



VUT

Vaal University of Technology

Your world to a better future

Biotechnology
Analytical Chemistry
Non-Destructive Testing
Information Technology

Additional Information:
Bursaries & Loans
Sport Academy
Student Counselling & Support

Faculty of Applied & Computer Sciences
2021 for 2022
Vanderbijlpark

BIOMECHANICS NEURAL TISSUE
 REGENERATIVE CELLULAR DEVICES BIONICS THERAPY
BIOMEDICAL
 IMAGING IMPLANTS PHYSIOLOGIC INSTRUMENTATION ROBOTICS MEDICINE ENGINEERING COMPUTATIONAL
 DIAGNOSTIC MEDICAL SURGICAL PROSTHETICS STEM CELLS
 GENETICS DESIGN OPTICAL REHABILITATION BIOLOGICALS REGULATOR

mail world security accessibility global providers remote cell sync apps cloud chart transfer database tasks programming laptop mobile hardware file host
 virtual design system hosting application synchronization smart mobility collage workstation graph data service computer systems cluster wireless business large email access
 chat online networking information term web connect maintenance transmission connection telecommunication smartphone server farm communication users architecture graphics support electronic PC message desktop
internet
software
shared
technology
cloud
computing
 cost infrastructure storage network desktop

79 Au Gold 196.966569	11 Na Sodium 22.98976928	116 Lv Livermorium [293]	39 Y Yttrium 88.90585	22 Ti Titanium 47.867	20 Ca Calcium 40.078	116 Lv Livermorium [293]	
6 C Carbon 12.0107	2 He Helium 4.002602	25 Mn Manganese 54.938045	53 I Iodine 126.90447	16 S Sulfur 32.065	69 Tm Thulium 168.93421	86 Rn Radon [222]	39 Y Yttrium 88.90585
52 Te Tellurium 127.6	6 C Carbon 12.0107	1 H Hydrogen 1.00794	28 Ni Nickel 58.6934	Q	92 U Uranium 238.02891	99 Es Einsteinium [252]	





DEPARTMENT: BIOTECHNOLOGY

Diploma: Biotechnology, 3 Year course

Advanced Diploma: Biotechnology (1 Year course- Full Time), Postgraduate Diploma: Biotechnology (1 Year course- Full Time)
Master of Applied Science in Biotechnology (by research), PhD: Biotechnology (by research)

1. Admission Requirements:

DIPLOMA: BIOTECHNOLOGY

Subjects

NSC endorsement

Compulsory subjects

		Eligibility for Diploma
English	4	<i>Note</i>
Mathematics	4	3 = 40-49%
Physical Science	4	4 = 50-59%
Life Science	4	5 = 60-69%
Life Orientation	Max 3	6 = 70-79%
Any other 2 subjects	7	7 = 80-89%
		8 = 90-99%

TOTAL 26

2. Curriculum

YEAR1

Semester 1

Microbiology I (Practical and Theory)

Chemistry I

Biodiversity and Ecology

Calculations & Statistics I

Applied Communication Skills 1 (Model 1)

Semester 2

Microbiology II (Practical and Theory)

Biochemistry II (Practical and Theory)

Analytical Chemistry: Biological II

Disease & Immune Response II

Applied Communication Skills 1 (Module II)

ICT Skills I

YEAR2

Semester 3

Microbiology III (Practical and Theory)

Introductory Genetics II

Microbial Biochemistry III (Practical and Theory)

Fermentation Technology II (Practical and Theory)

Applied Communication Skills II (Module I)

Semester 4

Food Microbiology III (Practical and Theory)

Analytical Biochemistry III

Quality Assurance I (Biological)

Bioprocessing III (Practical and Theory)

Applied Communication Skills II (Module II)

Entrepreneurship

YEAR3

Semester 5

Biotechnology Laboratory Practice I

Semester 6

Biotechnology Laboratory Practice II

ADVANCED DIPLOMA

It is imperative that those students wishing to apply for Advanced Diploma: Biotechnology, have an average of 60% for the core subjects in the Diploma Biotechnology, namely Microbiology III Practical and Theory, Bioprocessing III Practical and Theory, Food Microbiology III Practical and Theory, Microbial Biochemistry III Practical and Theory and Analytical Biochemistry III.

Semester 1

Green Biotechnology

Molecular Biotechnology

Research Methodology

Biotechniques (Year Course)

Semester 2

Laboratory Management and Compliance

White Biotechnology

Advanced Microbial Biochemistry

Biotechniques (Year Course)



POSTGRADUATE DIPLOMA

Advanced Diploma in Biotechnology (60%) or equivalent.

Semester 1

Advanced Molecular Biology

Bioinformatics Module I

Advanced Biotechnology Module I

Research Project (Year Course)

Semester 2

Bioinformatics Module I

Biostatistics

Advanced Biotechnology Module II

Research Project (Year Course)

MASTER OF APPLIED SCIENCE IN BIOTECHNOLOGY

(By Research)

Postgraduate Diploma in Biotechnology (60%) or equivalent

PHD: BIOTECHNOLOGY (By Research)

Master of Applied Science in Biotechnology or equivalent.

3. What are the functions of a Microbiologist/Biotechnologist?

Quality control in enterprises such as the following: water purification plants, food processing factories, dairies, pharmaceutical factories, sewerage plants, etc. Liaise with chemical engineers and technicians in the fermentation and biotechnology industries.

