faculty and the Department of Civil Engineering, thus ensuring the development of well-rounded future engineers. The Geotechnical section is particularly fortunate, as it has three distinguished professors who are in possession of an abundance of knowledge between them and who are more than willing to pass it on to students.

I received a bursary from SRK Consulting in 2010, and was awarded the prize for the best final-year Geotechnical student in 2012. My dream job is to own my own company and enjoy the "freedom" that comes with being your own boss. In particular, however, I would like to be involved in an engineering company that would be able to assist those less fortunate back in Zimbabwe. To have the opportunity to help the people I love by doing what I constantly find fascinating would truly be the ultimate fulfillment. //

Gareth Chapman

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Calculus • Differential Equations • Chemistry • Programming and Information Technology • Strength of Materials • Chemical Engineering • Professional and Technical Communication • Community-based Project 	<ul style="list-style-type: none"> • Mathematics • Numerical Methods • Chemistry • Electrical Engineering • Engineering Statistics • Thermodynamics • Community-based Project
Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Engineering Management • Transfer Processes • Particle Technology • Mass Transfer • Chemical Engineering • Practical Training 	<ul style="list-style-type: none"> • Impact of Engineering Activity • Process Dynamics • Kinetics • Laboratory • Chemical Engineering Design
Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> • Biotechnology • Process Synthesis • Process Control • Reactor Design • Research Project • Practical Training 	<ul style="list-style-type: none"> • Design Project • Process Analysis • Research Project • Specialisation • Chemical Engineering Practice

Department of Civil Engineering

BEng (Civil Engineering)

What does the study programme entail?

Civil engineers create facilities that improve the quality of people's lives and the environment. This process entails research into the proposed facility, the planning, design and construction of the facility, as well as its continued maintenance. Civil engineers increasingly merge and use environmental management and information technology in their world of wealth creation.

Career opportunities

Civil engineers design, build and maintain constructions such as tower blocks and skyscrapers, dams, canals and pipelines, roads, bridges, tunnels, railway lines, airports, power stations, television towers, waterworks and outfall installations. They are increasingly involved in financial modelling, feasibility studies of projects and the management and rehabilitation of large asset portfolios.

Behind the scenes

The average person is probably aware that civil engineers plan, design, construct, maintain and demolish or rehabilitate basic infrastructure. This includes aspects such as water supply, sanitation, roads, buildings, bulk services, structures and dams. These facilities have a long lifespan, with a direct impact on man and the environment. Hence, civil engineers are trained to deal not only with the analytical aspects of design, but also to liaise and consult directly with communities and individuals in order to design, build and maintain such facilities cost-effectively to the benefit of humankind. Most of the facilities civil engineers help to create are the infrastructure for wealth and job creation in other industries, such as factories and housing. The nature of civil engineering has changed drastically over the past decade or two with the utilisation of information technology and computer software. Mathematical modelling and designs are now being executed more effectively. This enables the civil engineer to concentrate on the more fundamental aspects of developmental work and design. The worldwide trend towards environmental awareness has a growing impact on the civil engineer's working methods. Information technology, and environmental engineering and management increasingly form a greater part of training, so that a civil engineer can still be provided with a broad-based qualification that offers challenging, fulfilling and highly adjustable career opportunities throughout an entire career lifespan of 40 to 50 years.

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“I completed my BEng (Civil Engineering) degree with distinction at the end of 2012. The best thing about the Department of Civil Engineering is the expert lecturers. Their enthusiasm for their subjects is contagious, and they have a vast amount of experience and love sharing what they have learned over the years. During the course of my studies, I have been fortunate enough to visit both the Medupi and Kusile power stations during their construction phases, and I even attended the black-tie awards function of the

Southern African Institute of Steel Construction (SAISC) at Emperor's Palace in 2012, where I got to rub shoulders with the best structural steel design engineers in South Africa.

I have been awarded a bursary by SMEC South Africa consulting engineers (then Vela VKE) since my first year of study. I was awarded the prize for the top student in Transportation in my third year, as well as the prize for the best final-year project in 2012. I currently have my dream job – working as a geotechnical engineer for SMEC South Africa. In the future, I would like to be part of an innovative design team that makes a difference to communities through the establishment of much-needed infrastructure. //

Kate Purchase





First year	
First semester	Second semester
<ul style="list-style-type: none"> Graphical Communication Calculus General Chemistry Materials Science Humanities and Social Sciences 1 	<ul style="list-style-type: none"> Calculus Linear Algebra Physics Mechanics Electricity and Electronics Humanities and Social Sciences 2 Workshop Practice
Second year	
First semester	Second semester
<ul style="list-style-type: none"> Calculus Differential Equations Strength of Materials Professional and Technical Communication Geomaterials and Processes Statics Community-based Project 	<ul style="list-style-type: none"> Mathematics Numerical Methods Structural Analysis Pavement Materials and Design Engineering Statistics Civil Engineering Measurement Techniques Community-based Project
Third year	
First semester	Second semester
<ul style="list-style-type: none"> Hydraulics Structural Analysis Civil Engineering Economics Programming and Information Technology Soil Mechanics Timber Design 	<ul style="list-style-type: none"> Hydraulics Geotechnical Engineering Civil Building Materials Steel Design Reinforced Concrete Design Transportation Engineering
Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> Hydraulics Research Project Steel Design Reinforced Concrete Design Infrastructure Planning Engineering Professionalism Practical Training 	<ul style="list-style-type: none"> Environmental Geotechnology Civil Engineering Construction Management Computer Applications in Civil Engineering Detailed Design

Department of Electrical, Electronic and Computer Engineering

BEng (Computer Engineering)

What does the study programme entail?

Computer engineering is one of the three internationally accepted and closely related subdisciplines of the traditional field of electrical engineering (electrical engineering, electronic engineering and computer engineering). Computer engineering is the most dynamic and rapidly growing engineering discipline in the vast and constantly expanding field of information and communication technology (ICT). There is hardly a technological system in the world that does not rely on computer engineering. It involves a combination of electronics, computer systems (hardware and software) and communication systems. A computer engineer is someone with a talent for optimising electronic systems with dedicated computing systems and control software. This includes computer and communication networks of all sizes – from a couple of microcontrollers to the worldwide web. It is essential to know what this career entails before enrolling for the study programme.

A computer engineer has a good understanding of the basic sciences and a sound education in the theoretical

and practical aspects (including design methodology) of electronics, digital systems, computer systems and control software. With the dramatic increase in computing and storage capabilities, as well as a decrease in size and cost, most technological systems include components of computer engineering.

The computer engineering degree at the University of Pretoria was developed in 1998 to deliver graduates who can undertake the most demanding challenges of the ICT world in all its forms. Examples of computer engineering include cellphone technology, car control computers for engine management, entertainment systems, security systems, air-conditioning, active suspension and the anti-lock braking system (ABS). These all use the principles of sensing, computing and actuation under optimised software control. This is the fastest growing new discipline in engineering with job opportunities all over the world.

Computer engineering is used in the following fields in particular: telecommunications, computer networking, cellphone operations, computer system companies, military technologies (avionics, night vision, electronic warfare, smart bombs, drones, laser target designators), transport technologies (toll roads), internet banking, security systems, consumer equipment, modems, hand-held scanners, voting, medical systems (portable and remote diagnostic recorders), robotics, entertainment equipment, global positioning system (GPS) navigation, measurement and control software, and fibre-optic networks (self-healing networks). A computer engineer has to be innovative and stay abreast of new technologies and developments in software and hardware. Many computer engineers move very quickly into management, where their analytical, synthesis, managerial and leadership skills are used to reach the highest levels of corporate management.

The aim of computer engineering is to integrate electronic, computing and control systems in the best way possible to ensure fast, small and powerful systems. Typical subsystems include sophisticated software for artificial intelligence, biometrics, radio frequency (RF) subsystems and real-time applications, software engineering, human language technologies, e-commerce, m-commerce, billing software, data security and various networking applications, such as storage area networks.

Career opportunities

Computer engineering graduates have a wide range of job opportunities. These include working for a company (large or small) anywhere in the world as an employee, being an entrepreneur or being self-employed. Research and development opportunities are available in communication, computer systems, networking, peace-keeping operations, medical, transportation, software and electronics companies in South Africa and all over the world. This provides the opportunity to innovate: thinking of a problem to be solved, and coming up with a solution, even possibly patenting the idea. The academic study programme at the University of Pretoria prepares students to be leaders in the field of computer engineering – with excellent financial rewards and professional satisfaction.

Behind the scenes

The Department has well-equipped laboratories for training and research in all the important and dynamic subfields of computer engineering. From the first year

of study, students do experiments (hardware, software and electronics) in these laboratories. The laboratories are equipped with state-of-the-art equipment and compare well with the best in the world. Beyond the general laboratories, the Department also has a number of centres of excellence in specific fields, such as networking (Cisco), advanced computing (Intel) and distributed sensor networks. It also shares laboratories with electrical and electronic engineering, such as those for microelectronics (the Carl and Emily Fuchs Institute for Microelectronics), electromagnetism/radar (the compact antenna and radar range), broadband wireless multimedia communications (the Sentech Chair), photonics, telecommunications (the Centre for Radio and Digital Communications), the Centre for New Energy Systems and the National Energy Efficiency and Demand-side Management Hub.

To determine whether this is the correct engineering discipline for you, do the following:

- Compare the academic study programmes of the University of Pretoria with similar programmes in South Africa and elsewhere in the world. Are they focused on preparing one for a profession? Will graduates get the job?
- Verify the achievements of the University of Pretoria's lecturers in terms of qualifications, professional registration with the Engineering Council of South Africa (ECSA), international research articles published, the number and frequency of patent registrations, membership of international professional societies, such as the Institute of Electrical and Electronics Engineers (IEEE), and industry involvement through consulting.
- Check the quality of the University of Pretoria's students in terms of prizes and awards received. Are they the best students in the country who will ensure competition and critical learning?
- Are there sufficient job opportunities for students of this discipline (both now and for the next 50 years)?

To verify these claims, visit the website and/or the Department.

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“ I am a final-year student in BEng (Computer Engineering). The details of how computers work, both on a hardware and software level, have always interested me, and this is why I am taking this study programme. The lecturers and teaching staff have immense knowledge of, and huge enthusiasm for their subjects. The facilities provided by the Department of Computer Engineering have always been top-notch and have been well maintained and constantly expanded.

I have been a bursary student with the Sentech Chair in Broadband Wireless Multimedia Communications for the past three years. My dream job would involve working at an industry leader on the design of new and complex software and hardware projects. I hope to use the knowledge and skills that I have gained during my studies to make a meaningful impact in our country and the world as a whole. //

Christopher Panayi

Dr Herman Myburgh (Function Head: Marketing)

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Physics • Calculus • Electricity and Electronics • Introduction to Programming • Humanities and Social Sciences 1 <p>Recess Training:</p> <ul style="list-style-type: none"> • Introduction to Laboratory Measurements and Computer Simulations • Information Technology Practice 	<ul style="list-style-type: none"> • Calculus • Linear Algebra • Mechanics • Program Design: Introduction • Humanities and Social Sciences 2 • Operating Systems

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Calculus • Differential Equations • Data Structures and Algorithms • Electrical Engineering • Materials Science • Professional and Technical Communication • Community-based Project <p>Recess Training:</p> <ul style="list-style-type: none"> • Information Technology Practice 	<ul style="list-style-type: none"> • Mathematics • Numerical Methods • Linear Systems • Digital Systems • Community-based Project • Engineering Statistics

Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Engineering Management • Microprocessors • Analogue Electronics • Intelligent Systems • Electromagnetic Compatibility <p>Recess Training:</p> <ul style="list-style-type: none"> • Information Technology Practice 	<ul style="list-style-type: none"> • Impact of Engineering Activity • Computer Engineering Design • Software Engineering • Control Systems • Digital Communications

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> • Project • Engineering Professionalism • DSP Programming and Application • Computer Engineering: Architecture and Systems • e-Business and Network Security <p>Recess Training:</p> <ul style="list-style-type: none"> • Practical Training and Report 	<ul style="list-style-type: none"> • Project • Specialisation





BEng (Electrical Engineering)

What does the study programme entail?

Electrical engineering is one of the three internationally accepted and closely related subdisciplines in the traditional field of electrical engineering (electrical engineering, electronic engineering and computer engineering). Electrical engineering entails the vast and constantly expanding field of the “electrical energy world”. There is hardly a technological system in the world that does not rely on electrical power as a source of energy. An electrical engineer is someone with a talent for introducing alternative and renewable sources of electrical energy into everyday life.

Huge challenges exist for utilising and storing electrical energy from such sources as the sun (solar energy), wind, biomass, water (hydro-energy) and even nuclear energy. In South Africa, pumped storage systems are extensively used and new systems are under construction. The next steps in the chain from generating to utilising electrical energy are the transmission and distribution systems. The most cost-effective way of saving electrical energy is to spend a great deal of research and development time and money on sustainable energy-efficient equipment, from electrical machines to geysers and lighting.

An electrical engineer has a good understanding of basic sciences and a good education in the theoretical and practical aspects (including design, installation and maintenance methodology) of electrical engineering. In the midst of the worldwide crisis of the environmentally friendly generation of power and energy, there is a shortage of qualified electrical engineers all over the world.

The electrical engineering degree at the University of Pretoria was developed over many years to provide exactly what the industry expects from such an engineer. These are extremely exciting opportunities worldwide for electrical (high-current) engineers capable of taking the lead with sustainable and environmentally friendly electrical energy generation, transmission and utilisation. Electrical cars (including series and parallel hybrid vehicles) have already been introduced by most car manufacturers and there are many new entrants to the market.

Electrical engineering is prevalent in almost all application fields and technologies where electrical energy is consumed. Every known piece of equipment requires a source of energy – powered by mains, batteries or photovoltaic (PV) cells – and needs the skill of an electrical engineer. The transport and manufacturing industries

are excellent examples of electrical engineering, where electrical engineers use their excellent skills in designing, developing and maintaining the electrical machines (motors and generators) with control systems for optimal performance. Most ships and trains are electrically powered.

Other applications of electrical engineering include power reticulation in cities, townships, shopping malls and factories. The lighting of indoor and outdoor areas forms the basis of our daily activities and includes sport stadiums, street lighting, safety and security lighting, task and ambient lighting, as well as lighting for offices, entertainment and many other specialist applications. Whether it is medicine, the military, entertainment, sport, education or any other field of technology, electrical engineers will be there to provide the energy and control required by these systems.

Mining operations cannot take place 24 hours a day without the extensive involvement of electrical engineering. When one considers the fact that the sun produces one gigawatt of energy per square kilometre, one soon realises that all peoples’ energy needs can be met by the sun. An electrical engineer has to be innovative and stay abreast of new technologies. Many electrical engineers move into management very quickly, where their analysis, synthesis, managerial and leadership skills are used to reach the highest levels of corporate management. There is a worldwide shortage of electrical engineers.

The aim of electrical engineering is to change the world with respect to generating, transmitting, distributing and utilising electrical energy in an environmentally friendly and sustainable way. Typical subsystems that may form part of larger electrical systems are electrical machines of all sizes and shapes, power electronics, control systems, power system components, power quality and network stability, lamps and lighting, power supplies, photovoltaic (PV) cells, solar geysers, space systems, robotics and energy management systems.

Career opportunities

Electrical engineering graduates have a wide range of job opportunities. These include working for electricity utility companies, mining houses, municipalities, consulting engineers, transportation (rail and sea) companies and research organisations, locally and elsewhere in the world. The opening up of electrical energy generation and distribution creates tremendous opportunities for entrepreneurs in South Africa and abroad. Research and development opportunities are available at institutions such as Denel, Eskom, the Council for Scientific and



“ I am studying towards the BEngHons (Electrical Engineering) degree, specialising in energy management and optimisation. The Department of Electrical, Electronic and Computer Engineering provides its students with world-class equipment, teaching facilities and a learning experience that puts their students on par with engineering graduates from top tertiary institutions across the world. The opportunity to meet professionals on various excursions and at conferences has broadened my understanding of the significance of engineering in the daily lives of many people in southern Africa and the rest of the world.

Skorpion Zinc, a zinc mining company in Namibia, gave me a bursary for my studies from my first year. Upon completion of my degree, I was awarded the Strike Technologies Award for best final-year project in energy systems for my project on solar tracking and insulation monitoring. I have an affinity for designing systems and managing projects. Therefore, my ideal job would be to work as a consulting engineer back in Namibia, as this will give me an opportunity to work in project synthesis and asset management. ”

Witness Martin

Industrial Research (CSIR) and Transnet. This provides an opportunity to innovate and participate in the exciting world of electrical energy generation, transmission, distribution and utilisation. An innovative approach to management and leadership skills will assure a long and prosperous career. The academic study programme at the University of Pretoria prepares students for all aspects of electrical engineering, enabling them to enter the job market ahead of generalist engineers.