4. Career opportunities

A career as a Microbiologist / Biotechnologist offers challenging and exciting opportunities including quality control in enterprises such as: water purification plants, food processing factories, dairies, pharmaceutical factories, sewerage plants, etc. There is a demand for trained Microbiologists / Biotechnologists in industrial, research and academic settings.

Entry level: Laboratory Assistant

Middle level: Laboratory Technician

Top level: Laboratory Manager

Research opportunities are available at academic, industrial and research institutions.

5. Phased out Qualifications

NDip Biotechnology (phased out in 2016)

BTech Biotechnology (phased out in 2019)

MTech Biotechnology (phased out in 2019)

6. Enquiries

Enquiries may be addressed to:

Head: Department of Biotechnology

Faculty of Applied and Computer Sciences

Vaal University of Technology

Private Bag X021

VANDERBIJLPARK

1900

Administrator: Ms N Lieketseng

Tel: 016) 950 9648

Fax: (016) 950-9794

E-mail: lieketseng@vut.ac.za

Website: www.vut.ac.za

DEPARTMENT: CHEMISTRY

Diploma: Analytical Chemistry, 3 Year Course
Advanced Diploma in Chemistry (1 Year Full Time), Postgraduate Diploma in Chemistry (1 Year Full Time)
MAPPSc: Chemistry, PhD: Chemistry

1. Admission Requirements:

DIPLOMA: ANALYTICAL CHEMISTRY

Subjects	D11500	
NSC endorsement	Eligibility for Diploma	
Compulsory subjects		Note
English	4	3 = 40-49%
Mathematics	4	4 = 50-59%
Physical Science	4	5 = 60-69%
Life Orientation	6	6 = 70-79%
Any other 3 subjects	11	7 = 80-89%
		8 = 90-99%
TOTAL	26	

2. Curriculum

YEAR1

Semester 1

Chemistry I
Physics I Applied
Mathematics 1 Applied
Applied Communication skills I
ICT skills I

Semester 2

Analytical Chemistry I
Analytical Chemistry Practical I
Inorganic Chemistry II
Mathematics II
Organic Chemistry II

YEAR2

Semester 3

Analytical Chemistry II
Analytical Chemistry Practical II
Physical Chemistry II
Organic Chemistry III
Inorganic Chemistry III

Semester 4

Analytical Chemistry III
Analytical Chemistry Practical III
Physical Chemistry III
Chemical Quality Assurance III

YEAR3

Semester 5

Chemical Process Industries II
Physics Theory II
Physics Practical II
Entrepreneurship I
Applied Communication skills I Module II
Industrial Chemical Analysis I

OR

Chemical Industry Practical I PI

Semester 6

Chemical Project PII or
Chemical Industry Practical I

ADVANCED DIPLOMA

Diploma in Chemistry 60% in Analytical Chemistry 3 Theory & Practical, Chemical Quality Assurance, Mathematics 2 Chemical Industrial 1 or 55 Subjects and Chemistry project II.

Semester 1

Analytical Chemistry IV
Physical Chemistry IV
Research Methodology in Chemistry

Semester 2

Inorganic Chemistry IV
Organic Chemistry IV
Introduction to Chemistry Project



POSTGRADUATE DIPLOMA

Postgraduate Diploma in Chemistry (60%) or equivalent.

Semester 1

Advanced Analytical Chemistry V
Applied Physical Chemistry V
Chemistry Research Project

Semester 2

Applied Inorganic Chemistry V
Advanced Organic Chemistry V
Chemistry Research Project

MAPPSc: CHEMISTRY

Research Project by dissertation. Admission Requirements: B Tech Chemistry/BSc. Hons Chemistry/Postgraduate Diploma in Chemistry or equivalent with an average of 60%.

PHD: CHEMISTRY

Research project by thesis. Admission Requirements: M Tech/MSc (Chemistry) or equivalent.

3. What are the functions of of an Analytical Chemistry Technician?

Analysis of samples by the wet methods or using analytical instruments, writing reports on analysis, developing methods for analysis, writing requisitions for purchasing instrumentation, managing of a laboratory.

4. Career opportunities

A career in chemistry offers challenging and exciting opportunities in both the private and public sectors. There is a continuous demand for trained analytical technicians. Position on entry level: Laboratory assistant. Middle level: Laboratory technician. Top level: Laboratory manager. Researchers and development of scientific opportunities that exist in the Science councils. Opportunities also exist in the academic environment to become lectures and professors.

5. Phased out Qualifications

NDip Analytical Chemistry (phased out in 2016)
BTech Analytical Chemistry (phased out in 2018)
MTech Analytical Chemistry (phased out in 2017)
DTech Analytical Chemistry (phased out in 2017)

6. Enquiries

Enquiries may be addressed to:
Head of Department: Chemistry
Faculty of Applied and Computer Sciences
Vaal University of Technology
Private Bag X021
VANDERBIJLPARK
1900
Administrator: Ms N Lieketseng
Tel: (016) 950 9648
Fax: (016) 950-9794
E-mail: lieketsengn@vut.ac.za
Website: www.vut.ac.za

DEPARTMENT: HEALTH SCIENCES

Degree: Bachelor of Health Sciences in Medical Laboratory Sciences (BHSC: MLS), 4 Year Course
Advanced Diploma in Biomedical Technology (1 Year Full Time)
Postgraduate Diploma in Biomedical Technology (1 Year Full Time)

1. Admission Requirements:

DEGREE: BACHELOR OF HEALTH SCIENCES IN MEDICAL LABORATORY SCIENCES (BHSC: MLS) 4 YEAR COURSE

The student will have the first five semesters of class attendance at the University followed by three semesters of clinical practice in a laboratory approved for training purposes by Health Professions Council of South Africa (HPCSA). In the last two semesters of Clinical practice, the student will select an area of specialization. Students must pass a National Board Examination in their area of specialization before they graduate.

NSC endorsement	Eligibility for Bachelor degree			
Compulsory subjects or equivalent (Standard or Higher grade system)	NSC Min Points	Higher Grade	Standard Grade	Rating Codes
English	4	D	C	3=40-49%
Mathematics	4	D	C	4=50-59%
Physical Science	4	D	C	5=60-69%
Life Sciences/Biology	5	D	C	6=70-79%
Life Orientation	Max 3			7=80-89%
Any other 2 subjects	10	No Math Literacy		8=90-98%
TOTAL	30			

Additional Entry Requirements: Applicants may be required to have industrial knowledge (i.e. job shadowing) and may undergo placement testing.

QUALIFICATION	COMPULSORY SUBJECTS	MINIMUM REQUIRED SCORE	ADDITIONAL COMPULSORY SUBJECTS	SCORE*	OTHER SUBJECTS	MINIMUM APS REQUIRED	BONUS POINTS
Bachelor of Health sciences: MLS	English Mathematics Physical Sciences Life Sciences	4 4 4 5	None	0	4 other subjects	30	MATHS ENGLISH PHYSICAL OR NATURAL SCIENCES

2. Curriculum

YEAR1

Semester 1

Human Anatomy, Physiology & Disease I Module I
 Introduction to Medical Laboratory Sciences I Module I
 Health Chemistry I
 Health Physics I
 Biostatistics I

Semester 2

Introduction to Medical Laboratory Sciences I Module II
 Human Anatomy, Physiology & Disease I Module II
 Laboratory Instrumentation and Techniques
 Cell Biology I
 Immunology I
 Introduction to Medical Laboratory Sciences I Module II

YEAR2

Semester 3

Clinical Chemistry II Module I
 Microbiology II Module I
 Haematology II Module I
 Immunohaematology II
 Histology II

Semester 4

Clinical Chemistry II Module II
 Microbiology II Module II
 Hematology II Module II
 Cytology II

YEAR3

Semester 5

Clinical Chemistry III
 Microbiology III
 Haematology III
 Cytology III
 Integrative Medical Laboratory Sciences Theory III Module I

Semester 6

Integrative Medical Laboratory Sciences III. Module II(Clinical Practice)
 Research Methods III

YEAR4

Semester 7

Research Project IV
 Laboratory Management IV

Semester 8

Clinical Practise (students must choose one from the following specialisation)
 Clinical Chemistry IV
 Microbiology IV
 Haematology IV
 Immunohaematology IV
 Cytology IV
 Histology IV
 Immunology IV
 Virology IV
 Forensic Sciences IV
 Pharmacology IV
 Cytogenetics IV
 Clinical Pathology IV

ADVANCED DIPLOMA

Diploma in Biomedical Technology with 60% average in Microbiology III, Chemical Pathology III, Cellular Pathology III and Haematology III.

Semester 1

Research methodology in Biomedical Technology
 Medical Laboratory Management Module I
 Genetics Module I
Choose one elective subject from the list below:

Advanced Chemical Pathology module I
 Advanced Cytogenetics Module I
 Advanced Haematology Module I
 Advanced Immunology Module I
 Advanced Medical Microbiology Module I
 Advanced Histology Module I
 Advanced Cytology Module I
 Advanced Virology Module I
 Forensic Technology Module I
 Marketing in Health Science Module I

Pharmacology Module I
 Training in Health Sciences Module I
 Immunohaematology Module I

Semester 2

Medical Laboratory Management Module II
 Genetics Module II

Choose one elective subject from the list below (Module II of the elective chosen in semester I):

Advanced Chemical Pathology module II
 Advanced Cytogenetics Module II
 Advanced Haematology Module II
 Advanced Immunology Module II
 Advanced Medical Microbiology Module II
 Advanced Histology Module II
 Advanced Cytology Module II
 Advanced Virology Module II
 Forensic Technology Module II
 Marketing in Health Science Module II
 Pharmacology Module II
 Training in Health Sciences Module II
 Immunohaematology Module II

**POSTGRADUATE DIPLOMA:
 BIOMEDICAL TECHNOLOGY**

Advanced Diploma in Biomedical Technology (60%) or equivalent.

Semester 1

Advanced Molecular Biology (year subject)
 Research Project in Medical Laboratory Sciences (year subject)
 Epidemiology and Biostatistics
 Integrated Pathophysiology

Semester 2

Advanced Molecular Biology (year subject)
 Research Project in Medical Laboratory Sciences (year subject)
 Management in Biomedical environment

3. What are the functions of a Medical Laboratory Scientist?

Qualified medical laboratory scientists are specialized health professionals who play an integral role in the healthcare of society by providing vital information about a patient's state of health. Their input is necessary in the diagnosis, monitoring and treatment of diseases. They diagnose chemical, blood, immunologic, tissue, cellular disorders and also the presence of microorganisms that cause diseases. They analyze human specimens such as blood, urine, sputum, stool, cerebrospinal fluid (CSF), peritoneal fluid, pericardial fluid, and synovial fluid, and more other specimens.