Behind the scenes

The Department has well-equipped laboratories for training and research in all the important and dynamic subfields of electrical engineering. From the first year of study, students undertake experiments in some of these laboratories. The laboratories are equipped with state-of-the-art equipment from the best international companies. They compare very well with the best in the world. Beyond the general laboratories, the Department also has a number of centres of excellence in specific fields, such as the Centre for New Energy Systems, the National Energy Efficiency and Demand-side Management Hub, Power System Analysis, Photometry and Radiometry, and Electrical Machine Efficiency. It also shares laboratories with Electronic and Computer Engineering, such as those for microelectronics (the Carl and Emily Fuchs Institute for Microelectronics), electromagnetism/radar (the compact antenna and radar range), broadband wireless multimedia communications (the Sentech Chair), photonics, telecommunications (the Centre for Radio and Digital Communications), the Advanced Computing Centre and the Cisco Regional Computer Networking Academy.

To determine whether this is the correct engineering discipline for you, do the following:

- Compare the academic study programmes of the University of Pretoria with similar programmes in South Africa and elsewhere in the world. Are they focused on preparing one for a profession? Will graduates get the job?
- Verify the achievements of the University of Pretoria's lecturers in terms of qualifications, professional registration with the Engineering Council of South Africa (ECSA), international research articles published, the number and frequency of patent registrations, membership of international professional societies such as the Institute of Electrical and Electronics Engineers (IEEE), and industry involvement through consulting.
- Check the quality of the University of Pretoria's students in terms of prizes and awards received. Are they the cream of the students in the country who will ensure competition and critical learning?
- Are there sufficient job opportunities for students of this discipline (both now and for the next 50 years)?

To verify these claims, visit the website and/or the Department.

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Graphical Communication • Calculus • General Chemistry • Materials Science • Humanities and Social Sciences 1 	<ul style="list-style-type: none"> • Calculus • Linear Algebra • Physics • Mechanics • Electricity and Electronics • Humanities and Social Sciences 2
Recess Training: <ul style="list-style-type: none"> • Introduction to Laboratory Measurements and Computer Simulations 	

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Calculus • Differential Equations • Dynamics • Electrical Engineering • Introduction to Programming • Professionalism and Technical Communication • Community-based Project 	<ul style="list-style-type: none"> • Mathematics • Numerical Methods • Engineering Statistics • Linear Systems • Digital Systems • Community-based Project
Recess Training: <ul style="list-style-type: none"> • Practical Wiring 	

Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Engineering Management • Electromagnetism • Micro Processes • Analogue Electronics • Electrical Machines 	<ul style="list-style-type: none"> • Power System Components • Impact of Engineering Activity • Control Systems • Power Electronics • Electrical Engineering Design
Recess Training: <ul style="list-style-type: none"> • DSP Programming 	

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> • Project • Engineering Professionalism • Electrical Drives • Power System Analysis • Automation 	<ul style="list-style-type: none"> • Project • Energy
Recess Training: <ul style="list-style-type: none"> • Practical Training and Report 	

BEng (Electronic Engineering)

What does the study programme entail?

Electronic engineering is one of the three internationally accepted and closely related subdisciplines in the traditional field of electrical engineering (electrical engineering, electronic engineering and computer engineering). Electronic engineering entails the vast and constantly expanding field of the "electronic world and era". There is hardly a technological system in the world that does not rely on electronics and electronic engineering. An electronic engineer is someone with a talent for introducing new technologies and upgrading old technologies.

An electronic engineer has a good understanding of the basic sciences and a good education in the theoretical and practical aspects (including design methodology) of electronics and electronic engineering systems. With the drastic increase in the development of new electronic systems all over the world, it is essential to be well prepared for the work of an electronic engineer.





The electronic engineering degree at the University of Pretoria was developed over many years to provide exactly what the industry expects from such an engineer. This is an exciting world, with the “half-life” of microelectronics and photonics being approximately two-and-a-half years. There are constant improvements and developments.

Electronic engineering is used in almost all information, communication and technology (ICT) application fields, especially those of telecommunications (cellphones, broadcasting, internet service providers (ISPs), telecommunications companies (Telcos), global positioning systems (GPSs), transport (aeroplanes, ships, trains, motor cars), consumer equipment (iPods, induction stoves, fridges, microwaves, televisions), peace-keeping operations (avionics, night vision, electronic warfare, smart bombs, drones, laser target designators), medicine (bioengineering, diagnostic systems, rehabilitation engineering, intensive care units, laser surgery), robotics (mechatronics, mine robots, spacecraft), entertainment (video games, shows, casinos), mining, manufacturing, navigation, communication, satellite surveillance (day and night, entrance control, face recognition) and photonics (lasers, optical fibres, networking).

Electronic engineers have to be innovative and ensure that they stay abreast of new technologies. Many electronic engineers move very quickly into management, where their analytical, synthesis, managerial and leadership skills are used to reach the highest levels of corporate management. A number of graduates of this Department have sold their ideas (patents) for hundreds of millions of rands.

The aim of electronic engineering is to do things faster, cheaper, in smaller sizes and with much more control and artificial intelligence. Typical subsystems that form part of larger electronic systems are amplifiers, transmitters, receivers, control systems, sensor systems, power supplies, radio frequency (RF) subsystems, micro- and nanoelectronics and microprocessors, digital signal processors (DSPs) and field-programmable gate arrays (FPGAs). Most electronic systems use a standard process of measurement (sensing), calculate/compare/store information and controlled outputs (actuators) with extensive computing and communication power.



“I completed the BEng (Electronic Engineering) degree in 2012, and am currently working on my honours degree with the Bioengineering Research Group. The electronic engineering degree finds a good balance between practical skills development and theoretical work. The most enjoyable moments of my studies were the hours working together with others in the Department’s well-equipped laboratories on a complex system and eventually getting it to work.

During my undergraduate studies, I was given the opportunity to compete at national level multiple times, with good outcomes. I am now able to work as part of the Bioengineering Research Group at the University, working on cutting-edge medical technologies. Finally, I have been given the opportunity to continue my postgraduate studies abroad. The Faculty has therefore given me the freedom to enter a variety of professions all over the world.

In 2012, my final-year project received two awards: it was the winner of the University of Pretoria Final-year Project Competition for Electronic Engineering, and it received the Parsec Prize. I was also the winner of the South African Institute of Electrical Engineers (SAIEE) National Student Project Competition. In 2012, I was awarded the Louis van Bijljon Gold Medal for outstanding achievement in the third and fourth year of study in Electronic Engineering. However, the top award I received was the Avancez scholarship for master’s studies at Chalmers Tekniska Högskola in Sweden. The best gift one can give to another is an improvement in his or her quality of life. I would therefore love to be part of the emerging Biomedical Engineering movement, using engineering skills to improve health care. The second-best gift one can give to another is knowledge, so I might end up teaching after I have gained some experience in the industry. //

Albert Monteith

Career opportunities

Electronic engineering graduates have a wide range of job opportunities. These include working for companies (large or small) anywhere in the world as employees, or being entrepreneurs or self-employed. Research and development opportunities are available at electronics and microelectronics companies in South Africa, research institutes (such as the CSIR) and universities all over the world. It thus provides graduates with the opportunity to innovate: that is to identify real-life problems and to come up with solutions, and possibly even patenting their ideas. The academic study programme at the University of Pretoria prepares students to be leaders in the field of electronic engineering – with excellent financial rewards and professional satisfaction.

Behind the scenes

The Department has well-equipped laboratories for training and research in all the important and dynamic subfields of electronic engineering. From the first year of study, students undertake experiments in these laboratories. The laboratories are equipped with state-of-the-art equipment from the best international companies. In addition to the general laboratories, the Department also has a number of centres of excellence in specific fields such as microelectronics (the Carl and Emily Fuchs Institute for Microelectronics), electromagnetism/radar (the Compact Antenna and Radar Range), broadband wireless multimedia communications (the Sentech Chair), telecommunications (the Centre for Telecommunications Engineering (CeTEIS) and the Centre for Radio and Digital Communication (CRDC)). It also shares laboratories with electrical and computer engineering, such as the Advanced Computing Centre, the Centre for New Energy Studies, the National Energy Efficiency and Demand-side Management Hub and the Cisco Regional Computer Networking Academy.

To determine whether this is the correct engineering discipline for you, do the following:

- Compare the academic programmes of the University of Pretoria with similar study programmes in South Africa and elsewhere in the world. Are they focused on preparing one for a profession? Will graduates get the job?
- Verify the achievements of the University of Pretoria’s lecturers in terms of qualifications, professional

registration with the Engineering Council of South Africa (ECSA), international research articles published, the number and frequency of patent registrations, membership of international professional societies, such as the Institute of Electrical and Electronics Engineers (IEEE), and industry involvement through consulting.

- Check the quality of the University of Pretoria's students in terms of prizes and awards received. Are they the best students in the country who will ensure competition and critical learning?
- Are there sufficient job opportunities for students of this discipline (both now and for the next 50 years)?

To verify these claims, visit the website and/or the Department.

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Graphical Communication • Calculus • General Chemistry • Materials Science • Humanities and Social Sciences 1 	<ul style="list-style-type: none"> • Calculus • Linear Algebra • Physics • Mechanics • Electricity and Electronics • Humanities and Social Sciences 2
Recess Training: <ul style="list-style-type: none"> • Introduction to Laboratory Measurements and Computer Simulations 	

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Calculus • Differential Equations • Dynamics • Electrical Engineering • Introduction to Programming • Professionalism and Technical Communication • Community-based Project 	<ul style="list-style-type: none"> • Mathematics • Numerical Methods • Engineering Statistics • Linear Systems • Digital Systems • Community-based Project

Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Engineering Management • Electromagnetism • Analogue Electronics • Electrical Machines • Modulation Systems 	<ul style="list-style-type: none"> • Impact of Engineering Activity • Microwaves and Antennas • Stochastic Communication Systems • Control Systems • Electronic Engineering Design

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> • Project • Engineering Professionalism • DSP Programming and Application • Advanced Electronics • Automation 	<ul style="list-style-type: none"> • Project • Specialisation
Recess Training: <ul style="list-style-type: none"> • Practical Training and Report 	

Department of Industrial and Systems Engineering

BEng (Industrial Engineering)

What does the study programme entail?

Industrial engineers are generally responsible for the analysis, design, planning, implementation, operation, management and maintenance of integrated systems. These systems consist of people, capital, material, equipment, information and energy. The aim is to increase the productivity of the organisation and create wealth.

Career opportunities

Since almost any organisation could benefit from the services of industrial engineers, they are employed in a wide variety of organisations in the industrial, business and service sectors. Typical activities comprise the following:

- design, implementation and management of production processes and equipment
- design and improvement of plant layout
- design and improvement of business processes
- functional design and implementation of information systems
- development and implementation of performance criteria and standards
- provision of decision support
- scheduling of activities
- analysis of systems with the aid of mathematical and simulation models
- economic evaluation of alternatives
- integration of new systems in an existing environment

Behind the scenes

Is engineering a profession intended mainly for men? As far as industrial engineering is concerned, the answer to this question is a resounding 'no'. Women who have completed their industrial engineering degrees at the University of Pretoria have come into their own in this profession and are counted among the top achievers, both as academics and as practising engineers. This Department is the largest of its kind in South Africa and currently has more than 500 students. Its academic staff are specialists in their respective fields. Alumni of the Department have made major contributions in several spheres of society and occupy important positions in organisations throughout South Africa. Others are employed overseas. Currently, the demand for industrial engineers exceeds the supply and young graduates are virtually assured of employment.





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First year	
First semester	Second semester
<ul style="list-style-type: none"> Graphical Communication Physics Calculus Humanities and Social Sciences 1 Electricity and Electronics 	<ul style="list-style-type: none"> Calculus Linear Algebra General Chemistry Mechanics Materials Science Humanities and Social Sciences 2 Workshop Practice

Second year	
First semester	Second semester
<ul style="list-style-type: none"> Calculus Differential Equations Dynamics Programming and Information Technology Manufacturing and Design Professional and Technical Communication Community-based Project 	<ul style="list-style-type: none"> Mathematics Numerical Methods Engineering Statistics Productivity Thermodynamics Community-based Project

Third year	
First semester	Second semester
<ul style="list-style-type: none"> Engineering Management Business Law Manufacturing Systems Operational Management Operations Research Financial Management Industrial Analysis Practical Training 	<ul style="list-style-type: none"> Impact of Engineering Activity Industrial Logistics Information Systems Design Simulation Modelling Facilities Planning

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> Operations Research Quality Assurance Management Accounting Engineering Professionalism Project Practical Training 	<ul style="list-style-type: none"> Project Labour Relations Business Engineering Systems Engineering Engineering Economics

Department of Materials Science and Metallurgical Engineering

BEng (Metallurgical Engineering)

What does the study programme entail?

South Africa is blessed with the world's largest mineral deposits of gold, chromium, platinum, vanadium and manganese. This country also has large reserves of iron, lead, zinc, copper, nickel, coal and diamonds. The minerals industry contributes to some 50% of South Africa's exports and is one of the largest employers in the country. The metallurgical engineer plays a key role in the production of minerals and metals. Metallurgical engineers help to process metals into final products with added value. In this way, maximum income is generated in international markets.

Career opportunities

The metallurgical engineer plays a key role in the process of extracting wealth from the resources of South Africa and can be involved in three major fields of specialisation in metallurgical engineering:

- *Minerals processing.* Processing the ore to release and concentrate the valuable minerals from the minerals resource.
- *Extractive metallurgy.* The processing of mineral concentrates to metals through pyrometallurgy, for example, smelting or hydrometallurgy as recovery step.
- *Physical metallurgy.* The development of new alloys, the production of useful materials from raw metals, forming through casting and joining through welding, for instance. The investigation of failures is also of great importance.

Graduates in metallurgical engineering are responsible for process design and optimisation, commissioning, marketing, business analysis and research. There is a place for everyone in metallurgical engineering!

Behind the scenes

The Department of Materials Science and Metallurgical Engineering is currently the only independent metallurgical engineering department at a South African



W I completed the BEng (Metallurgical Engineering) (cum laude) in 2012, and I am currently studying part-time towards my BEngHons (Metallurgical Engineering). The best thing about the Department is the amount of knowledge lecturers have in all fields of metallurgy and the fact that the coursework is very focused on the current industry. My degree prepared me for my career to the utmost extent – it feels like the Department already knew exactly what challenges one would meet in the workplace and gave one a manual on how to overcome these.

I was given very intensive final-year projects, which aided in my development as an engineer. I was also given the opportunity to study towards honours and master's degrees with a full-time scholarship from UP, but due to my responsibility to the company that gave me a bursary, I decided to rather start my career early and study part-time.

I was awarded a full bursary in 2011 (for the last two years of study) from Evraz Highveld Steel and Vanadium. In 2011, I won the prize for best student of my class (third year). Upon graduation, I received prizes for the best Pyrometallurgy final-year project and the best overall final-year project, as well as for being the best student in the final year. My dream job for the nearer future would be to be head process engineer at a large steel producer, and in the long term, I would like to have my own business that will consist of some metallurgical plants.

Wesley Teessen

university. It therefore plays a leading role in the education of metallurgical engineers for the South African metallurgical and mining industries, and its graduate students are sought after. In addition, many graduate engineers from other disciplines take courses in the Department to enhance their skills in the rich minerals industry (in South Africa and abroad).

Unconditional accreditation by the Engineering Council of South Africa (ECSA) is a confirmation of the quality of undergraduate teaching in the Department. Furthermore, the degree currently enjoys international recognition. Its staff consults and perform research for industry and maintain close contact with local metallurgical industries to ensure that teaching and research are in line with industry needs. Sophisticated research equipment is available in the Department, as well as in the Industrial Metals and Minerals Institute (IMMRI), which is situated in the Department. Bursaries for metallurgical engineering are also available from various industry partners (see the website for additional information: www.up.ac.za/metal).

Students are supported in several ways by the Department. A member of staff is appointed as mentor for each year group to help students overcome problems. For first-year students in particular, there is an intensive mentorship programme. The normal study programme runs over four years, but there is also a five-year programme (ENGAGE) for students who require additional support and mentoring. Social and sports functions are organised by the Metallurgical Student Association.

Additional information

Visit the website of the Department at www.up.ac.za/metal and follow them on twitter: @metalUPSA. Also visit the sites of organisations such as the Southern African Iron and Steel Institute (SAISI) at saisi.co.za, the Southern African Institute of Mining and Metallurgy (SAIMM) at saimm.co.za or companies such as ArcelorMittal, Columbus Stainless, Highveld Steel and Vanadium, Scaw, Davsteel, Anglo American, De Beers, Samancor, BHP Billiton, Amcoal, Glencore Xstrata, Mintek, the CSIR, Hatch Africa and Pyromet.