4. Career opportunities

The analytical and diagnostic services provided by medical laboratory scientists require a strong scientific knowledge, as well as trained reasoning ability and empathy for humanity. Career opportunities exists in a variety of laboratory settings including national laboratories within hospital settings, private clinical laboratories, blood banking institutions, research, biotechnology, forensic, and reference laboratories.

5. Registration with Professional Board

On enrolment, it is mandatory that each student registers with the Health Professionals Council of South Africa (HPCSA) as a student Medical Laboratory Scientist as per regulations set out in the Government Gazette (Circular E2/a9/2, 79, 09, 28). Successful completion of this qualification will entitle the student to register with the Health Professions Council of South Africa (HPCSA) as a qualified Medical Laboratory Scientist.

6. Phased out Qualifications

- Bachelor of Nursing (R425) last date of intake 31 December 2019
- B Tech Community Nursing last date of intake 31 December 2019
- National Diploma in Biomedical Technology remaining students were incorporated into the Diploma programme syllabus
- Diploma in Biomedical Technology last date of intake 31 December 2019
- B Tech Biomedical Technology last date of intake 31 December 2019
- All phased out programmes to be completed by 2021. No student will be allowed to continue with programme beyond 2021 as it will no longer be on the system.

7. Enquiries

Enquiries may be addressed to:

Head: Department of Health Sciences
 Faculty: Applied and Computer Sciences
 Vaal University of Technology
 Private Bag X021
 VANDERBIJLPARK
 1900

Administrator: Mr N Mokoena
 Tel: (016) 950-7592
 E-mail: ntsanem@vut.ac.za
 website: www.vut.ac.za

DEPARTMENT: INFORMATION AND COMMUNICATION TECHNOLOGY

**Diploma: Information Technology (3 year - Full time), Advanced Diploma Information Technology (1year - Full time)
 Postgraduate Diploma Information Technology (1year- Full time)
 Magister of Science in Information and Communication Technology (2-3 years Part time)
 Doctor Philosophiae in Information and Communication Technology (2-4 years - Part time)**

1. Admission Requirements:

DIPLOMA: INFORMATION TECHNOLOGY

Subjects

NSC endorsement	Eligibility for Diploma	
Compulsory subjects		Note
English	4	3 = 40-49%
Mathematics or	4	4 = 50-59%
Technical Mathematics or	4	5 = 60-69%
Mathematical Literacy	6	6 = 70-79%
Any other 4 subjects	16	7 = 80-89%
TOTAL	24	26
		8 = 90-99%

Bonus Points: Mathematics, English or Natural Sciences

A maximum of 6 subjects are taken into consideration when calculating the total APS score, excluding Life Orientation.

2. Curriculum

*Two Information Technology specialisation fields are offered:
 Business Applications & Development Software.*

DEVELOPMENT SOFTWARE

YEAR1

- Information Systems I
- Systems Software I
- Development Software I
- Programming Logic I
- Accounting Skills I
- Applied Communication I

YEAR2

- Information Systems II
- Development Software II
- Business Analysis II
- Systems Software II
- Applied Communication II
- IT Law*
- Entrepreneurship*

YEAR3

- Development Software II
- Business Analysis III
- Web Development III*

BUSINESS APPLICATIONS

YEAR1

- Information Systems I
- Systems Software I
- Development Software I
- Programming Logic I
- Accounting Skills I
- Applied Communication

YEAR2

- Information Systems II
- Development Software II
- Business Analysis II
- Systems Software II
- Web Management II
- Applied Communication II
- IT Law*
- Entrepreneurship*

YEAR3

- Information Systems III
- Business Analysis III
- Web Development III*

ADVANCED DIPLOMA: IT

The Advanced Diploma: IT is offered only at the Vanderbijlpark campus. It is offered on a full-time basis; therefore, students are required to take a full load of subjects. The minimum duration is one year. Eight modules must be completed and ONLY seven modules can be completed if Networks is taken an elective module. One elective subject is chosen per semester. In the case of Networks, if chosen, this will be the chosen elective for both semesters 1 and 2.

NB: It is imperative that students wishing to apply for Advanced Diploma: Information Technology, have an average of 60% for their final year subjects in their previous qualification.

Admission Requirements:

Diploma: Information Technology or equivalent relevant NQF level 6 360 credit qualification. 60% Average on all third-year subjects. (Ad hoc cases will be treated on merit).

Semester 1

Emerging Technologies (Compulsory)
Statistics for IT (Compulsory)
IT Management (Compulsory)
Advanced Software Design (Elective)
Computer Security (Elective)
Networks (Elective) in Semester 1 and 2

Semester 2

Research Methodology (Compulsory)
Advanced Databases (Compulsory)
User Experience Design (Compulsory)
IT Auditing (Elective)
Artificial Intelligence (Elective)
Networks (Elective) in Semester 1 and 2
* Credits: 120 credits on NQF level 7

POSTGRADUATE DIPLOMA: IT

The Postgraduate: IT is offered only at the Vanderbijlpark campus. It is offered on a full-time basis, therefore only during the day. The minimum duration is one year. Six modules must be completed.

Admission Requirements:

Advanced Diploma: Information Technology or equivalent relevant NQF level 7, 120 credit qualification (Ad hoc cases will be treated on merit).

Semester 1

Advanced supportive techniques and technologies
Business Intelligence
Software Engineering

Semester 2

Strategic Business Analysis
Database Administration
Research Project in Information systems and Technology
* Credits: 120 credits on NQF level 8

MAGISTER OF SCIENCE IN INFORMATION AND COMMUNICATION TECHNOLOGY (MICT)

Admission Requirements:

NQF level 8 related qualification with a minimum of 120 credits or equivalent with research methodology as a prerequisite with a 60% average for all subjects
(Ad hoc cases will be treated on merit)
Duration: Minimum 2 years, maximum 3 years part time study.

Curriculum:

Research project by dissertation

Credits: 180 credits on NQF level 9

DOCTOR PHILOSOPHIAE IN INFORMATION AND COMMUNICATION TECHNOLOGY: PhD: ICT

Admission Requirements:

NQF level 9 related qualification with a minimum of 180 credits or equivalent with a 60% average
(Ad hoc cases will be treated on merit)
Duration of course:

Minimum 2 years, maximum 4 years part time study.

Curriculum:

Research project and thesis

Credits: 360 edits on NQF level 10

3. NON-ALIGNED PROGRAMS

The following ICT qualifications have phased out due to revisions in the Higher Education Qualifications Sub-Framework (HEQSF). Currently, only students who were previously registered at VUT for these qualifications will be allowed to continue. This opportunity will only be provided until the dates listed in the table below. Where modules have already phased out, suitable alternatives will be identified, and credit will be given in lieu of the original module (subject to the sunset dates provided). After the sunset dates, students that were registered for the non-aligned modules will need to register for the new, aligned qualifications.

- NDip: IT (phased out in 2016)
- BTech: IT (phased out in 2019)
- MTech: IT (phased out in 2019)
- DTech: IT (phased out in 2019)

Work Integrated Learning

The IT Diploma does not have a formal Work Integrated Learning component.

4. What does the IT specialist do?

The person will find himself/herself in any of a wide variety of computerised environments. Responsibilities may include the maintenance of systems in use, systems analysis and design and/or programming of new systems, network administration, database administration and user support. The computer specialist communicates with management and the different users of the systems, which make the position an important link in the global set-up of the organisation. Management of IT functions is a possible position in the career development of the keen IT specialist.

5. Career opportunities

Computerisation of most facets of modern society creates a multitude of possibilities. In-service training includes the development of prototypes or systems and/or the supervised support of existing systems. The typical entry level is that of programmer with a quick advance to the level of senior programmer. Further promotions are to the level of Systems Analyst, Network Administrator or Database Administrator.

6. Career status

IT specialists can acquire membership of the Computer Society of South Africa.

7. Enquiries

Enquiries may be addressed to:

**Head: Department: Information and Communication Technology
Faculty of Applied and Computer Sciences
Vaal University of Technology**

Private Bag X021

VANDERBIJLPARK

1900

Administrator: Ms T Rikhotso

Tel: (016) 950 9605

Fax: (016) 950 9793

E-mail: tiyiselamir@vut.ac.za

Website: www.vut.ac.za

DEPARTMENT: MATHEMATICS, PHYSICS & NON-DESTRUCTIVE TESTING

Diploma: Non-Destructive Testing
3 Year Course

Advanced Diploma: Non-Destructive Testing (1 Year -Full Time)

1. Admission Requirements:

DIPLOMA: NON-DESTRUCTIVE TESTING

Subjects

NSC endorsement	Eligibility for Diploma	
Compulsory subjects		Note
English	4	3 = 40-49%
Mathematics	4	4 = 50-59%
Physical Science	4	5 = 60-69%
Life Orientation	Max 3	6 = 70-79%
Any other 3 subjects	12	7 = 80-89%
		8 = 90-99%

TOTAL 27

2. Curriculum

YEAR1

Semester 1

Chemistry I
Mathematics I
Physics I
Applied Communication Skills I. I
ICT Skills I

Introduction to NDT I (Theory)
Introduction to NDT I (Practical)

Semester 2

Mathematics II
Physics II (Theory)
Physics II (Practical)
Engineering Drawing I
Penetrant Testing II (Theory)
Penetrant Testing II (Practical)
Radiographic Testing II (Theory)
Radiographic Testing II (Practical)
Applied Communication Skills I. II

YEAR2

Semester 3

Magnetic Particle Testing (Theory)
Magnetic Particle Testing (Practical)
Ultrasonic Testing (Theory)
Ultrasonic Testing (Practical)
Introduction to Fracture Mechanics
Metallurgy for NDT I

Semester 4

Advanced Ultrasonic Testing (Theory)
Advanced Ultrasonic Testing (Practical)
Eddy Current Testing (Theory)
Eddy Current Testing (Practical)
Quality Assurance
Entrepreneurship I
Metallurgy for NDT II

YEAR3

Semester 5

Advanced Radiographic Testing (Theory)
Advanced Radiographic Testing (Practical)
Advanced Eddy Current Testing (Theory)
Advanced Eddy Current Testing (Practical)
Signal Processing
Project (Numerical Analysis)