Contact information

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First year	
First semester	Second semester
<ul style="list-style-type: none"> Graphical Communication General Chemistry Materials Science Calculus Humanities and Social Sciences 1 	<ul style="list-style-type: none"> Calculus Linear Algebra Electricity and Electronics Mechanics Physics Humanities and Social Sciences 2 Workshop Practice

Second year	
First semester	Second semester
<ul style="list-style-type: none"> Calculus Differential Equations Dynamics Programming and Information Technology Mineralogy Professional and Technical Communication Community-based Project 	<ul style="list-style-type: none"> Mathematics Numerical Methods Electrical Engineering Materials Science Process Thermodynamics Engineering Statistics Community-based Project

Third year	
First semester	Second semester
<ul style="list-style-type: none"> Materials Science Minerals Processing Engineering Management Thermo Flow Electrochemistry Practical Training 	<ul style="list-style-type: none"> Hydrometallurgy Pyrometallurgy Refractory Materials Mechanical Metallurgy Impact of Engineering Activity Excursions

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> Process Metallurgy and Control Literature Survey Hydrometallurgy Minerals Processing Metals Processing Engineering Professionalism Practical Training 	<ul style="list-style-type: none"> Project Process Design

Department of Mechanical and Aeronautical Engineering

BEng (Mechanical Engineering)

What does the study programme entail?

Mechanical and aeronautical engineering entails the application of science to design, manufacture, operate and maintain mechanical and aeronautical equipment

With its world-class academic programme, the Department of Mechanical and Aeronautical Engineering has empowered me to become a capable and innovative problem-solver. I am currently pursuing a master's degree that focuses on developing the colour mapping of liquid crystals to measure the temperature and heat-flux field on various end-walls in turbine cascades.

In 2010, I was chosen to take part in an exchange programme between the Mechanical and Aeronautical Engineering Department of the University of Pretoria and the Aeronautics and Astronautics Department of MIT. The year I spent studying in the USA opened my eyes to the fascinating advancements in the aeronautics field, and afforded me an opportunity to engage with world-renowned researchers.

My fondest experiences were working as an undergraduate researcher on a three-month project and meeting people from all over the world. I am on the Dean's list and I received an award for students showing promise in aeronautics from the Aeronautical Society of South Africa (AeSSA). I was also recognised as the most meritorious student in aerodynamics. I also have a National Aerospace Centre postgraduate study award. It is my dream to become an aerothermal engineer in the gas turbine department of Rolls-Royce. //

Kearabetswe Mabe





and processes. The undergraduate course focuses on the establishment of a broad knowledge of engineering and includes subjects such as dynamics, strength of materials, thermodynamics, fluid mechanics and design. The outputs of mechanical and aeronautical engineers include products and services that add value to the economy of the country. Mechanical and aeronautical expertise is instrumental in the design and manufacture of products and services, for example, the provision of electricity and water, transport (road, railway and air), mining activities, mechatronics and air-conditioning. As a result of the broad technical background, mechanical and aeronautical engineers often develop into very successful senior managers towards the latter part of their careers.

Career opportunities

The completion of a degree in mechanical and aeronautical engineering may be regarded as the key to a successful and exciting career. As a result of the broad technical background, the career opportunities are countless. Graduate mechanical and aeronautical engineers will typically start their careers in one of the following areas: research, design, development, manufacturing, commissioning, maintenance or marketing of mechanical and aeronautical equipment and products. Later in their careers, they will typically choose between being technical specialist engineers or senior managers. As a result of the strong emphasis on innovation during the study programme, many mechanical and aeronautical engineers develop their own businesses successfully.

Behind the scenes

The extent of the excellence of an engineering faculty is determined by the quality of its lecturers, as well as its physical facilities. In the Department of Mechanical and Aeronautical Engineering at the University of Pretoria, prospective students may rest assured that they will receive first-class education, comparable to the best in the world. The international accreditation of the graduate programme by the Engineering Council of South Africa (ECSA) bears testimony to this. The lecturers in the department are all actively involved in the industry, either as consultants or as researchers. Students are thus assured that the knowledge that is transferred to them is the latest and most technologically advanced. The Department has already received eight design awards from the South African Bureau of Standards. In terms of physical facilities, it has modern and fully equipped laboratories and computer facilities. This Department is the largest of its kind in South Africa. At undergraduate level, about 20% of students are female, and the Department would like to increase this to approximately 50%. Alumni of the Department have made great contributions in several spheres of society and occupy important positions in organisations throughout South Africa. Others are employed overseas. Currently, the demand for mechanical and aeronautical engineers exceeds the supply and young graduates are virtually assured of employment.

General enquiries and applications:

Client Service Centre
 Tel: +27 (0)12 420 3111
 Email: csc@up.ac.za

Academic enquiries

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 Fax: +27 (0)12 420 6632
 Email: mecheng@up.ac.za
 Website: www.me.up.ac.za

First year	
First semester	Second semester
<ul style="list-style-type: none"> Graphical Communication Calculus Physics Electricity and Electronics Humanities and Social Sciences 1 	<ul style="list-style-type: none"> Calculus Linear Algebra Mechanics Materials Science Humanities and Social Sciences 2 General Chemistry Workshop Practice

Second year	
First semester	Second semester
<ul style="list-style-type: none"> Manufacturing and Design Programming and Information Technology Dynamics Calculus Differential Equations Professional and Technical Communication Community-based Project 	<ul style="list-style-type: none"> Machine Design Thermodynamics Mathematics Numerical Methods Engineering Statistics Community-based Project

Third year	
First semester	Second semester
<ul style="list-style-type: none"> Structural Mechanics Thermodynamics Engineering Management Machine Design Thermofluids Practical Training 	<ul style="list-style-type: none"> Vibration and Noise Continuum and Computational Structural Mechanics Impact of Engineering Activity Machine Design Electrical Engineering

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> Computational Fluid Dynamics Thermofluids Engineering Professionalism Practical Training <p>Or Option:</p> <ul style="list-style-type: none"> Mechanical Engineering: Design Project Mechanical Engineering: Research Project <p>Or Option:</p> <ul style="list-style-type: none"> Aeronautical Engineering: Design Project Aeronautical Engineering: Research Project 	<p>Option: Mechanical Engineering</p> <ul style="list-style-type: none"> Research Project Thermal and Fluid Machines Control Systems Environmental Management <p>One elective from the following:</p> <ul style="list-style-type: none"> Aeronautics Maintenance Engineering Nuclear Engineering Vehicle Engineering Mechatronics Heat and Mass Transfer Fossil Fuel Power Stations Numerical Methods Optimum Design Porous Flow <p>Option: Aeronautical Engineering</p> <ul style="list-style-type: none"> Research Project Thermal and Fluid Machines Control Systems <p>Elective module:</p> <ul style="list-style-type: none"> Aeronautics

Department of Mining Engineering

BEng (Mining Engineering)

What does the study programme entail?

The profession of mining engineering encompasses a wide spectrum of engineering work – from mine evaluation to industrial control. For instance, mining engineers may undertake the evaluation of a new mining project as soon as the discovery and geological confirmation of a mineral

deposit have been completed. If such a mineral deposit is found to be viable, mining engineers will design the mine to exploit the mineral deposit. Where the mineral deposit is close to the surface, an opencast mine will be preferred, but for deeper deposits, an underground mine will be planned. Mining engineers will coordinate the construction of such a mine and bring it to the stage where it starts producing.

A typical mine has a lifespan of 20 to perhaps 100 years. The design of the mining excavations, with their equipment and services, the planning of all the activities and the management of the operation at all levels is the responsibility of the mining engineer. This professional will also provide expert advice on rock breaking, blasting, materials transport systems, mine planning and scheduling, mechanical tunnel development, mine climate control, rock mechanics, support of excavations, devising mining methods, as well as the design and development of equipment.

Career opportunities

In addition to operational management, mining engineers are often involved in the planning and execution of research and development work. In order to maintain the proud position of the South African mining industry as a world leader, it is necessary to accept the challenges of technological development through extensive research and development programmes. Mining engineers fulfil the role of expert consulting engineers in various mining groups, as well as in private practice. Universities, government departments and financial institutions also employ mining engineers.

The mining industry is one of the largest industries in the country and certainly one of the most important. It supplies raw materials for a large variety of domestic industries, as well as energy minerals. On the other hand, precious metals, non-precious minerals, energy minerals and diamonds are exported to earn foreign exchange. More than 70 different minerals are currently produced in South Africa. They contribute directly to the gross domestic product. The mining industry provides job opportunities to more than 400 000 people. Among these, there are obviously many employment opportunities for professionals. Currently, there is a global shortage of mining engineers.

Behind the scenes

The number of students in the Department has seen an increase in recent years, however, classes are still relatively small. Therefore it is possible for staff to give intensive attention to individual students. A great number of technical visits offer students the opportunity to get acquainted with every aspect of the industry. A



“ I am currently doing my honours degree in Mining Engineering, and I believe that the University of Pretoria has the best Mining Engineering Department in the country. Some of the most experienced and respected mining engineers in the country are our lecturers and know us all by name. We are a very close-knit department, and there are numerous opportunities to become competent in problem-solving on a technical, environmental and socio-economical level.

When working on the Navachab Gold Mine, I found my passion for Mining Engineering. This has had a large influence on my life and career choice. I was the best Mining Engineering student in my first, second, third and fourth years, and in my final year I also received prizes for being the best student in Strata Control and Mine Design. I am also very grateful for the bursary that I received from the Skorpion Zinc Mine since my first year of study. My dream is to own a consulting company in exploration drilling some day. //

Stefanus Potgieter

characteristic of the mining engineering study programme is that close group cohesion develops among students and continues long after graduation.

Take note: Prospective mining engineering students are advised to also check if they are medically compliant with the government requirements to work on a mine. Consult www.mohealth.co.za and www.dme.gov.za/pdfs/mhs/occupational_health/fitness_minimum_standards.pdf.

Contact information

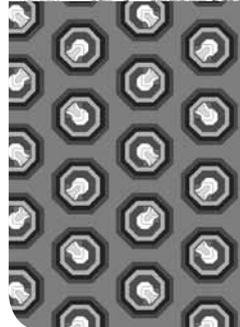
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Website: www.up.ac.za/ebit/mining

First year	
First semester	Second semester
<ul style="list-style-type: none"> Graphical Communication General Chemistry Materials Science Calculus Humanities and Social Sciences 1 	<ul style="list-style-type: none"> Calculus Linear Algebra Electricity and Electronics Mechanics Physics Humanities and Social Sciences 2 Workshop Practice

Second year	
First semester	Second semester
<ul style="list-style-type: none"> Dynamics Programming and Information Technology Calculus Differential Equations Strength of Materials Professional and Technical Communication Community-based Project 	<ul style="list-style-type: none"> Surveying Numerical Methods Engineering Statistics Thermodynamics Mathematics Community-based Project Experiential Training

Third year	
First semester	Second semester
<ul style="list-style-type: none"> Surface Mining and Geotechnics Thermofluids Introduction to Geology 155 Minerals Processing Engineering Management Experiential Training 	<ul style="list-style-type: none"> Industrial Excursions Explosive Engineering Mineral Economics Impact of Engineering Activity Mining Introduction to Project Historical Geology

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> Mine Environmental Control Engineering Mine Risk Management – Health and Safety Engineering Professionalism Strata Control Structural Geology Mining Industrial Excursions Practical Training 	<ul style="list-style-type: none"> Mine Design Ore Deposits Industrial Excursions Project





The Engineering Augmented Degree Programme (ENGAGE)

An engineering degree is very demanding. The workload is high, the pace is fast and the modules are academically challenging. Many students do not have a strong enough background in Mathematics and Physical Science, academic literacy and information technology, and do not have the study skills to cope with the mainstream four-year programme. In addition, many students struggle with the transition to university life, with the very large first-year classes, freedom from strict discipline, and many social activities, even if they attended high-performing schools.

This is why the School of Engineering offers a five-year programme, called the Engineering Augmented Degree Programme (ENGAGE). ENGAGE is available in all the engineering disciplines. It provides a carefully structured curriculum that helps students adjust to university life and cope with the academic demands of engineering studies. In ENGAGE, the volume of work is gradually increased and the support provided is gradually decreased over a period of three years. However, the workload – the time students must spend on their studies – is high from the very beginning, so ENGAGE is not for students who do not want to work!

Structure of the study programme

In ENGAGE, students take all the modules of the four-year degree in the same classes as the four-year degree students, but spread them out over a longer time. In addition, for every 16-credit 100-level (first-year) module, students also take an eight-credit augmented module. For example, in the first semester students take the same mathematics module (16 credits) as the four-year degree students, as well as additional mathematics (eight credits). In additional mathematics, students are divided into groups of about 50 and work on strengthening problem-solving and other cognitive skills, developing conceptual understanding and acquiring the background knowledge needed for the four-year mathematics module.

In the first year of study, ENGAGE students take the natural sciences modules that form the foundation of engineering, namely chemistry, physics and mathematics. Computer engineering students take statistics instead of chemistry. ENGAGE students also take professional orientation, which provides an introduction to technology and information technology, as well as developing students' life skills, study skills and communication skills. All first-year students take humanities and social sciences (HAS module).

In the second year, ENGAGE students take the introductory (100-level) engineering modules. For each engineering module, they also take a compulsory additional module. Second-year students also take one 200-level mathematics module per semester. In the third year, students take the remaining 200-level modules, but since they have already taken two 200-level mathematics modules, they have a slightly lighter load than the four-year programme students. ENGAGE students follow exactly the same programme as the four-year programme students for the last two years of their studies.

All the prescribed components of ENGAGE are compulsory. Attendance of all modules is also compulsory. The structure of the programme is summarised in the table below.

Four-year programme modules	Foundation modules
First year	
<ul style="list-style-type: none"> • 100-level natural science modules • 100-level Humanities and Social Science 	<ul style="list-style-type: none"> • Additional module for each natural science module • Professional Orientation
Second year	
<ul style="list-style-type: none"> • 100-level engineering modules • 200-level mathematics modules 	<ul style="list-style-type: none"> • Additional module for each engineering module
Third year	
<ul style="list-style-type: none"> • 200-level engineering modules 	<ul style="list-style-type: none"> • None
Fourth year	
<ul style="list-style-type: none"> • 300-level engineering modules 	<ul style="list-style-type: none"> • None
Fifth year	
<ul style="list-style-type: none"> • 400-level engineering modules 	<ul style="list-style-type: none"> • None

Who may register for ENGAGE?

Students may apply for ENGAGE if:

- their marks in the National Senior Certificate meet the admission requirements for the four-year study programme, but they would like more support; **or**
- their marks in the National Senior Certificate do not meet the requirements for entry into the four-year study programme, but do meet the requirements for the five-year study programme. These students will be required to write the National Benchmark Test (NBT).

Contact information

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School for the Built Environment

Department of Architecture

The Department of Architecture presents study programmes in architecture, interior architecture and landscape architecture. These careers employ science and art in the creation of worthwhile environments for users. The design professions of the built environment complement each other through their focus on the design and realisation of space. All three disciplines require innovators who can satisfy both the needs for rational thought and the creative spirit.

At the core of the curriculum is a studio-based culture through which skills in design, theory, communication and management are developed. Design projects are informed by subject modules covering such diverse aspects as earth studies, construction, practice management, theory and history of the environment. Modules with programme-specific contents are introduced from the second year of study. The Department endorses formal training that is academically and theoretically grounded and technologically informed.

The graduates of this Department are highly regarded, both locally and abroad. Through commitment to innovation and internationally accredited study programmes in architecture, interior architecture and landscape architecture, the Department promotes a sustainable and prospering South African society.

BScArch – Bachelor of Science Architecture

Information on a career in architecture is available online at <http://www.saiaweb.co.za/node/92>

Undergraduate (by coursework)	Minimum duration	Outcome (registration with SACAP)
BScArch At least one year of work or travel recommended	Three years (full-time, studio-based)	Candidate architectural technologist
Postgraduate (by coursework)	Minimum duration	Outcome
BArchHons	One year (full-time, studio-based)	Candidate senior architectural technologist
MArch (Prof)	One year (full-time, studio-based)	Candidate architect

Architecture entails the design of buildings and the spaces between those buildings. It is the art and science that is employed in order to create a liveable environment, thus contributing to the spiritual and material prosperity of the country. Architects are often independent thinkers, individualists and innovators. Although they are employed by organisations involved with development, investment, research, marketing the industry, or even education, many architects prefer to be independent consultants and entrepreneurs.

Accreditation

The programme in Architecture is validated by the South African Council for the Architectural Profession (SACAP) and recognised by the Commonwealth Association of Architects (CAA).

BScInt – Bachelor of Science Interior Architecture

Information on a career in interior architecture is available online at www.iidprofessions.com

Undergraduate (by coursework)	Minimum duration	Outcome (registration with IID)
BScInt At least one year of work or travel recommended	Three years (full-time, studio-based)	Candidate interior designer
Postgraduate (by coursework)	Minimum duration	Outcome
BlntHons	One year (full-time, studio-based)	Candidate senior interior designer
MInt (Prof)	One year (full-time, studio-based)	Candidate interior architect

“Interior architecture” is a category of the broader discipline known as “interior design”. Interior design refers to all work concerned with the design of interior space within built environment enclosures. This ranges from interior fit-out to the adaptive re-use of existing buildings (including additions). Interior designers engage with, and respond to, existing or proposed structures within the built environment. They are particularly concerned with shaping and questioning the triadic relationship that exists between space, objects and the users that occupy these structures.