Semester 6

Work Integrated Learning (NDT)

ADVANCED DIPLOMA

National Diploma in NDT with an average of 55% from all S4 subjects including Fracture Mechanics or
Diploma in NDT with an average of 55% from all S5 subjects including Advanced Methods of NDT (Theory & Practical) and Introduction to Fracture Mechanics or



National Diploma or Diploma in Metallurgical Engineering, Mechanical Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering with an average of 60% from all S4 or S5 subjects or Bachelor's Degree in Physics, Mathematics and Chemistry with an average of 60% from all final year subjects including Mathematics II and Physics II in case where they are not major subjects

Semester 1

Ultrasonic Testing Techniques IV
Fracture Mechanics IV
Numerical Analysis with Matlab Applications IV
Research Methodology IV
Optical Testing Methods IV (Elective Module)
Penetrant Testing Methods IV (Elective Module)
Acoustic Emission Testing Methods IV (Elective Module)

Semester 2

Radiographic Testing Techniques IV
Electromagnetic Testing Techniques IV
Corrosion Inspection & Monitoring Techniques IV
Thermographic Testing Techniques IV
NDT Project IV

3. Career Opportunities

NDT Technicians: Perform inspections, monitoring, evaluations using non-destructive methods and quality assessment techniques. This is achieved through both fabrication and maintenance inspections conducted in accordance with regulatory requirements (codes and specifications). The technician can be part of an NDT department or unit within a company or as an independent service provider.
NDT Specialist: Being part of a team involved in project development including design, fabrication and specifying inspection techniques and methods to be used to ensure product safety, reliability and longevity.
NDT Research and Development Professionals: Working on improving the reliability of inspection methods and techniques. Further developing new techniques to inspect the improved materials and products utilised in the industry.

4. Phased out Qualification

- National Diploma in Non-Destructive Testing [course code: 215048, which had the last date of intake being 31 December 2016].
- National Diploma in Non-Destructive Testing (Extended) [course code: 215099, which had the last date of intake being 31 December 2014].
- No student will be allowed to continue with phased out programmes beyond 2021 as they will no longer be active on the system [6-year maximum duration for the completion of the qualification elapsed].

5. Enquiries

Enquiries may be addressed to:

Head: Department of Mathematics, Physics & Non-Destructive Testing
Faculty of Applied and Computer Sciences
Vaal University of Technology
Private Bag X021
VANDEBUIJLPARK
1900

Tel: (016) 950-9321
Fax: (016) 950-9793
e-mail: ike@vut.ac.za
website: www.vut.ac.za

VUT Sport Academy

Where champions meet

WELCOME

The VUT Sport and Recreation would like to extend a warm welcome to you as a new student on campus. We invite you to make use of the numerous well-equipped sport facilities that are available. We have top quality coaches who are willing to help with your needs. Through sport we build the image of Vaal University of Technology (VUT). We wish you a happy and successful sporting experience.

ADMISSION REQUIREMENTS

Registration at any one of the sport clubs is open to all full time, part time, as well as non-students at VUT. Acceptance to clubs depends on that club's constitution. There is no discrimination with regard to gender, colour, or creed at the Sport Academy and its associated divisions and clubs. This is also the policy at the Vaal University of Technology. Kindly note that only bona fide VUT students will qualify for selection to national student teams and for representing VUT at the University Sport South Africa (USSA) tournaments and Varsity sport competitions.

SPORT CODES

USSA and Provincial Leagues	Rugby
Track and Field	Basketball
Cross Country	Softball
Road Running	Volleyball
Tennis	Netball
Table Tennis	Body Building
Dance	Aerobics
Karate	Chess
Cricket	Football
Hockey	

Head: Sport and Recreational Services:

Mr. T. Mabulelong (016) 950-9481

Administrator:

Ms. H. Molatela (016) 950-9282

Stadium Manager:

Mr. Hannes Hattingh (016) 981 6403

FACILITIES

Isak Steyl Stadium
2 rugby fields (floodlit)
Grandstand & VIP lounge
3 soccer fields (floodlit)
1 athletics track (floodlit)
throws practice nets (floodlit)
Astro hockey field (floodlit)
2 hockey grass fields (floodlit)

Hockey/cricket/soccer clubhouse
2 cricket fields (2 x floodlit)
8 cricket nets
Hockey/cricket open pavilion
6 netball courts (floodlit)
6 tennis courts (floodlit)
3 basketball courts (floodlit)
Weight training room
VUT radio station

VUT RESIDENCES

3 tennis courts (floodlit)
2 soccer fields
1 gymnasium

SPORT MERIT BURSARIES

Merit bursaries are available and awarded to athletes who are selected for the following categories:

1. Representation on National or International level
2. Representation in any South African Junior teams and/or USSA representation.
3. SA and/or USSA and/or Provincial representation.
4. School Honourary Colors and Regional representation.

The annual closing date is 31 October.

SPORT AWARDS

Honours:

Awarded to athletes who are selected at a senior provincial level or higher and to those who are selected to represent the different USSA teams.

General:

The Sport Academy works in conjunction with the Academic Faculties and the Sport Management Department as well as with student sport organizations such as University South African (USSA), Varsity Sport Competitions (High performance student competitions), as well as South African Sport Federations such as South African Football Association (SAFA), Netball South Africa (NSA), Athletics South Africa (ASA), Basketball South Africa (BSA), Gauteng Cricket Board (GCB), Gauteng Softball Association (GASA), Falcons Rugby, Federation of Dance South Africa (Fedansa) Volleyball South Africa (VSA) etc.

ENQUIRIES

Sport Academy

Vaal University of Technology

Private Bag X021

Vanderbijlpark 1900

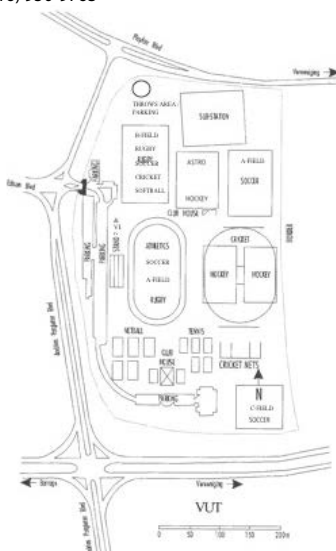
Tel: (016) 950-9917

Fax: (016) 950-9763

Sport & Recreation

Tel: (016) 950-9282

Fax: (016) 950-9763



GPS: S26, 42' 15.1 / E27, 52' 35.1

Bursaries & Loans

Financial Aid Office

VISION

To become recognised as a leading administrative section providing a creative, holistic personalised and satisfactory service to a wide range of clients, to the maximum benefit of all concerned.

MISSION

Financial Aid Office strives to offer a comprehensive internal and external administrative service to all stakeholders, specifically catering for individual needs in a creative and professional manner in order to make a meaningful contribution to their success and in so doing to foster a long term working relationship.

The Financial Aid Office offers the following services in order to help students to obtain bursaries and/or loans to be able to complete their studies. Bursaries and/or loans are offered in all study fields at the Vaal University of Technology.

1. SPORT BURSARIES

The Vaal University of Technology offers Sport Bursaries to students who have excelled in sport. The value of these bursaries is determined by the level of competitions in which candidates have participated.

The retention of a sport bursary is dependent on satisfactory academic progress.

Contact number: (016) 950 9282 / 9307

2. MERIT AWARD (Academic)

2.1 FIRST YEARS

Grade 12 Results

%	Criteria	Bursary
75%+	Science Engineering & Technology	R15 000
70%+	Photography	R12 000
65%+	Fine Arts	R10 000
75%+	Accounting	R10 000
70%+	Accounting	R 6 000
65%+	Accounting	R 4 000
75%+	Other	R 7 500
70%+	Other	R 5 000
65%+	Other	R 3 000

Contact number: (016) 950 7652 / 950 9342

2.2 SENIOR STUDENTS Please note:

Funds are allocated in the following manner: Annual aggregate of 75+(Minimum 3 registered subjects per annum), R5000 automatic award.

3. COMPANY BURSARIES

At the Vaal University of Technology we fully provide assistance to all company sponsored students. Students who are in pos-

session of confirmation letters must report to the Financial Aid Bureau where their registration will be dealt with.

The following assistance is provided

- * Meal vouchers
- * Book vouchers
- * Booking of residence
- * Sending of statements
- * Sending of Academic Records
- * Handling of all refunds
- * Debt Collection
- * Company Visits

NOTE: The Vaal University of Technology is not responsible in funding or seeking sponsorship (s) for students. It also remains the responsibility of the student to ensure that their accounts are settled on time.

Should any information be required feel free to contact the following numbers:

Tel: (016) 950 7652/9342 Fax: (016) 950 9106

The Vaal University of Technology will provide assistance to students in securing placements for experiential training but does not guarantee such placements.

4. LOANS

i) NSFAS LOANS

What is NSFAS?

The National Student Financial Aid Scheme (NSFAS) is a loan and bursary scheme operating in terms of Act 56 of 99 and funded by the National Department of Education. NSFAS has been established to assist academically deserving and financially needy students to achieve academic goals at tertiary educational institutions in South Africa, with particular concern in overcoming barriers created by structural disadvantage.

What does NSFAS offer?

- The means to obtain a tertiary qualification
- Loans at low interest rates
- Loans without guarantees
- A reasonable repayment plan

NSFAS convert loan (s) to a Bursary.

Up to 40% of the award may be converted into a bursary depending on your end of year results.

- If you pass all the courses for which you have registered, you qualify for a 40% bursary.
- If you pass three quarters of the course, you qualify for a 30% bursary.
- If you pass half of the courses, you qualify for a 20% bursary.
- If you pass one quarter of the course, you qualify for a 10% bursary.
- If you pass none of the courses, you qualify for no bursary at all.

What is a loan?

- A loan is the money you borrow to cover tertiary studies.- This loan has to be repaid.

Who qualifies for a NSFAS loan?

You can qualify for a NSFAS loan if you are:

- A South African citizen;
- Registered at a South African university or University of Technology;
- An undergraduate, studying for a first tertiary educational qualification; or
- Studying for a second tertiary qualification, if this is necessary to practice in your chosen profession; (e.g. LLB or HDE)
- Able to demonstrate potential for academic success;
- Financially needy;
- You will, however, be expected to make your own family contribution towards the total costs of your studies. (EFC)

How much money do you get?