Accreditation

The programme in interior architecture is one of only four similar programmes in South Africa with educational membership at the International Federation of Interior Architects and Designers (IFI). The Department was instrumental in the recent establishment of professional nomination in terms of the National Qualifications Framework Act (Act 67 of 2008).

BScLArch – Bachelor of Science Landscape Architecture

Information on a career in landscape architecture is available online at <http://www.ilasa.co.za/what-we-do>

Undergraduate (by coursework)	Minimum duration	Outcome (registration with SACLAP)
BScLArch At least one year of work or travel recommended	Three years (full-time, studio-based)	Candidate landscape architectural technologist
Postgraduate (by coursework)	Minimum duration	Outcome
BLHons	One year (full-time, studio-based)	Candidate landscape architectural technologist
ML (Prof)	One year (full-time, studio-based)	Candidate landscape architect

Landscapes are the represented expressions of the dynamic interaction between the technological and cultural activities of human societies with the physical environment. Landscape architecture is a profession and academic discipline concerned with the design of rural and urban outside spaces on various scales informed by this interaction. It considers change over time and mediates art and science, artefact and nature, city and region, and private and public interests. Landscape architects therefore synthesise knowledge from the humanities and the sciences to sustainably design meaningful and beautiful places that are grounded in material and immaterial culture, and ecology of their local contexts.

Accreditation

The study programme in landscape architecture is the only undergraduate degree course of its kind offered at a university in South Africa and is validated by the South African Council for the Landscape Architectural Profession (SACLAP). Locally there is a great demand for practitioners in both the public and private sector.





Admission by selection

A limited number of students are admitted to the Department annually. In view of the large number of applications received, prospective students who indicate Architecture or Interior Architecture as their second choice are not considered for selection. Applicants who indicate Landscape Architecture as their second choice will, however, be considered for selection. All applicants are advised to consider other alternatives in the event of their applications being unsuccessful.

Meeting the minimum requirements does not guarantee admission to the study programme. Admission is granted on the basis of selection, which involves two rounds: In round 1, candidates are assessed on academic merit. Those who meet the minimum requirements for admission are invited to participate in round 2 by taking the departmental selection test. With the invitation, they also receive an assessment package to complete at home and submit on the day of the test. The departmental selection test is taken on one of the prescheduled Saturdays in June, July, August and September. Candidates are assessed on their general knowledge and interests, abilities, motivation and experience.

The Department compiles a shortlist of final candidates based on the outcome of the tests and assessment packages. The candidates who have made the shortlist are invited to participate in the final selection interviews during the September recess. The decision of the Selection Committee is final and no discussion or correspondence will be entered into.

While candidates should preferably attend their tests and interviews, applicants who are unable to do so may request further selection material to be sent by mail. A telephonic interview may then be granted.

If the Grade 12 results of candidates who were provisionally selected do not meet the minimum requirements, final admission to the study programme may be withheld.

The minimum requirements for admission

The following matriculation subjects are required for admission: Mathematics, Physical Science (Physics and Chemistry) and either English or Afrikaans (the official languages of instruction at this University). Minimum achievement levels for these subjects apply (see below). Applicants who have not completed their Grade 12 studies yet must state their final Grade 11 results in their applications. These results will serve as the basis on which they will be considered during the first round of selection.

Applicants who matriculated before, or in 2007

The following minimum requirements for admission apply: A grade 12 Certificate with university endorsement and at least 40% (E symbol) in Mathematics and Physical Science on Higher Grade, or at least 50% (D symbol) for the same subjects at Standard Grade. A minimum M Score of 18 is required for Grade 12.

Applicants who matriculated in 2008 or thereafter

The following minimum requirements for admission apply: A National Senior Certificate with access to degree studies and a minimum Admission Point Score (APS) of 27; a minimum achievement level of 4 (at least 50%) for Mathematics and Physical Science; a minimum achievement level of 5 (at least 60%) for Afrikaans or English (as home language or first additional language) and an achievement level of at least 4 (minimum 50%) for Life Orientation, although this subject is not used in the calculation of the APS. The APS is calculated using two language subjects, Mathematics, Physical Science and any two other subjects excluding Life Orientation.

Please note: For the BScLArch study programme, Physical Science or Life Science or Geography will be accepted; the minimum achievement level remains a 4.

Transfers

Students currently enrolled for other study programmes may apply for permission to transfer to the Department of Architecture. For these applicants, round 1 of the selection process will be based on their Grade 12 results (refer to requirements for admission), their academic record and a detailed written motivation explaining reasons for wanting to transfer.

Students who are currently registered at UP should submit their applications directly to the Admissions Officer, School for the Built Environment. Students who are registered at other tertiary institutions must apply through the Client Service Centre. Note the closing date. Applicants will not be permitted to register for any modules in advance (prior to having been granted final admission).

Portfolios

Traditional portfolios (with art or technical drawings) are not required for selection. Applicants receive assignments (minor research projects and some simple freehand drawings) to prepare at home in their own time. This is followed by similar tasks during a selection test, where resources are not available and time is limited.



“ I am proud to walk through the Boukunde Building’s doors every morning, a place of freedom of creative expression. While completing my BSc in Landscape Architecture, I have been on a journey of discovering my personal normative stance in terms of the world of design, where your thoughts are constantly challenged. Landscape architecture has rooted my thoughts in an understanding of how the environment works and what makes each place unique, enabling me to design to make a difference.

I have been provided with great networking opportunities in our building itself, simply by being surrounded by a studio filled with creative students and inspiring lecturers with a passion for design, but also by attending congresses. I received prizes for the best average achieved in Design and for the best average in all modules in 2011. In 2012, I received the Aurecon Prize for the best environmentally responsive design. //

Marissa Engelbrecht

Incomplete applications

Please ensure that all supporting documents required, such as certified copies of identity documents, exemption certificates (for international applicants) and school results, are submitted before the closing date for applications, which is 30 June. It is candidates' responsibility to make the necessary arrangements in this regard. Incomplete applications cannot be considered for selection.

National Benchmark Test (NBT)

The Department of Architecture does not require all applicants to take the NBT (generally known as the National Benchmark Test). In special cases the Admissions Officer will inform candidates of the arrangements, should the test be an additional requirement. Candidates who also apply at other departments or institutions are advised to enquire if these tests are required elsewhere.

Open Day: Saturday, 24 May 2014 (08:00–14:00)

The University of Pretoria hosts an annual Open Day on the Hatfield Campus. Prospective students are strongly advised to attend. Student work is on display and lecturers and advisors are available to answer questions. Two information sessions, at 09:00 and again at 11:00, will be presented in Auditorium 3-3, Building Sciences Building on the University's Hatfield Campus.

Important dates

The academic year of the University of Pretoria starts in January and ends early in December. It is divided into two semesters (or four quarter modules), with short recesses in April, July and September. In order to gain practical experience, students are advised to work at a practice during the University recesses. The University calendar is available online at www.up.ac.za/calendars.

1 March: Applications for admission open for the next academic year. Applications should be handed in at the Client Service Centre or can be submitted electronically.

30 June: Last day to submit all undergraduate applications for admission to the Department of Architecture for the following academic year. This closing date also applies to all transfer applications.

June/July/August/September: Departmental selection tests are written on scheduled Saturdays. Dates are automatically allocated and cannot be rescheduled.

October recess: 4 October to 12 October 2014: Final selection interviews for applicants on the shortlist.

31 October: Selection results are available. Applicants are notified of the outcome in writing.

30 November: Last day for selected students to acknowledge their selection and pay deposits or make arrangements for payment.

Contact information

The Department of Architecture does not deal with the administrative aspects of student affairs, such as applications, tuition fees, bursaries, and registration, study permits for international students or accommodation. Prospective students should address queries in this regard, as well as their applications for admission, to the Client Service Centre.	
<p>General enquiries and applications: prospective students Client Service Centre Tel: +27 (0)12 420 3111 Email: csc@up.ac.za</p>	<p>Enquiries about applications and selection Ms Jenny van Rooyen (Admissions Officer) School for the Built Environment Level 6 Engineering Building 1 Tel: +27 (0)12 420 5166 Fax: +27 (0)12 420 4669 Email: jenny.vanrooyen@up.ac.za</p>
<p>Academic enquiries: prospective students Ms Elana van der Wath (Department of Architecture) Tel: +27 (0)12 420 2182 Fax: +27 (0)12 420 2552 Email: arch@up.ac.za Location: Building Sciences Building Hatfield Campus</p>	<p>Useful links</p> <ul style="list-style-type: none"> • University of Pretoria: www.up.ac.za. For a description of regulations, subject modules and syllabi, click the following link and select 'Built Environment': www.up.ac.za/yearbooks • The South African Council for the Architectural Profession (SACAP): www.sacapsa.com • The South African Institute of Architects (SAIA): www.saia.org.za • International Federation of Interior Architects/Designers (IFI): www.ifeworld.org • Institute of Landscape Architects of South Africa (ILASA): www.ilasa.co.za • South African Council for the Landscape Architectural Profession (SACLAP): www.saclap.org.za





Department of Construction Economics

BSc Construction Management

What does the study programme entail?

Construction managers are business people who work as contractors, project managers and/or property experts in the built environment. The study programme focuses on the technical, financial and managerial aspects of construction. The construction manager can add value to almost any building-related activity. In the three-year programme, some financial and managerial aspects are touched on, but the main focus is on the technical aspects.

During the one-year honours degree following the BSc degree, students receive further training in aspects such as financial management, project management and strategic management. The details of the study programme show how diverse the discipline really is. Students who study for a pure BCom or LLB degree are often surprised at the construction manager's insight into their disciplines.

Career opportunities

Construction managers will almost always find employment locally and internationally, irrespective of economic cycles. The Royal Institution of Chartered Surveyors (RICS) and the Chartered Institute of Building (CIOB) accredit the programme internationally. In terms of legislation, it is now possible to achieve professional status by registering with the South African Council for the Project and Construction Management Professions (SACPCMP). Registration is possible in the professional construction manager and professional construction project manager categories.

On successful completion of the three-year study programme, students can enter a career in construction management or subcontract and main contract work, to mention a few possibilities. On successful completion of the one-year honours degree, opportunities become far wider, with project management, property development, portfolio management, commercial marketing and managerial positions in the corporate environment as some possibilities. Construction managers are entrepreneurs and often create their own work, even outside the built environment.

How long does this study programme take to complete?

The BSc Construction Management study programme takes three years to complete, and the honours degree a further year. During the honours degree, students are expected to work at approved construction firms on a part-time basis in order to supplement their theoretical studies with hands-on practical experience.

Selection process

Only a limited number of candidates can be accommodated and admission is subject to selection.

Behind the scenes

One of the aspects that make the study programme unique is the fact that all the lecturers remain actively involved in practice. This ensures that theory can always be combined with practical experience. Furthermore,

lecturers serve on various professional councils and make a real contribution to the development of the field of study. Practitioners and employers rate UP students highly, and there is continuous close liaison between the Department and industry.

Contact information

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Building Drawings • Building Science • Academic Information Management • Academic Literacy Levels • Building Services • Quantities • Introduction to Structures • Statistics • Precalculus 	<ul style="list-style-type: none"> • Industrial and Organisational Psychology • Building Organisation • Building Drawings • Building Science • Academic Literacy Levels • Building Services • Quantities • History of the Environment • Structures • Statistics

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Labour Law • Building Science • Economics • Financial Management • Building Services • Construction Quantities • Reinforced Concrete Structures • Site Surveying 	<ul style="list-style-type: none"> • Building Science • Economics • Financial Management • Building Services • Construction Quantities • History of the Environment • Civil Engineering Services

Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Business Law • Building Science • Building Services • Construction Management • Construction Information Technology and Communication • Construction Quantities • Community-based Project 	<ul style="list-style-type: none"> • Housing • Building Science • Introduction to Property Law • Sustainable Construction • Construction Management • Research Methodology • Construction Quantities • Community-based Project • Property Financial Mathematics

BScQS – Bachelor of Science Quantity Surveying

What does the study programme entail?

Quantity surveyors provide specialised financial and contractual services and advice to clients in the construction industry, as well as in other related industries. The quantity surveyor is an independent, professional consultant who acts in cooperation with, among others, architects, consulting engineers and contractors to promote the interests of the building client.

Career opportunities

There are various job opportunities in the construction industry. Most quantity surveyors find their way to the private sector, where they are employed at quantity surveying practices or, after registration with the South African Council for the Quantity Surveying Profession (SACQSP), they may become partners or directors or they could start their own professional practices. Quantity surveyors also act as project managers and valuers.

Various government departments employ quantity surveyors, and opportunities in the property sector, banking, engineering and manufacturing industries are further career options. A number of quantity surveyors, however, also work for construction firms or establish their own building enterprises and construction companies.

How long does this study programme take to complete?

BSc Quantity Surveying: After three years of successful study, students receive a BScQS degree. They will be able to become involved in the field of quantity surveying and support professional quantity surveyors with all types of construction work, particularly buildings and infrastructure.

BScHons Quantity Surveying: After a further two years of successful study, students will receive a BScHonsQS degree. They will then be qualified to start a professional quantity surveying career in the construction industry and related industries. In terms of current legislation, they may, after submitting proof of prescribed professional practical experience and successful completion of an assessment of professional competence, register with the South African Council for the Quantity Surveying Profession. During the honours degree, students are expected to work at approved quantity surveying firms when not attending lectures in order to supplement their theoretical studies with hands-on practical experience.

Selection process

Only a limited number of candidates can be accommodated and admission is subject to selection.

Behind the scenes

These qualifications are recognised nationally and internationally and have been accredited by the South African Council for the Quantity Surveying Profession and the Royal Institution of Chartered Surveyors (RICS). The RICS (United Kingdom) undertakes international accreditation and has members and mutual recognition agreements worldwide. Hence, the three-year degree and two-year honours degrees enjoy international recognition.

The Department is exceptionally well equipped for students who are interested in furthering their studies. Master's degree courses by coursework with

specialisation in various disciplines are offered. A master's degree may also be obtained by way of a treatise and an oral examination. MBA and MBL degrees are popular postgraduate fields of study that may be pursued at numerous local universities and internationally. A doctorate can be obtained by submitting a thesis and passing an oral examination.

Contact information

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Building Drawings • Building Science • Academic Information Management • Academic Literacy Levels • Building Services • Quantities • Introduction to Structures • Statistics • Precalculus 	<ul style="list-style-type: none"> • Building Organisation • Building Science • Academic Literacy Levels • Building Services • Quantities • History of the Environment • Structures • Statistics • Building Drawings • Industrial and Organisational Psychology

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Building Science • Economics • Financial Management • Building Services • Quantities • Site Surveying • Reinforced Concrete Structures 	<ul style="list-style-type: none"> • Building Science • Economics • Financial Management • Building Services • Quantities • History of the Environment • Civil Engineering Services

Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Business Law • Quantity Surveying Practice • Building Science • Building Services • Quantities • Construction Information Technology and Communication • Community-based Project 	<ul style="list-style-type: none"> • Housing • Quantity Surveying Practice • Building Science • Introduction to Property Law • Sustainable Construction • Quantities • Research Methodology • Community-based Project • Property Financial Mathematics



W I obtained the BScHons (Quantity Surveying) with honours in 2012, and I am currently working at the global company AECOM (Legacy Davis Langdon). It was a privilege to study at the University of Pretoria – the Department of Construction Economics equipped me with the skills to comfortably enter the work environment and practise as a professional in the industry. Graduates of the Faculty of Engineering, Built Environment and Information Technology carry a valued name in the industry's work environment – we are considered hard workers, innovative thinkers and problem-solvers in a stressful and fast-evolving world. Quantity surveying opens a world of opportunities to live your dream career-wise. There are many opportunities to work overseas with the UP Quantity Surveying degree.

I received a number of awards and prizes, the most notable of which were the awards for the best Quantity Surveying student in the final year of the honours study programme, and for the best dissertation. I was also one of the top 15 achievers at UP every year from 2009 to 2012, and received the bursary award for outstanding performance from the Business Woman's Association of South Africa (BWASA) in 2012.

My dream is to have my own Quantity Surveying company or to be a partner of one within the next ten years, and then to work as a property developer and develop signature buildings throughout South Africa and Africa. However, I think a dream job can be right in front of us; we need to learn to focus on what we want from life and make the best of the opportunities that come our way in order to achieve our ultimate goal. **||**

Riane Reyneke





BSc Real Estate

What does the study programme entail?

Real estate is the study of fixed property and related aspects such as property economics, development, management, valuation, financing, investment and marketing.

Career opportunities

Apart from a future in areas such as property investment, property finance and facilities management, further studies to obtain an honours degree in Real Estate can lead to registration as a professional property valuer. Career opportunities encompass the whole spectrum of the property sector, whether as entrepreneurs in the private sector or as employees in the private, government or semi-governmental sectors.

How long does this study programme take to complete?

The BSc Real Estate study programme takes three years to complete, and the honours degree a further year.

Selection process

Only a limited number of candidates can be accommodated and admission is subject to selection.