- There is a minimum award and a maximum award, which is determined annually by NSFAS. Please enquire at the Financial Aid Office for the current limits.

Where do you apply for a loan?

At the Financial Aid Office of the Vaal University of Technology.

NOTE:

Interest on NSFAS awards is determined annually by NSFAS.

Closing dates:

Senior students (year and first semester courses) 04 October.

First year students (year and semester courses) 31 October.

Late first year applicants: 24 January.

Late applicants will **only** be considered for awards if funds are available.

Contact numbers:

(016) 950 9484, 9972, 9486, 9485, 9571

Brochures for NSFAS 'Students guide to funding' are available at the Financial Aid Bureau office.



Know more. Be more. 
FUNDI

Student or teacher, nurse or manager.
Apply for an education loan today
and we'll help you realise your ambition.

Apply for a loan at the Finance Office,
Window 14&15, VUT

Please contact your customer service consultant,
Nonkululeko Jali.

Tel: 016 950 9948 | Email: nonkululekoj@fundi.co.za

For more information, visit www.fundi.co.za

At Fundi, we cover study fees, registration fees, outstanding balances, text books, accommodation, uniforms and stationery, laptops, tablets and other study tools.

With the agreement we have with various institutions around South Africa, we pay direct into the institutions.

And the applicant pays us back with low interest rate and at an affordable monthly repayment.

For someone to qualify for a Fundi Loan, the person must be permanently employed.

Student Counselling and Support Career Services

Student Counselling and Support as a whole is committed to offering career support, career counselling and guidance, therapeutic counselling and support as well as spiritual/pastoral guidance and support.

Career services that are offered within Student Counselling and Support

The Career Centre Support Services include:

- Career Guidance
- Psychometric Testing
- Workplace Preparation:
 - o CV writing
 - o Job hunting skills
 - o Interview skills
 - o Professionalism and ethics
- Academic Support:
 - o Adjustment to student life
 - o Study skills/time management
 - o exam preparation
 - o exam and test anxiety
 - o Personal Finance

As enrolled students, the above services are available FREE of charge.

Prospective students and External Clients can liaise with our department to enable them to make appropriate subject (Grade 9) and career (Grade 11/12) choice as well as graduate career development decisions. Career and subject choice counselling process include:

1. The initial interview (40-60 minutes) and parents are welcome to sit in on the interview
2. Psychometric testing (approximately 5 hours) determining your:
 - interests: which measures how people differ in their motivation, values and opinions in relation to their interests
 - Aptitude: Which measures how people differ in their ability to perform or carry out different tasks
 - Personality: Which measures how people differ in their style or manner of doing things and in the way they interact with their environment and other people
3. Feedback session (40-60 minutes), where we will be giving feedback about the assessment and discussing the outcomes with you. Parents are welcome to sit in during this session

Procedure to follow on assessing our services:

- Phone (016) 950-9244 or visit us at P021
- An initial interview will be arranged, after which a payment (R600.00) must be made at AW-Building into cost code 4220/5460. The receipt must be forwarded to us.
- A booking for psychometric testing will be confirmed as soon as the proof of payment is received
- The payment includes the feedback session that will be scheduled after the psychometric testing to discuss the results.

Career Assessments and Career Guidance Services are offered to Grade 9-12 Learners as well as those who have graduates and are looking to develop in their career.

Office Hours:

Monday – Friday
08:30-16:30

For Further information, please feel to contact us and calling our office

Where to find us: P-Block (P021-ground floor)
Contact number: (016) 950 9244



VUT- Student Counselling and Support



@ScsVut

www.vuf.ac.za



FACULTY OF APPLIED & COMPUTER SCIENCES

Tel: (016) 950 9249
e-mail: devilliersh@vut.ac.za

Fax: (016) 950 9793

Tel: (016) 950 9648/9321/7592
e-mail: madeleine@vut.ac.za

Fax: (016) 950 9794
e-mail: ntsanem@vut.ac.za

Major expenses for the year:

Registration fee, Accommodation, Class / Course Fees, Books, Pocket Money, Transport.

For costs see VUT website www.vut.ac.za (look under: Study at VUT, Tuition Fees & Study Loans).

Application for Admission & Accommodation:

Prospective students are advised to apply early in the year preceding registration for admission to the course, and / or for hostel accommodation.

Arrangements can be made to visit the campus in this regard.

Closing date for admission 30 September.

Closing date for accommodation applications 31 October.

International Students:

31 October

How to apply:

See front page of application form or VUT website (www.vut.ac.za) click on "study at VUT" and then "admissions and how to apply" and then "how to apply".

Enquiries:

General Tel: (016) 950 9924/5 or Call Centre 0861 861 888

Admission Enquiries: (016) 950 9356

Application Status: Self-check

Go to VUT website - www.vut.ac.za

Click on "admissions new students"

Click on "check your application status"

Click on blue block "check your application status"

Enter student or identification number

Click "submit"

The Department of Co-operative Education assists in experiential learning administration and placements.

Contact details: Tel: (016) 950 9496

Fax: (016) 950 9759

E-mail: wil@vut.ac.za

The institution makes every attempt to accommodate students with disabilities.

Whilst every effort has been made to present you with the relevant information in this brochure, program offerings may be subject to change in order to keep abreast with new developments in the higher education landscape. The institution therefore reserves the right to unilaterally change or amend any of the content / structures contained herein.