Behind the scenes

Real estate (or property studies) has developed into a specialised field requiring unique expertise. The contribution of professionally trained property practitioners is important to achieve the present socio-political development priorities in South Africa (privatisation of government assets and outsourcing of management functions, redistribution of land and development of low-cost housing). The study programme also offers ample opportunity for community service and research.

The number of persons working in the various components of the property industry in South Africa runs into tens of thousands. The property sector forms an appreciable part of the South African economy – in fact, real estate comprises about 40% to 50% of the world's total assets.

Contact information

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Building Drawings • Building Science • Academic Information Management • Academic Literacy • Building Services • Quantities • Economics • Real Estate • Precalculus 	<ul style="list-style-type: none"> • Industrial and Organisational Psychology • Building Organisation • Building Drawings • Building Science • Academic Literacy • Building Services • Quantities • History of the Environment • Introduction to Research • Economics • Real Estate

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Building Science • Statistics • Financial Management • Building Services • Cartography • Property Valuation • Real Estate 	<ul style="list-style-type: none"> • Building Science • Statistics • Financial Management • Building Services • History of the Environment • Civil Engineering Services • Real Estate • Property Valuation

Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Business Law • Building Science • Building Services • Property Valuation • Real Estate • Community-based Project 	<ul style="list-style-type: none"> • Housing • Building Science • Introduction to Property Law • Sustainable Construction • Property Valuation • Real Estate • Community-based Project • Research Methodology • Property Financial Mathematics

Department of Town and Regional Planning

BT&RP – Bachelor of Town and Regional Planning

What does the study programme entail?

Town and regional planning is a profession that promotes and manages change through the planning, design, implementation and management of public interventions in the development and use of land. These interventions can vary from site level to supranational level and aim at widening choice, promoting equity, ensuring sustainable human settlements and improving the quality of people's lives. The guiding motive of the profession is the generation of viable alternatives to existing settlement types.

At the current juncture in South Africa's history, town and regional planning is a key profession in the rectification of the spatial and other imbalances in both urban and rural areas, as well as the improvement of inefficient and underperforming living environments. The challenge for planning lies in the fact that different interests and expectations for the future are often contradictory and conflict-ridden. A professional approach that combines sensitivity and analytical and strategic skills is hence required to handle the various political, social, environmental and economic issues at stake.

The ideal town and regional planner is a creative person who is able to put forward innovative solutions to complex problems, a mediator who is able to reconcile diverse points of view, a strategic thinker and a good manager. Given the enormous backlog in the fields of housing and social services, and the poverty in which many South Africans live, planners also need a strongly developed sense of social and environmental justice and should be committed to human development.

Career opportunities

While most town and regional planners act as private consultants to the public and the private sector, they are also employed by all three spheres of government, research agencies such as the Council for Scientific and Industrial Research and the Human Sciences

Research Council, non-governmental and development organisations, community-based organisations, major financial institutions and property development groups. The qualification will enable graduates to register as professional town and regional planners with the South African Council for Town and Regional Planners, which is an official body established in terms of an act of Parliament. The degree is internationally recognised.

How long does this study programme take to complete?

The minimum period of study is four years' full-time study.

Selection process

Only a limited number of candidates can be accommodated and admission is subject to selection.

Behind the scenes

Practice and theory are integrated in the various modules. Lectures, project and studio work focus on stimulating critical thought, engaging students in discussion, and applying theory by means of practical problem-solving exercises. Instruction is student-centred and attention is given to the progress of individual students. One of the trademarks of this Department is a desire to take on new challenges, and the Department is involved in and committed to community development in South Africa. The latter takes place mainly through research and contract work for a range of clients in all three spheres of government.

Study programme

The study programme in town and regional planning equips the planner with the necessary knowledge and skills to present interventions to manifold problems in settlements and regions, by focusing on the following themes: planning theory and history, land-use management and land development, settlement planning and design, strategic and integrated development planning, urban and rural regeneration, and planning methods and techniques. A number of modules in related fields are also prescribed to ensure that students acquire a multidisciplinary perspective and the knowledge base required to provide appropriate solutions for complex urban and rural problems.

Contact information

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First year	
First semester	Second semester
<ul style="list-style-type: none"> • Planning and Settlement Histories before the Industrial Revolution • Site Analysis and Assessment • Introduction to Planning • Academic Literacy • Academic Information Management • Economics • Statistics • Sociology 	<ul style="list-style-type: none"> • Planning and Settlement Histories since the Industrial Revolution • Settlement Analysis and Assessment • Principles of Settlement Design • Academic Literacy • Economics • Statistics • Sociology

Second year	
First semester	Second semester
<ul style="list-style-type: none"> • Settlement Design Concepts • Introduction to Development Planning • Plan and Policy Analysis and Assessment • Land-use Management Theory • Sociology or Economics • Community-based Project 	<ul style="list-style-type: none"> • Settlement Establishment and Housing Delivery • Municipal Development Planning • Land-use Management Practice • Urban Land Development Economics • Sociology or Economics • Community-based Project

Third year	
First semester	Second semester
<ul style="list-style-type: none"> • Regional Development Planning • Institutional and Legal Structures for Planning • Spatial Concepts • Sociology or Economics 	<ul style="list-style-type: none"> • Rural Development Planning • Planning Prospects • Transport Planning and Municipal Services Provision • Sociology or Economics

Fourth year	
First semester	Second semester
<ul style="list-style-type: none"> • Planning Interventions: Peri-urban and Rural Scales • Planning Interventions: Supranational, National and Regional Scale • Research Methodology • Professional Practice 	<ul style="list-style-type: none"> • Planning Interventions: Metropolitan Scale • Planning Interventions: Urban Scale • Research Report • Practical Development Feasibility



“The degree in Town and Regional Planning, which I completed in 2012, covers such a wide range of aspects that it always kept me intrigued and interested. Our knowledgeable and enthusiastic lecturers are what I loved most about the Department of Town and Regional Planning. Being able to do community work as a module during my degree was a life-changing experience. It made me realise how fortunate I am for what I have and how important it is to give back to one’s community.

During my studies, I was invited to become a member of the prestigious Golden Key Honours Society, and I received academic honorary colours. The prize of the South African Planning Institute for the best final-year student in Town and Regional Planning and the Plan Associate Prize for the student with the best treatise in Town and Regional Planning were awarded to me. //

Claudia Coetzer



School of Information Technology

Department of Informatics

BIT – Bachelor of Information Technology (Information Systems)

This exciting study programme combines the study of Information Systems with specialised subjects. Information Systems studies the application and use of the computer and information systems in the organisation. This organisation can be an auditing firm, the revenue service, a bank, a software development company, a retailer, a government department, or any other organisation that makes use of computer technology. The use of information systems by organisations is growing exponentially and new, more complex and challenging applications are explored and developed on a daily basis. It has the benefit that, in addition to the obvious fact that the work environment of the information systems specialist is particularly interesting, there is also the advantage that many job opportunities are available to the well-qualified.

What does the study programme entail?

The study programme prepares students to understand the use of IT in organisations. In particular, skills are developed to program on both a small and a large scale, and to design and implement IT solutions for organisations in a professional manner. Sound communication skills and general problem-solving skills are developed throughout the study programme.

Career opportunities

The goal of the study programme is to produce well-rounded information systems specialists who have knowledge and understanding of the following:

- the theory and practice of the adoption and use of information systems in organisations
- a specialisation in either auditing, taxation, geography, information science, statistics, entrepreneurship, or e-business

How long does this study programme take to complete?

The BIT – Bachelor of Information Technology (Information Systems) study programme takes a minimum of three years to complete.



“I completed the BCom (Informatics) in 2012. Informatics is the perfect degree for anyone who wants to understand how systems work and how to design them.

My group’s final-year project ended in third place overall and we received a prize sponsored by Accenture. The projects offer companies an opportunity to see what individual students are capable of doing. As a result, some students are recruited and others are offered bursaries for further study.”

Justin Crowley

Contact information

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First year	
First semester and second semester	
Compulsory modules <ul style="list-style-type: none"> • Computer and Information Literacy • Academic Literacy Levels • Informatics • Business Management 	Elective modules Prescribed modules in one of the following streams: <ul style="list-style-type: none"> • Computer Auditing • Information Science • e-Business • Entrepreneurship • Geography • Statistics • e-Taxation

Second year	
First semester and second semester	
Compulsory modules <ul style="list-style-type: none"> • Informatics • Business Ethics • Community-based project 	Elective modules Prescribed modules in one of the following streams: <ul style="list-style-type: none"> • Computer Auditing • Information Science • e-Business • Entrepreneurship • Geography • Statistics • e-Taxation

Third year	
First semester and second semester	
Compulsory module <ul style="list-style-type: none"> • Informatics 	Elective modules Prescribed modules in one of the following streams: <ul style="list-style-type: none"> • Computer Auditing • Information Science • e-Business • Entrepreneurship • Geography • Statistics • e-Taxation

BCom (Informatics)

What does the study programme entail?

BCom (Informatics) studies the application and use of the computer and information systems in the organisation. The superiority of students in this field lies in their broad background in the field of economic and management sciences, which implies that the world of business is not strange to them. The use of information technology by organisations is growing exponentially and new, more complex and challenging applications are explored and developed on a daily basis. It has the benefit that, in addition to the obvious fact that the work environment of the informatics specialist is particularly interesting, there is also the advantage that many job opportunities are available to well-qualified informatics specialists.

Informatics specialists have the knowledge to analyse the information needs of organisations, be it businesses, government departments, non-profit organisations or any other organisation where information is crucial. They not only analyse the needs, but also address those needs by designing and implementing information systems. Information systems nowadays refer to computer-based systems (including mobile applications) that store and manipulate data so that people can understand, use, interpret and make decisions based on the information.

The BCom (Informatics) degree offered by the University of Pretoria is the only degree in South Africa that is internationally accredited by the Accreditation Board for Engineering and Technology (ABET) of the USA.

Contact information

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First year	
First semester and second semester	
Compulsory modules <ul style="list-style-type: none"> • Computer and Information Literacy • Academic Literacy Levels • Informatics • Financial Accounting • Economics • Statistics • Communication Management • English • Business Management • Discrete Structures 	Elective modules (Choose one*) <ul style="list-style-type: none"> • Marketing Management • Communication Management <p>* Only if one of these modules are chosen as an elective at second- and third-year level</p>

Second year	
First semester and second semester	
Compulsory modules <ul style="list-style-type: none"> • Business Ethics • Informatics • Business Law • Community-based Project 	Elective modules (Choose one) <ul style="list-style-type: none"> • Business Management • Financial Accounting • Financial Management • Taxation • Statistics • Internal Auditing • Communication Management • Marketing Management

Third year	
First semester and second semester	
Compulsory module <ul style="list-style-type: none"> • Informatics 	Elective modules (Choose one) <ul style="list-style-type: none"> • Business Management • Financial Accounting • Statistics • Internal Auditing • Communication Management • Marketing Management

Department of Computer Science

BSc (Computer Science)

BSc (Computer Science) is the ideal study programme for students who are curious about how computers work, enjoy building things in a careful and systematic fashion, have a logical mind, are good at reasoning in a step-by-step way, find it fun to design things that others can use, are able to pay attention to detail, recognise good style when they see it and keep working at a task until they succeed.

A BSc (Computer Science) degree from the University of Pretoria provides breadth and depth in computing skills. It equips students with problem-solving abilities, and gives them a foundation for continued learning in an IT career and for producing high-quality software.

What does the study programme entail?

The BSc (Computer Science) degree can be completed in a minimum of three years. The curriculum conforms to the highest international standards and will give students a foundation in all the important areas of computer science. Students will study a rich variety of computer science courses that emphasise the most up-to-date ways of developing software to be used in the IT industry. In addition, this study programme includes a significant number of courses in mathematics and physical sciences. These courses strengthen the kind of thinking done when one develops software and enhances problem-solving abilities. It also provides a basis for research in computer science, which often relies on a certain level of mathematical skill and maturity.



“ I am currently completing my BScHons (Computer Science). The degree offers you the opportunity to acquire a wide range of a knowledge that is current and applicable. I like the hands-on, practical manner in which we are taught in the Department of Computer Science. The coursework provides us with opportunities to apply what we have learnt to solve practical problems and develop the necessary skills for the workplace. Over time you definitely notice a transformation in your approach to problems and your ability to grasp concepts. What I love most about the Faculty is being able to interact with different people from different countries and backgrounds. In 2012, I received the Intecon Prize for the highest cumulative average over a three-year undergraduate degree in the School of Information Technology, the SAP Research Prize for the best BSc (Computer Science) student, and the KPMG Prize for the top female third-year student in Computer Science. I was also one of the top second- and third-year students in Computer Science. My dream job is one that offers me the opportunity for continuous growth and improvement. I would love to work in an environment that allows me to be creative and constantly develop my skills while working on projects that expose me to different industries. ”

Faith Agewang





Career opportunities

A BSc (Computer Science) degree will enable graduates to write software in a variety of contexts. As a result, they will be able to find employment in diverse environments in many different IT organisations. They could stay active at a technical level if they wanted to, or they could work towards playing a managerial role in the IT industry. Alternatively, if they have entrepreneurial skills, they could start their own consultancy company, as several graduates have already done. In all cases, opportunities abound and salaries are highly competitive.

Contact information

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Ms Linda Marshall (Undergraduate Advisor)
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First year	
<ul style="list-style-type: none"> Academic Information Management Academic Literacy for IT 	<p>Mathematics</p> <ul style="list-style-type: none"> Calculus Discrete Structures Algebra
<p>Computer Science</p> <ul style="list-style-type: none"> Program Design Computers and Algorithms Software Modelling 	
<p>Specified courses from:</p> <ul style="list-style-type: none"> Information Science Mathematical Sciences Statistics Physical and Biological Sciences Humanities or Economic and Management Sciences 	
Second year	
<p>Computer Science</p> <ul style="list-style-type: none"> Computer Architecture Data Structures and Algorithms Netcentric Computer Systems Operating Systems Concurrent Systems 	<p>Mathematics</p> <ul style="list-style-type: none"> Discrete Structures Mathematical Modelling <p>Informatics and Information Science</p> <p>Community-based Project</p>
<p>Specified courses from:</p> <ul style="list-style-type: none"> Information Science Mathematical Sciences Chemistry Physics Mathematical Statistics 	
Third year	
<p>Computer Science</p> <ul style="list-style-type: none"> Software Engineering Computer Security and Ethics Computer Networks Programming Languages 	
<p>Specified courses from:</p> <ul style="list-style-type: none"> Computer Science Information Science Mathematics Mathematical Statistics Physics Chemistry 	

BSc IT (Information and Knowledge Systems)

BSc IT (Information and Knowledge Systems) is the ideal study programme for students who are interested in computer science, as well as in one of the following fields of

study: applied mathematics, bioinformatics, geographical information systems, IT and business management, law, music, philosophy, operational research, psychology and software development. Candidates who do not comply with the admission requirements are advised to register for the BSc IT (Information and Knowledge Systems) (Four-year Programme) if they meet the admission requirements of that programme.

What does the study programme entail?

The BSc IT (Information and Knowledge Systems) study programme can be completed in a minimum of three years. It aims to prepare students for pursuing a career in the IT industry. By enabling students to take a second major other than computer science, students are provided with a wider background. Computer science has a multidisciplinary application domain and the purpose of the study programme is reflected in the composition of the curriculum by combining the field of computer science with other fields of study.

Career possibilities

Graduates with a BSc IT (Information and Knowledge Systems) degree are highly sought after in the IT industry. The focus of the degree is based on industry-related trends. The combination of computer science with other subjects delivers graduates who can successfully satisfy the needs of industry. The application environments that students can choose from provide them with a wider range of job opportunities.

Possible careers include:

- Applied mathematics: computational financial modelling, financial data mining and analysis, financial programming, and numerical and risk analysis.
- Bioinformatics: bioprogramming, biotechnology and administration of biological data.
- Geographical information systems (GIS): GIS consultation, environmental analysis for national, provincial and municipal governments, and town and regional planning applications.
- IT and enterprises: IT business analysis and consultation and IT entrepreneurial consultation.
- IT and law: expert witness in IT-related court cases, consultation on IT-related laws, computer and security consultation, and forensic investigations.
- IT and music: electronic music analysis, programming of music devices and drivers, digital storytelling and advertising.
- Operational research: mathematical modelling and optimisation, and numerical and empirical analysis.
- Philosophy: computer ethics, professional responsibility, and potential for computer science research.
- Psychology: forensic psychology, profiling, expert testimony in court cases, and behavioural analysis.
- Software development: database design and development, human-computer interface design, and programming in many environments.

Contact information

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Ms Linda Marshall (Undergraduate Advisor)
 Email: lmarshall@cs.up.ac.za

First year	
<ul style="list-style-type: none"> Academic Information Management Academic Literacy for IT 	Mathematics <ul style="list-style-type: none"> Calculus Discrete Structures
Computer Science <ul style="list-style-type: none"> Program Design Computers and Algorithms Software Modelling 	

Second year	
Computer Science <ul style="list-style-type: none"> Computer Architecture Data Structures and Algorithms Netsentric Computer Systems Operating Systems Concurrent Systems 	Mathematics <ul style="list-style-type: none"> Discrete Structures Informatics and Information Science Community-based Project

Third year	
Computer Science <ul style="list-style-type: none"> Software Engineering Computer Security and Ethics Computer Networks Programming Languages 	Information Science <ul style="list-style-type: none"> Human-computer Interaction

Additional modules as needed for the application environment options at first-, second- and third-year levels from one of the following fields: <ul style="list-style-type: none"> Applied mathematics Genetics Geographical information systems IT and business management IT and law IT and music Operational research Philosophy Psychology Software development 	
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Contact information

Prof Andries Engelbrecht (Head of Department)
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 Fax: +27 (0)12 362 5188
 Email: engel@cs.up.ac.za
 Website: www.cs.up.ac.za

Ms Linda Marshall (Undergraduate Advisor)
 Email: lmarshall@cs.up.ac.za

First year	
<ul style="list-style-type: none"> Academic Information Management Language and Study Skills Information Technology Orientation 	<ul style="list-style-type: none"> Mathematics Introduction to Programming Natural or Biological Sciences or Mathematical Statistics

Second year	
<ul style="list-style-type: none"> Introduction to Computing Program Design Computer Architecture Software Modelling 	<ul style="list-style-type: none"> Mathematics Discrete Structures Natural or Biological Sciences or Mathematical Statistics Modules required in the first year of BSc (Computer Science) or BSc IT (Information and Knowledge Systems)

Third and fourth year
Modules required in BSc (Computer Science) or BSc IT (Information and Knowledge Systems) in the second and third year

Department of Information Science

BIS (Multimedia)

BIS (Multimedia) is the ideal study programme for students who like to work with computers, like programming, are interested in creating computer games, want to develop websites for the corporate environment, and want to learn how to make moving graphics and animation.

What does the study programme entail?

Information can be communicated through various media, such as printed text, text with images, photographs, video, sound and animation. Such information can be delivered in many different ways: from a network-based technology (such as the web and its many devices, ranging from personal computers to cellphones and personal assistants) to information kiosks based on CD-ROM or DVD technology. Information can thus be delivered in many different (read: "multi") media. The goal of the multimedia degree is to provide students

BSc IT (Information and Knowledge Systems) (Four-year Programme)

This is the ideal study programme for students who are interested in either BSc IT (Information and Knowledge Systems) or BSc (Computer Science), but who do not meet the requirements for admission.

What does the study programme entail?

The BSc IT (Information and Knowledge Systems) (Four-year Programme) can be completed in a minimum of four years. The study programme comprises much of the fundamental content of both the BSc (Computer Science) and BSc IT (Information and Knowledge Systems) study programmes.

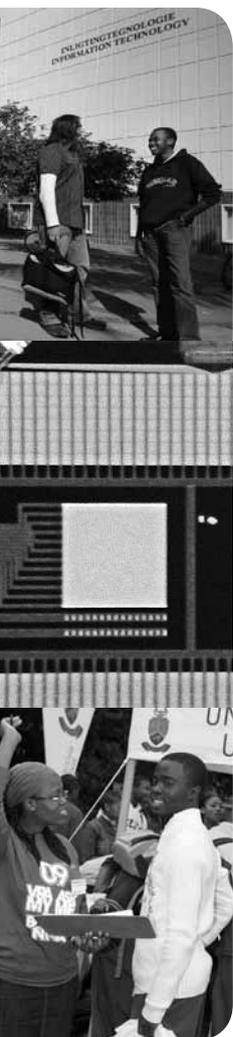
As from 2012, the first year of this study programme will be offered at the Mamelodi Campus.



“The Information Science Department, where I completed the BIS (Multimedia) in 2012, is great because of its unique staff. The Multimedia lecturers always made class interesting and fun, not only content-wise, but also in the way they taught us. Multimedia as a degree is one that I feel is incredibly relevant because of technology trends, and that’s why I am currently pursuing my honours degree in the field while I work as an assistant lecturer in the Department. This position gives me the chance to learn a lot from my colleagues and to start paving the way for a possible career in academia.

I received top achiever bursaries for both the undergraduate years these are awarded, was the top Multimedia student in my second and third years of study, and I graduated top of my class. My group’s final-year game project, Tyler, made it to the finals of the 2013 Microsoft Imagine Cup. Outside academia, I would love to work for a successful independent game development studio, such as thatgamecompany. Game developers are criminally underpaid, but I would absolutely love the experience. //

Adam Jerrett



with the theoretical and technical know-how to build information products that use a variety of media and delivery systems.

Career possibilities

With the convergence of many traditional communication media, such as paper publications, television, radio, phone technologies and the advent of all kinds of new devices that enable connection with information sources such as the web, there is a global shortage of content producers. The BIS (Multimedia) study programme prepares graduates to get jobs with any of these dynamic content producers.

They could also become hard-core coders and work for programming companies, or become skilled in their particular areas of interest: digital music or video, programming, graphic development, games development or web development. They could work in industries such as telecommunications, broadcasting, publishing and internet content provision; in fact, at any institution that communicates information in multimedia.

Candidates who do not comply with the admission requirements for the BIS (Multimedia) study programme are advised to apply for admission to the BIS (Multimedia) (Four-year programme). The BIS (Multimedia) study programme takes a minimum of three years to complete.

Contact information

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 Tel: +27 (0)12 420 2961
 Fax: +27 (0)12 362 5181
 Email: infosci@up.ac.za
 Website: <http://is.up.ac.za>

First year	
First semester	Second semester
Fundamental modules <ul style="list-style-type: none"> Academic Information Management Academic Literacy Levels 	Fundamental modules <ul style="list-style-type: none"> Academic Literacy Levels
Core modules <ul style="list-style-type: none"> Information Science Introduction to Information Science 	Core modules <ul style="list-style-type: none"> Information Science Organisation and Representation of Information Information and Communication Technology
Multimedia <ul style="list-style-type: none"> Mark-up Languages 	Multimedia <ul style="list-style-type: none"> Multimedia for the Web
Computer Science <ul style="list-style-type: none"> Imperative Programming Introduction to Computer Science 	Computer Science <ul style="list-style-type: none"> Introduction to Program Design Software Modelling
Other compulsory module <ul style="list-style-type: none"> Visual Design 	Other compulsory modules <ul style="list-style-type: none"> Visual Design Computer Architecture

Second year	
First semester	Second semester
Fundamental module <ul style="list-style-type: none"> Community-based Project 	Fundamental module <ul style="list-style-type: none"> Community-based Project
Core modules <ul style="list-style-type: none"> Multimedia <ul style="list-style-type: none"> Advanced Mark-up Languages I Multimedia and Hypermedia Theory Publishing <ul style="list-style-type: none"> Copy-editing 	Core modules <ul style="list-style-type: none"> Multimedia <ul style="list-style-type: none"> Advanced Mark-up Languages II
Computer Science <ul style="list-style-type: none"> Data Structures and Algorithms Netcentric Computer Systems 	Computer Science <ul style="list-style-type: none"> Operating Systems Concurrent Systems
Other compulsory module <ul style="list-style-type: none"> Visual Design 	Other compulsory module <ul style="list-style-type: none"> Visual Design

Third year	
First semester	Second semester
Core modules <ul style="list-style-type: none"> Multimedia <ul style="list-style-type: none"> Multimedia Project Human-computer Interaction 	Core modules <ul style="list-style-type: none"> Multimedia <ul style="list-style-type: none"> Multimedia Project Trends
Computer Science* Select at least two of the following semester modules: <ul style="list-style-type: none"> Software Engineering Artificial Intelligence Computer Networks Programming Languages Compiler Construction Computer Security and Ethics Computer Graphics Database Systems 	
*The semester in which the modules are offered may vary from year to year.	

BIS (Multimedia) (Four-year Programme)

Candidates who do not comply with the admission requirements for the BIS (Multimedia) study programme are advised to apply for admission to the BIS (Multimedia) (Four-year programme).

Take note: The first year of study of the study programme is offered at the Mamelodi Campus.

Contact information

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 Fax: +27 (0)12 362 5181
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 Website: <http://is.up.ac.za>

Ms S Naidoo (Four-year programme Advisor)
 Email: snaidoo@cs.up.ac.za

“ I am completing my second year of the BSc (Computer Science). I chose to study Computer Science because it is my passion. With both the Faculty and the Department of Computer Science truly setting a high bar, it provides me with a real challenge – making my tertiary education truly worthwhile.

The mere opportunity to study has given me many new opportunities; after all, everything new comes from the ideas we create. Where better to create ideas than at a fine academic institution like the University of Pretoria. I received the prize for the top first-year Computer Science student for 2012, which consisted of a beautiful trophy and a Samsung Galaxy Tab 2 7" tablet. My dream is to work for myself some day. ”



Mathys Ellis

First year	
First semester	Second semester
Fundamental modules <ul style="list-style-type: none"> Academic Information Management 1 Language, Life and Study Skills 1 	Fundamental modules <ul style="list-style-type: none"> Academic Information Management 2 Language, Life and Study Skills 2
Core modules Information Science <ul style="list-style-type: none"> Introduction to Information Science 1 	Core modules Information Science <ul style="list-style-type: none"> Introduction to Information Science 2
Computer Science <ul style="list-style-type: none"> Introduction to Programming 1 	Computer Science <ul style="list-style-type: none"> Introduction to Programming 2
Information Technology <ul style="list-style-type: none"> Information Technology: Orientation 	Information Technology <ul style="list-style-type: none"> Information Technology: Orientation (continuation)
Mathematics <ul style="list-style-type: none"> Pre-calculus 	Mathematics <ul style="list-style-type: none"> Calculus

Second year	
First semester	Second semester
Core modules	Core modules Information Science <ul style="list-style-type: none"> Organisation and Representation of Information Information and Communication Technology
Multimedia <ul style="list-style-type: none"> Mark-up Languages 	Multimedia <ul style="list-style-type: none"> Multimedia for the Web
Computer Science <ul style="list-style-type: none"> Introduction to Programming 3 	Computer Science <ul style="list-style-type: none"> Program Design: Introduction Software Modelling
Information Technology <ul style="list-style-type: none"> Introduction to Computing 	
Mathematics <ul style="list-style-type: none"> Calculus (continuation) 	
Other compulsory module <ul style="list-style-type: none"> Visual Design 	Other compulsory modules <ul style="list-style-type: none"> Visual Design Computer Architecture

Third year	
First semester	Second semester
Fundamental module <ul style="list-style-type: none"> Community-based Project 	Fundamental module <ul style="list-style-type: none"> Community-based Project
Core modules Multimedia <ul style="list-style-type: none"> Advanced Mark-up Languages 1 Multimedia and Hypermedia Theory 	Core modules Multimedia <ul style="list-style-type: none"> Advanced Mark-up Languages 2
Publishing <ul style="list-style-type: none"> Copy-editing 	
Computer Science* <ul style="list-style-type: none"> Data Structures and Algorithms Netcentric Computer Systems 	Computer Science <ul style="list-style-type: none"> Operating Systems Concurrent Systems
Other compulsory module <ul style="list-style-type: none"> Visual Design 	Other compulsory module <ul style="list-style-type: none"> Visual Design

Fourth year	
First semester	Second semester
Core modules Multimedia <ul style="list-style-type: none"> Multimedia Project Human-computer Interaction 	Core module Multimedia <ul style="list-style-type: none"> Multimedia Project Trends
Computer Science*	
Select at least two of the following semester modules: <ul style="list-style-type: none"> Software Engineering Artificial Intelligence Computer Networks Programming Languages Computer Security and Ethics Database Systems Computer Graphics Compiler Construction 	
*The semester in which the modules are offered may vary from year to year.	

BIS (Information Science)

BIS (Information Science) is the ideal study programme for students who want to be part of the international information society, buy and sell information, develop information systems, and manage information products and services – also in cyberspace.

What does the study programme entail?

The increasing amount of information available and growing information needs have necessitated the training of information intermediaries to effectively facilitate the



“ I am currently completing my second year of the Baccalaureus in Information Science. The Department of Information Science is extremely diverse and many people undervalue its importance. It is good to know that I will have the chance to be responsible for one or more of the world’s future technological advancements.

For me, being able to study at a university such as the University of Pretoria is a great opportunity in itself. The guidance I have received from my lecturers and even some of the students has had a great impact on me and my future career prospects. I have attended a few of the career days on campus and was able to find out more about the different positions and companies related to my degree. It helped me realise that having a degree in a certain field does not necessarily mean you will work in one career for the rest of your life; it all depends on what you as a person want and what you are willing to work hard for.

I was the top first-year student in my study programme last year and have also been invited to become a member of the Golden Key Honours Society. At the moment, I do not have a dream job, because I do not believe in limiting my dreams and aspirations to a single job. If I could, I would have two to three dream jobs. //

Isaac Leshaba





bringing together of users and the information they require. This study programme focuses on the use of information technology and the processing of information products, and is designed to train students in the management, retrieval and organisation of information, as well as to teach them to add value, package and distribute information. Students will also have the opportunity to develop knowledge and skills in the management of one of the most important resources of enterprises: information and knowledge.

Career opportunities

- information managers (manage information and knowledge resources)
- information specialists (organise, retrieve and add value to information)
- information consultants (consult on information products, services and systems)
- information brokers (act as an infopreneur and buy and sell information products and services)
- systems specialists (develop and analyse information systems)

How long does this study programme take to complete?

The BIS (Information Science) study programme takes a minimum of three years to complete.

Contact information

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 Email: infosci@up.ac.za
 Website: http://is.up.ac.za



First year	
First semester	Second semester
Fundamental modules • Academic Information Management • Academic Literacy Levels Core modules Information Science • Introduction to Information Science • Personal Information Management Business Management Elective modules • Group A: *Informatics or • Group B: Any subject(s) at first-year level	Fundamental modules • Academic Literacy Levels Core modules Information Science • Organisation and Representation of Information • Information and Communication Technology Business Management Elective modules • Group A: *Informatics or • Group B: Any subject(s) at first-year level

Second year	
First semester	Second semester
Fundamental module • Community-based Project Core modules Information Science • Information Seeking and Retrieval • Social and Ethical Impact Business Management or Communication Management Elective modules • Group A: *Informatics or • Group B: Information Science	Fundamental module • Community-based Project Core modules Information Science • Representation and Organisation Business Management or Communication Management Elective modules • Group A: *Informatics or • Group B: Information Science

Third year	
First semester	Second semester
Core modules Information Science • Information Organisation • Experimental Learning Project Elective modules • Group A: *Informatics and Business Management or Communication Management or • Group B: Information Science or • Group C: *Informatics and Information Science	Core modules Information Science • Information and Knowledge Management • Experimental Learning Project Elective modules • Group A: *Informatics and Business Management or Communication Management or • Group B: Information Science or • Group C: *Informatics and Information Science

* If informatics is selected as a subject at first-year level, a minimum achievement level of 5 (60–69%) must be obtained for Mathematics.

BIS (Publishing)

This study programme focuses on the theory and practice of book and corporate publishing.

What does the study programme entail?

This study programme aims to do the following:

- Provide students with knowledge of the publishing process and key role-players, as well as trends and initiatives in the local and international publishing industry.
- Provide students with the skills needed to perform specific tasks related to the publishing process.
- Assist students in becoming responsible information intermediaries and in adding value to the production and dissemination of books and corporate publications.
- Make students aware of the social, ethical and legal responsibilities involved in the publishing process.

WI am a third-year student enrolled in the BIS (Information Science) degree with Informatics as my elective. I am currently working as a teaching assistant in the Informatics Department. The Faculty is home to the most forward-thinking students. It is great to be a part of this group, where lecturers take time to know each of their students and to shape them into future leaders.

I am a member of the Golden Key International Honour Society. Furthermore, I received the award for top second-year Information Science student for 2012 at the School of Information Technology's prize-giving ceremony, and the University of Pretoria Student Achiever Award.

My goal is to become an information system analyst and designer for an internationally recognised firm. I would like to manage a company's information system in a challenging position that offers me further personal and professional development. //



Denise Engelbrecht

Career possibilities

A variety of career opportunities are available in the book publishing industry, the book retail industry and the corporate publishing environment. Motivated and goal-orientated candidates can become part of this highly competitive environment at entrance level. On-the-job experience will be needed for subsequent career development.

Some entrance-level career opportunities include the following:

- assisting specific role-players in the publishing value chain (for example, the managing director of a publishing house, commissioning editor, or the editorial, production or marketing manager)
- market or picture research
- copyright negotiations
- copy-editing and proofreading
- marketing and promotion
- distribution and delivery

These career opportunities are available at the following places:

- local and international book publishing houses
- bookshops and e-commerce, journals, newspapers, magazines
- the media and publicity industries
- national and local government departments
- the corporate and business environment
- civil society
- community-based publication initiatives
- self-publishing and consultancy

How long does this study programme take to complete?

The BIS (Publishing) takes a minimum of three years to complete.

Contact information

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 Tel: +27 (0)12 420 2961
 Fax: +27 (0)12 362 5181
 Email: infosci@up.ac.za
 Website: <http://is.up.ac.za>



“ We are both second-year students in BIS (Publishing), and in 2012 we were the two top first-year Publishing students.

Liesl: I struggled to find a course with an adequate balance between technical and creative work until I came across the BIS (Publishing) offered by the University of Pretoria. It was exactly what I was looking for and I haven't regretted my decision to enrol for this study programme.

Helena: My mother owns a corporate publishing company that is celebrating its 16th birthday this year, so I have been exposed to the industry since I was four. I found that the Publishing programme is ideal, because it provides an overview of the entire industry from an academic perspective.

Through the course of our studies we've realised that it helps to have a "study buddy" who is just as driven as you are to help you reach your ultimate goal and full potential. ”

Liesl Steyn and Helena Smit

First year	
First semester	Second semester
Fundamental modules <ul style="list-style-type: none"> • Academic Information Management • Academic Literacy Levels • Visual Cultural Studies 	Fundamental modules <ul style="list-style-type: none"> • Academic Literacy Levels • English for Specific Purposes
Core modules <ul style="list-style-type: none"> Information Science • Introduction to Information Science • Personal Information Management 	Core modules <ul style="list-style-type: none"> Information Science • Information and Communication Technology
Marketing	Publishing <ul style="list-style-type: none"> • The Book Publishing Environment • Visual Cultural Studies
Elective modules <ul style="list-style-type: none"> • Select a modern language of your choice in consultation with the package organiser. 	Elective modules <ul style="list-style-type: none"> • Select a modern language of your choice in consultation with the package organiser.

Second year	
First semester	Second semester
Fundamental module <ul style="list-style-type: none"> • Community-based Project 	Fundamental module <ul style="list-style-type: none"> • Community-based Project
Core modules <ul style="list-style-type: none"> Information Science • Social and Ethical Impact 	Core modules
Publishing <ul style="list-style-type: none"> • Copy-editing 	Publishing <ul style="list-style-type: none"> • The Visual and Production Dimensions of Publishing
Type, image and applications	Text Design
Elective modules <ul style="list-style-type: none"> • Continue with the same language as selected previously and select modules in consultation with the package organiser. 	Elective modules <ul style="list-style-type: none"> • Continue with the same language as selected previously and select modules in consultation with the package organiser.

Third year	
First semester	Second semester
Core modules <ul style="list-style-type: none"> Publishing • Publishing in the Digital Environment • Commissioning 	Core modules <ul style="list-style-type: none"> Publishing • Management in the Publishing Environment • Publishing in the Magazine and Corporate Environment
Elective modules <p>Continue with the same language as selected previously and select one semester module in consultation with the package organiser. It can be a first- or second-semester module.</p>	





General information

Faculty-specific information

Tel: +27 (0)12 420 2676 (Liz Jones)
 +27 (0)12 420 2482 (Emly Mathe)
 Email: liz.jones@up.ac.za,
 emly.mathe@up.ac.za
 Location: Engineering, Built Environment and
 Information Technology
 Engineering 1, 6th floor
 Hatfield Campus

Client Service Centre contact details

Tel: +27 (0)12 420 3111
 Email: csc@up.ac.za
 Website: www.up.ac.za
 Parent's page: www.up.ac.za/parents
 Location: University of Pretoria
 cnr Lynnwood Road and Roper
 Street
 Hatfield
 Postal address: University of Pretoria
 Private bag X20
 Hatfield 0028

GPS coordinates of UP campuses

Hatfield: S25° 45' 21" E28° 13' 51"
 GIBS: S26° 07' 46" E28° 02' 46" (56 km
 from Hatfield Campus)
 Groenkloof: S25° 46' 10" E28° 12' 34" (3.5 km
 from Hatfield Campus)
 LC de Villiers: S25° 45' 10" E28° 14' 46" (1.2 km
 from Hatfield Campus)
 Mamelodi: S25° 43' 22" E28° 23' 56" (12 km
 from Hatfield Campus)
 Onderstepoort: S28° 10' 54" E25° 38' 52" (22 km
 from Hatfield Campus)
 Prinshof: S25° 43' 57" E28° 12' 10" (6 km
 from Hatfield Campus)

UP banking details

Absa	Standard Bank
Branch: Hatfield	Branch: Hatfield
Branch code: 632005	Branch code: 011545
Account number: 214 000 0054	Account number: 012 602 604
Swift code: ABSAZAJJ	Swift code: SBZAZAJJ

Welcoming Day and the Programme for Registration and Start of the Academic Year

Attendance of the Welcoming Day on Saturday, 18 January 2014 and the programme for registration and start of the academic year is compulsory for all new first-year students. This programme has been designed to assist students with their academic preparedness, enabling them to successfully make the adjustment from high school to university.

Applications

New students may only register after successful admission. If provisionally admitted, they will still have to comply with the requirements of the faculty in which they wish to register with the end examination results of their final school-year¹. Thus, new students will only be

¹ The end examination results of the final school-year refer to the examination results regarded by Higher Education South Africa (HESA) as the minimum requirement for tertiary study in South Africa.

permitted to register once their application and admission processes have been approved. Provisional admission is based on the results obtained in the Grade 11 end examination. Please take note that the end examination results of the final school-year remain the determining factor for admission. Furthermore, please note that the achievement of the minimum requirements does not necessarily guarantee admission to any study programme.

Late applications

Before you submit a late application, please contact the Faculty Administration Office to ensure that there is still space available. If the study programme is not subject to selection and if the Faculty still has space available, your application will be considered. Late applications are only accepted on condition that all the admission requirements for the relevant study programmes are fully complied with. Should you not comply with the requirements, your application will not be considered. Application fees will not be refunded.

Admission (new first-year students)

- If you have been provisionally admitted to the University, the end examination results of your final school-year must still comply with the admission requirements for the study programme to which you were provisionally admitted. If the end examination results of your final school-year do not comply with the admission requirements, contact the relevant Faculty's Student Administration Office with regard to your admission status.
- If you have been placed in a residence, please refer to your placement letter for occupation dates.
- If you have been provisionally admitted to a residence, but the end examination results of your final school-year are lower than the admission requirements, you may not move into the residence until the relevant Faculty's Student Administration Office has confirmed your admission. Admission in such cases is not guaranteed.
- If you apply to have some of your final school-year subjects re-marked, and you do not comply with the minimum admission requirements based on your current results, you will not be allowed to register in the interim. Re-marked results are only available in February and in terms of the University's policy such marks will not be taken into consideration. You are welcome to apply for the next academic year.

National Benchmark Test (NBT)

The National Benchmark Test is not compulsory for all study programmes. Please refer to the relevant study programmes in this brochure. Please note that the Academic Literacy Test does not replace the National Benchmark Test.

Contact information

Tel: +27 (0)21 650 3523
 Website: www.nbt.ac.za

The calculation of the Admission Point Score (APS) is based on a candidate's achievement in any six recognised 20-credit subjects (not only designated subjects) by using the seven-point rating scale below. Life Orientation is excluded from the calculation of the APS.

Achievement	Achievement level	Mark
7	Outstanding achievement	80–100%
6	Meritorious achievement	70–79%
5	Substantial achievement	60–69%
4	Adequate achievement	50–59%
3	Moderate achievement	40–49%
2	Elementary achievement	30–39%
1	Not achieved	0–29%

Language policy and medium of instruction

In conducting its business, the University uses two official languages: English and Afrikaans. In formal education, the medium of instruction is English or Afrikaans, or both of these languages – provided that there is a demand and that it is academically and economically justifiable. However, it remains the student's responsibility to ascertain on an annual basis in which language a module and any further level of that module is presented. In respect of administrative and other services, students have the right to choose whether the University should communicate with them in English or Afrikaans.

Academic Information Management (AIM)

- Academic Information Management modules (AIM 101 or both AIM 111 and AIM 121), depending on your study programme, are compulsory for all new first-year students.
- AIM 101 will be presented in the first or second semester, depending on your study programme.
- AIM 111 will be presented in the first semester and AIM 121 in the second semester.
- There are no exemption examinations available for AIM 101 or AIM 111 and AIM 121.

Academic literacy for first-year students

An inadequate level of academic literacy can impact negatively on a student's chances of academic success. The University of Pretoria has processes in place to identify students who might need development. This is done by way of evaluating Grade 12 marks in English or Afrikaans or the results of the Academic Literacy Test. Full details will be communicated to all admitted students in the information brochure for the programme for registration and start of the academic year, which is distributed in November or December. If you are required to write the test, time will be scheduled in the programme. If your Grade 12 English or Afrikaans marks are to be used, the Faculty's Student Administration Office will register you for the appropriate study programme as identified by your Faculty.

Please note that the Academic Literacy Test does not replace the National Benchmark Test (NBT).

Bursaries, awards and loans (financial aid)

The University reserves the right to amend, without prior notice, the regulations and conditions applicable to bursaries, awards and loans. Students who are interested

Guaranteed undergraduate achievement awards: 2015

Learners do not apply for the achievement awards below. These awards are awarded based on academic achievement.

Qualifying average percentage	Faculty of Engineering, Built Environment and Information Technology and Faculty of Natural and Agricultural Sciences	Faculty of Health Sciences and Faculty of Veterinary Science	Other faculties
75%–79.99%	R6 000	–	–
80%–89.99%	R15 000	R6 000	R15 000
90%–100%	R40 000	R20 000	R40 000

Note: The University of Pretoria reserves the right to amend award values without prior notice. Please refer to www.up.ac.za/feesfunding for the criteria applicable to the above achievement awards.

in the support bursaries and loans administered by the University should submit an application via the University's website www.up.ac.za/feesfunding. This is, however, not applicable to achievement awards as a different process is followed in this regard.

Contact information

Website: www.up.ac.za/feesfunding

Information on study costs, accounts and financial aid is published on the University's website at www.up.ac.za/feesfunding and in the Fees and Funding brochure available at the Client Service Centre.

Sports bursaries

Sports bursaries are available, subject to various conditions, to sports achievers who obtained at least provincial colours in selected sport. It is expected of these students to actively participate in this sport for a UP Club while studying at the University. The closing date for applications is 30 September of the year preceding commencement of study. Bursary application forms are available from the Sports Centre.

Contact information

Tel: +27 (0)12 420 6060

Email: sportinfo@up.ac.za

Website: www.up.ac.za/sport

Other bursary options

You may also visit the following websites for information on bursaries:

- www.up.ac.za/feesfunding
- www.gostudy.mobi, which lists bursaries according to field of study
- <http://bursary.hcifoundation.co.za>
- The Bursary Register:
 - Tel: +27 (0)11 672 6559
 - Email: slevin@mweb.co.za

Edu-loan

Edu-Loan is a registered credit provider, allowing access to study loans for employees as well as full-time students. A student loan can include a whole range of student-related necessities such as books, accessories, laptops, university and private accommodation, as well as study tuition with a fixed monthly instalment.

Anyone (students, parents or guardians) can apply for a loan, provided that the applicant is in full-time employment or has a registered business.

Contact information

Tel: +27 (0)12 420 5175/2161 or

+27 (0)86 632 8882/3

Email: Isaac.senosi@up.ac.za

Location: R1-13 Student Centre

Business hours: 08:00–16:00





Other achievement awards: 2015

Learners do not apply for the following two awards. These awards are awarded based on academic achievement. Only students with South African citizenship or permanent residency in South Africa are considered for these awards.

Description	Award value	Faculty	Notes
JuniorTukkie Grade 11 Empowerment Programme (15 awards)	R13 600	<ul style="list-style-type: none"> Natural and Agricultural Sciences Health Sciences Engineering, Built Environment and Information Technology 	The 15 learners with the best Grade 12 results who attended the JuniorTukkie Grade 11 Empowerment Week, will each receive an amount of R13 600.
Grade 12 dux learner (top academic achiever in Grade 12) at selected feeder schools (one award per school)	R5 000	Any faculty	The final decision regarding the selection of schools for this award rests with the University of Pretoria.

Note: The University of Pretoria reserves the right to amend award values without prior notice. Please refer to www.up.ac.za/feesfunding for the criteria applicable to the above achievement awards.

Contact information

Tel: +27 (0)12 420 3111
 Email: csc@up.ac.za
 Website: www.up.ac.za/feesfunding
 Location: Hatfield Campus
 Postal address: Client Service Centre
 University of Pretoria
 Private bag X20
 Hatfield 0028

Special offer for academic achievers

Please take note of a special offer for top academic achievers based on average percentages obtained in the end examination of the final school-year. This special offer is only applicable to new first-year students who obtained 75% or more in the end examination of their final school-year. For more information on the University's special offer to new first-year students, visit www.up.ac.za/admissioninfo

Fees

For the estimated tuition fees for 2014 in this Faculty, please consult www.up.ac.za/feesfunding. All amounts are subject to change and should not be considered to be the final cost. The rate of inflation during 2014 can be used as a guideline to estimate the increase in tuition fees for 2015.

Payments, rebates and pay-outs

The fees below are for 2014 unless otherwise indicated.

Description	Amount payable	When to pay	Notes
Application fee	R300 (for 2015)	This fee is payable with submission of application for studies.	This fee is non-refundable.
Registration fee <ul style="list-style-type: none"> Payable prior to registration Also payable every subsequent year before registration 	R4 600	Selection study programmes This fee is payable WITHIN 30 days of placement to reserve your study place.	<ul style="list-style-type: none"> The registration fee forms part of the tuition fees and is an initial payment towards the tuition fees. R950 of the R4 600 will be retained for cancellations made WITHIN 30 days after placement. R2 300 of the R4 600 will be retained for cancellations made MORE THAN 30 days after placement.
		All other study programmes The fee is payable at least 5 days before registration in January/February.	<ul style="list-style-type: none"> The registration fee forms part of the tuition fees and is an initial payment towards the tuition fees. This fee is fully refundable if the student does not register.
International levy for all non-South African citizens	R2 500	This levy is payable before registration in January/February.	This levy is fully refundable if the student does not register.
Tuition fees	Refer to www.up.ac.za/feesfunding	<ul style="list-style-type: none"> Half (50%) of the student account is payable before or on 30 April. The full (100%) student account is payable before or on 31 July. 	<ul style="list-style-type: none"> Accounts are available on the UP Portal (Student Centre) after registration. Accounts are mailed monthly, starting March.
Discount for early payment		A discount of 2.5% is granted if the student account is paid in full by 30 April.	
Family rebate	<ul style="list-style-type: none"> Two students – 10% rebate is granted on the tuition fees for each of the students. Three or more students – 20% rebate is granted on the tuition fees for each of the students. 	Apply before 31 March.	<ul style="list-style-type: none"> This rebate is only applicable on tuition fees. Students must apply annually. Students must apply in writing. The 2.5% discount for early payment will not be given on the family rebate Application forms are available on www.up.ac.za/feesfunding or at the Client Service Centre.
Summer School and Winter School	Full tuition fees are payable for the modules taken.	Fees are payable with the rest of the student account.	When modules are repeated, the full tuition fee will be charged again.

Description	Amount payable	When to pay	Notes
Fees paid by bursars	<ul style="list-style-type: none"> Bursaries may or may not cover the full costs of study. Ensure that you are aware of the full value of your bursary. 	External companies or other institutions that sponsor students with bursaries, need to make the required payments to the students' accounts by the same dates as if the students were paying the accounts themselves. <ul style="list-style-type: none"> Half (50%) of the student account is payable before or on 30 April. The full (100%) student account is payable before or on 31 July. 	<ul style="list-style-type: none"> Students must submit written proof from the sponsors of the bursary awarded to them prior to registration, otherwise the registration fee will be payable by the student. Students remain responsible for their student accounts if their bursary sponsor does not pay the account.
Credit balances	Amounts in credit on your account are payable.	Payment depends on the source of the credit balance.	The Refund form is available on www.up.ac.za/feesfunding or at the Client Service Centre (CSC).
Other living costs	These costs are not included on the account.	Payment should be done as required, for example books, food, travel, stationery, printing and internet.	Students should manage these costs themselves.
Cancellation fees Discontinuation of studies and discontinuation of a module	Refer to www.up.ac.za/feesfunding .	Payment of these fees are determined by the official date the University was notified in writing of the discontinuation.	In cases where discontinuation is due to the hospitalisation or death of a student, cancellation fees may be waived if sufficient proof is provided.

Accommodation on UP campuses

Campus	Single rooms (2014 amount)*	Double rooms (2014 amount)*
Hatfield		
Ladies' residences: Asterhof, Erika, Jasmyn, Katjiepiering, Madelief, Klaradyn, Magrietjie, Nerina	R29 700	R27 500
Ladies' residence: Nerina (new wing)	R33 100	
Men's residences: Kollege, Maroela, Mopanie, Taaibos	R29 700	R27 500
Men's residences: Boekenhout, Olienhout	R32 000	R29 700
Men's and ladies' residence: TuksVillage	R33 100	
Groenkloof		
Ladies' residences: Zinnia, Liliium, Inca	R29 700	R27 500
Men's residence: Kiaat	R29 700	R27 500
Mamelodi		
Men's and ladies' residence: Tuks Naledi		R27 500
Onderstepoort		
Men's and ladies' residence: Onderstepoort	R29 700	R27 500
Men's and ladies' residence: Onderstepoort (new wing)	R36 000	
Prinshof		
Ladies' residence: Curlitzia	R29 700	R27 500
Men's residence: Olympus	R31 500	
Men's and ladies' residence: Hippokrates (single room)	R39 100	

*Amounts will be adjusted for 2015.

Contact information

Tel: +27 (0)12 420 3111
 Email: csc@up.ac.za
 Website: www.up.ac.za/accommodation
www.up.ac.za/feesfunding

Private accommodation

The University can unfortunately not provide accommodation to all applicants, as the demand exceeds the available places. The following private facilities may be considered for alternative private accommodation:

Private accommodation in the vicinity of Hatfield Campus

Accredited men's residence	Telephone number	Email and/or website
Sonop	+27 (0)12 460 5723/7830	toniev@sonop.org.za
Accredited accommodation	Telephone number	Email and/or website
Midcity	+27 (0)12 426 3400 +27 (0)82 887 4165	www.midcity.co.za
South Point	+27 (0)80 078 833 687	www.staysouthpoint.co.za
The Fields (City Property)	+27 (0)12 362 4473/4504	propworld@cityprop.co.za
Urban Nest	+27 (0)12 343 5138	info@urbannest.co.za





Private accommodation in the vicinity of Prinshof Campus

Accredited accommodation	Telephone number	Email and/or website
Craig's Place (City Property)	+27 (0)12 319 8700	propworld@cityprop.co.za
Jakaranda Lodge	+27 (0)12 330 2424	bookings@jaklodge.co.za

Alternative private accommodation

Accredited accommodation	Telephone number	Email and/or website
190 On-Suite	+27 (0)12 322 0277 +27 (0)82 551 8676	conradk@mmaphuti.co.za www.mmaphuti.co.za
Arlon Property	+27 (0)12 362 5499/1868	arlon@icon.co.za
Off Campus Rental	+27 (0)12 362 6123 +27 (0)83 438 2548	ocrental@telkomsa.net

UP Open Day

Date: 24 May 2014
Time: 08:00-14:00

The following persons should attend the UP Open Day:

- Grade 12 learners (final school-year) who have received confirmation that they have been provisionally admitted to a study programme
- Grade 12 learners (final school-year) who meet the admission requirements and wish to hand in their application forms
- Grade 11 learners who are fairly certain that they will apply at UP
- the parents of the abovementioned learners

Sport

Sport represents a significant part of student life. The University of Pretoria provides students with opportunities to participate in a variety of sporting disciplines at club, national and international level. The University also boasts excellent sports facilities, which are highly regarded both nationally and internationally.

The LC de Villiers Sports Grounds are centrally located and are easily accessible to students. TuksSport has a large number of sports clubs and is currently the largest source of athletes for a variety of sports disciplines and national teams. TuksSport forms a vital part of the UP experience. You are therefore encouraged to choose the University of Pretoria for an outstanding sports and academic career.

Contact information

Tel: +27 (0)12 420 6060
Fax: +27 (0)12 420 6095
Email: sportinfo@up.ac.za
Website: www.up.ac.za/sport

High Performance Centre (hpc)

The University of Pretoria's High Performance Centre (hpc) is Southern Africa's first elite performance sports facility.

Contact information

Tel: +27 (0)12 362 9800
Fax: +27 (0)12 362 9890
Email: info.hpc@up.ac.za

TuksSport High School

Tel: +27 (0)12 343 4527
Fax: +27 (0)86 636 4019
Location: TuksSport Study Centre
Technical Building (Building 5)
Groenkloof Campus
cnr Leyds Street and
George Storrar Drive, Groenkloof

Student Affairs

The Student Affairs offices are located in the Roosmaryn Building on the Hatfield Campus. The Department of Student Affairs has two divisions: Student Support and Student Development.

Student Support Division

This division includes student health, student counselling and the Unit for Students with Special Needs.

Services provided by the Student Support Division include the following:

- academic development (career counselling and assessment, study methods and reading courses, stress management, psychometric testing, time management and career planning)
- potential development (conflict management, communication skills, goal setting and problem solving)
- individual and relationship counselling (interpersonal problems, stress, depression, eating disorders, life trauma, emotional problems and the development of life skills)

Contact information

Tel (office hours): +27 (0)12 420 2333
Tel (after hours): +27 (0)12 420 2310/2760
24-hour crisis line: +27 (0)80 000 6428 (toll free)
Email: ethel.motlhamme@up.ac.za
Location: Student Centre (opposite Pie City)
Hatfield Campus
Office hours: 07:30–16:00

Groenkloof Campus

Tel: +27 (0)12 420 5687
Location: R505 Sports Centre

Hatfield Campus

Tel: +27 (0)12 420 2333
Location: Student Centre (opposite Pie City)

Mamelodi Campus

Tel: +27 (0)12 842 3724
Location: Student Health Centre

Onderstepoort Campus

Tel: +27 (0)12 529 8476
Location: Arnold Theiler Building
(Student Administration Offices)

Prinshof Campus

Tel: +27 (0)12 420 2333
Location: 8th floor
Basic Medical Sciences Building

Student Development Division

This division includes all student governance structures and organised student life initiatives:

- Student Forum (SF)
- Student Representative Council (SRC)
- Constitutional Tribunal (Student Court)
- day houses
- faculty houses (www.up.ac.za/facultyhouses)
- over 100 religious, cultural, academic, political and other societies
- Tuks Top Junior/Senior and ENACTUS UP
- Mentorship programme
- service providers:
 - TuksRAG (Reach Out and Give)
 - Stuku (student culture)
 - *Perdeby* (student newspaper)
 - Tuks FM (campus radio station)
 - Student Sport

Contact information

Tel: +27 (0)12 420 6600/1411
 Location: Roosmaryn Building
 Hatfield Campus

Day houses

If you are not living in a residence, but would like to have a great student life, then you should consider joining one of the day houses on campus. This will give you the opportunity to take part in organised student life activities such as rag and sport, as well as cultural and social events.

You can join one of the official day houses: Vividus Men, Vividus Ladies, Zeus or Luminous. An annual membership fee is payable. Don't miss out – be sure to sign up with the day house of your choice!

Contact information

Website: www.up.ac.za/dayhouses

Faculty houses

By default, all students (day and residence students) belong to the faculty house of the faculty in which they are registered. Faculty houses have an academic focus and play an important role in linking students and lecturers in the faculty.

There are no membership fees payable to join a faculty house, but students have the option to purchase items such as T-shirts or to attend camps and other events for which fees are charged. Typical activities include personal and professional as well as development opportunities, such as presentations by speakers on various topics and excursions to relevant industries. Faculty houses are also involved in various community service projects. Some faculty houses participate in sport leagues.

The faculty house also serves as a link with the class representative system in the faculty.

Contact information

Website: www.up.ac.za/facultyhouses

Library services

The Department of Library Services is host to a world-class modern academic research library network spread over the campuses of the University. This service is aligned to the University of Pretoria's faculties with customised services for undergraduates, postgraduates, staff, alumni and visiting academics. All services are

designed to create a gateway to global information and support learning, teaching and research through interaction with professional staff.

Key initiatives include an e-service (online), access to wide-ranging print and electronic collections, the Learning Centre at the Merensky Library and online assignment support for undergraduate students, an online reference service (Ask-a-Librarian), wireless hot spots, search engines to access electronic journals, books and databases, electronic theses and dissertations, an institutional repository, various audiovisual materials, dedicated facilities for the physically challenged and postgraduates, and interlending library facilities to national and international collections. All of these actively contribute to a world-class learning environment.

Contact information

Website: www.library.up.ac.za and
www.library.up.ac.za/mobi

International students

All non-South African citizens must report to the International Students Division in the Client Service Centre on the Hatfield Campus prior to registration. The Client Service Centre will be open from 6 January 2014. The international students' special orientation programme will take place on 17 and 19 January 2014. Students can obtain more information from the International Students Division in the Client Service Centre.

Non-South African citizens will have to submit proof of legal status in South Africa, as well as proof of adequate medical aid cover at the International Students Division in the Client Service Centre before they will be able to register.

Contact information

Tel: +27 (0)12 420 3111
 Email: csc@up.ac.za
 Website: www.up.ac.za/ISD
 Location: Client Service Centre
 Hatfield Campus

Supporting documents

Please note that students must have photocopies ready before going to the International Students Division in the Client Service Centre. Copies can be made at the Xerox Copy Centre in the Student Centre on the Hatfield Campus.

All non-South African citizens will have to show their original documents and submit two photocopies of the documents listed below:

- the International Students Information form, completed and signed
- a valid passport or an ID (in the case of students with permanent residence in South Africa)
- a valid study permit endorsed for studies at the University of Pretoria or one of the following:
 - an asylum-seekers permit
 - a Certificate of Refugee Status
 - a diplomatic passport (not a diplomatic card) and a diplomatic permit
- proof of medical cover (medical cover must be paid a year in advance, January to December)

The abovementioned documents must be submitted to an international consultant and the information must be captured before you can register.





Study permit

Every non-South African citizen is required to have a valid passport and temporary residence permit, such as a study permit, endorsed for studies at the University of Pretoria. Non-South African citizens wishing to enter South Africa should only apply for study permits once an official letter of admission has been received.

How to apply for a study permit

You are required to apply for a study permit at the South African High Commission, Embassy, Consulate or Trade Mission in your country of residence or the nearest South African High Commission, Embassy, Consulate or Trade Mission. The SADC countries are Angola, Botswana, DR Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

The following documents should be submitted to the South African Embassy or Consulate in order to obtain your study permit:

- a passport valid for not less than 30 days after the intended study period
- proof of payment of an administrative fee (as required at the time by the Department of Home Affairs of South Africa)
- confirmation of South African medical cover and proof of payment of membership fee to a medical aid scheme registered with the Council for Medical Schemes in South Africa. Cover must be valid for the duration of one academic year (January to December)
- an admission letter from the University stating the following:
 - the duration of the study programme;
 - confirmation that the admitted student is not taking the place of a local student; and
 - undertaking to inform the Department of Home Affairs if the student deregisters.
- a medical report (less than six months old) by a registered medical practitioner
- a radiological report (less than six months old)
- proof of the availability of funds to cover tuition fees and self maintenance for the duration of studies in South Africa
- a police clearance certificate for the past six months or longer if the applicant is older than 18 years of age
- details regarding arranged accommodation while in South Africa

Other documents that may be required are the following:

- a yellow fever vaccination certificate
- a certificate or other documentary proof of marital status (eg married, widowed, divorced or separated)

Repatriation guarantee

A cash deposit equal to a return ticket to the country of origin (repatriation guarantee) may be required.

Change of institution (study permit holders)

The University may only register a student for academic studies once the prospective applicant has produced a valid study permit. It usually takes at least six weeks for an application to be processed. It is also important to note that a study permit is issued to study at one institution and a student would have to apply for a change of conditions, should they want to change institutions. This can be done in South Africa in the municipal area applicable to the new institution of study.

Before applying for this permit, a student must obtain a release letter from the current institution, stating that this institution has no objections to the transfer.

Change of conditions (study permit holders)

A change to the conditions of a study permit should be available in a situation where a student holds a valid study permit with a condition to study at another institution in South Africa (other than the one the student is applying to). This is usually the case with learners and students studying at South African high schools, colleges and other academic institutions. Their permits would therefore need to be endorsed with a condition to study at the institutions mentioned above. In order to register at the University of Pretoria, the permit will need to be endorsed for the applicant to study at the University of Pretoria. Application for a change to the conditions of a study permit constitutes a new application for a study permit. Although the applicant will need to complete a separate form, the requirements are the same as those for the initial application for a study permit.

Please note the following:

- These forms are available on the internet (www.home-affairs.gov.za). They can also be collected at any South African visa-issuing authority (Department of Home Affairs offices, consulates or embassies).
- This information is meant to serve as a guide only. Requirements for studying in South Africa are subject to change and each application is treated as an individual case. Always make enquiries before travelling to South Africa.
- The holder of a study permit for studies at a higher education institution may conduct part-time work, but the period for undergraduate students may not exceed 20 hours per week; and for postgraduate students the period may not exceed 20 hours per week, for as long as their study permits are valid.

Medical cover for study permit holders

Non-South African citizens who are holders of study permits, or who wish to apply for a study permit must, in terms of South Africa's Immigration Act, have sufficient medical aid cover for the duration of their stay in South Africa. Non-South African citizens intending to study at the University of Pretoria can join one of the following medical aid schemes:

Momentum Health (Ingwe option)

Membership fees are payable in advance annually.
 Tel: +27 (0)12 671 8511
 Email: studenthealth@momentum.co.za
 Website: www.ingwehealth.co.za

BestMed Medical Scheme (Blueprint student option)

Membership fees are payable in advance annually.
 Tel: +27 (0)12 339 9800 or
 +27 (0)86 000 2378 or
 +27 (0)86 000 BEST
 Fax: +27 (0)12 323 4106 or
 +27 (0)12 339 9900
 Email: lineyl@curemed.co.za

Higher Education South Africa (HESA)

A full or foreign conditional exemption certificate is a prerequisite and applicable to non-South African citizens and to students who do not have a South African National Senior Certificate (NSC) qualification or Independent Examination Board (IEB) qualification and who want to enrol for undergraduate studies at the University of Pretoria. This certificate can only be obtained from HESA.

HESA requires the following documentation when applying for a full or foreign conditional exemption certificate:

- copies of foreign qualifications certified as correct by the registrar of a South African university, a South African Embassy or Consulate in a foreign country or a public notary – result slips, faxes and copies certified by a commissioner of oaths are not acceptable
- a certified copy of your South African identity document (in the case of permanent residents only) or a valid foreign passport reflecting your full names and date of birth, passport number and photograph or a certified copy of your birth certificate
- a completed M30E form (<http://hesa-enrol.ac.za> – follow the link to Applications)

Contact information

Tel: +27 (0)10 591 4401/2
 Fax: +27 (0)12 481 2922/2718
 Email: exemptions@hesa-enrol.ac.za
 Website: www.hesa.org.za
 Location: Building 3 Level 1
 Unisa Sunnyside Campus
 Pretoria
 Postal address: PO Box 3854
 Pretoria 0001

South African Qualifications Authority (SAQA)

Postgraduate applicants must have all previous post-school qualifications evaluated by SAQA when applying for postgraduate study programmes at the University of Pretoria.

Contact information

Call centre: +27 (0)12 431 5000/70
 Helpdesk: +27 (0)86 010 3188
 Fax: +27 (0)12 431 5039
 Website: www.saqa.org.za
 Location: SAQA House
 1067 Arcadia Street
 Hatfield
 Postal address: Postnet Suite 248
 Private bag X06
 Waterkloof 0145

Evaluation of foreign qualifications:

Tel: +27 (0)12 431 5070
 Helpdesk: +27 (0)86 010 3188

Admission Point Score (APS) conversion

The following tables can be used to convert your marks/symbols into an Admission Point Score (APS) when applying for studies at the University of Pretoria (UP).

Admission Point Score (APS) Conversion Table

APS (requirement level for subjects as well as overall APS)	NSC/IEB	SC HG M-score	SC SG M-score	HIGCSE NSSC HL	AS-Level	IB SL	IGCSE/ GCSE/ NSSC OL/ O-Level Grade 11*	IGCSE/ GCSE/ NSSC OL/ O-Level Grade 12**
7	7 (80–100%)	A		1	A	7	A	
6	6 (70–79%)	B	A	2	B	6	B	
5	5 (60–69%)	C	B	3	C	5	C	A
4	4 (50–59%)	D	C	3	D	4	C	B
3	3 (40–49%)	E	D	4	E	3	D	C
2	2 (30–39%)	F	E			2	E	D/E
1	1 (0–29%)	G	F			1	F	F/G

Admission Point Score (APS) Conversion Table only for Cambridge Advanced Level and IB Higher Level

APS		A-Level	IB HL
Requirement level for subjects	Requirement level for overall APS		
7	10	A	7
6	8	B	6
5	7	C	5
4	6	D	4
3	5	E	
2	4		
1	3		

NSC – National Senior Certificate (completed Grade 12 in and after 2008)
 IEB – Independent Examination Board
 SC HG – Senior Certificate Higher Grade (completed Grade 12 before 2008)
 SC SG – Senior Certificate Standard Grade (completed Grade 12 before 2008)
 HIGCSE – Higher International General Certificate of Secondary Education
 A-Level – Advanced Level
 AS-Level – Advanced Subsidiary Level
 IB – International Baccalaureate Schools (Higher Levels and Standard Levels)
 IGCSE – International General Certificate of Secondary Education
 GCSE – General Certificate of Secondary Education
 NSSC – Namibia Senior Secondary Certificate
 O-Level – Ordinary Level

*Grade 11 = IGCSE/O-Level: APS conversion for Grade 11 equivalent qualifications only and for conditional admission and selection purposes

**Grade 12 = IGCSE/O-Level: APS conversion for Grade 12 equivalent qualifications – not for final admission and must be taken together with Advanced Subsidiary Level and Advanced Level for exemption purposes



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

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