Tshwane University
of Technology

We empower people

PROSPECTUS ADDENDUM 1/2011

2011
PROSPECTUS

ADDENDUM 1/2011

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TSHWANE UNIVERSITY OF TECHNOLOGY

PARTS OF THE PROSPECTUS

PLEASE NOTE

1. Although the information in this Prospectus has been compiled as accurately as possible, the Council accepts no responsibility for any inaccuracies in this publication. This Prospectus is valid for 2011 only.
2. The “overview of syllabus” is only an outline of the syllabus of a subject. The complete syllabus of a subject appears in the subject study guide.
3. The campus indicated is subject to change and confirmation.
4. Prospective students will not be admitted to any qualification without prior evaluation.
5. The closing date for applications for admission to first-semester and year courses is 15 August of the preceding year, except for certain courses of which the closing date is 15 June. The closing date for second-semester courses is 15 May of the year concerned.

THE INDICATED APPLICATION FEES MUST ACCOMPANY ALL APPLICATIONS.

Important:
TUT admission requirements for entry-level programmes adhere to national legislation and therefore the following are required:

- BEd degrees: at least four subjects at a performance level 4.
- National Diplomas: at least four subjects at performance level 3.
- Acceptance is subject to available capacity according to the student Enrolment Plan (SEP).

Please verify specific and additional requirements per programme as indicated in the prospectus.

ACCEPTANCE IS SUBJECT TO AVAILABLE CAPACITY ACCORDING TO THE STUDENT ENROLMENT PLAN (SEP)

Alternative and international qualifications (e.g. HIGSCE, IGCSE, NSSC A&O Level, IB Higher and Standard Level) will be assessed on the equivalent basis by the South African Qualifications Authority, and a full or conditional exemption certificate will be issued. This exemption certificate is a prerequisite for all students who want to enrol for undergraduate studies. The Tshwane University of Technology cannot obtain this certificate on your behalf. Candidates may also apply for recognition of prior learning at the Office of the Registrar. The specific relevant documentation will be requested from these applicants, and these cases will be handled on an individual basis. Candidates from private schools in South Africa (who did not write any of the examinations mentioned above) may apply to the Office of the Registrar for admission via the Senate’s discretionary route.

ENQUIRIES

Contact Centre
Tel: 086 1102 421
Fax: 086 110 2421

Admission Enquiries
Tel: 012 382 5750

The Registrar
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PRETORIA 0001
Tel: 012 382 5911
Fax: 012 382 5114

ARCADIA CAMPUS
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PRETORIA 0001
Tel: 012 382 5911
175 Nelson Mandela Drive
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ARTS CAMPUS
Private Bag X680
PRETORIA 0001
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EMALAHLENI CAMPUS
The Campus Director
PO Box 3211
EMALAHLENI 1035
Tel: 013 653 3100
19 Swartbos Avenue
EMALAHLENI
Fax: 013 653 3101

GA-RANKUWA CAMPUS
Private Bag X680
PRETORIA 0001
Tel: 012 382 0500
2827, Zone 2, Botsi Street
GA-RANKUWA
Fax: 012 382 0814

MBOMBELA CAMPUS (NELSPRUIT CAMPUS)
The Campus Director
Private Bag X11312
MBOMBELA 1200
Tel: 013 745 3500/3603
Madiba Drive
MBOMBELA
Fax: 013 745 3512

POLOKWANE CAMPUS
The Campus Director
Private Bag X9496
POLOKWANE 0700
Tel: 015 287 0700
Cnr. Market and Excelsior streets
POLOKWANE
Fax: 015 297 7609

PRETORIA CAMPUS
Private Bag X680
PRETORIA 0001
Tel: 012 382 5911
Staatsartillerie Road
PRETORIA WEST
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SOSHANGUVE CAMPUS
Private Bag X680
PRETORIA 0001
Tel: 012 382 9000
2 Aubrey Matlala Road, Block K
SOSHANGUVE
Fax: 012 382 0966

Enquiries relating to fees:

The Chief Financial Officer
Private Bag X680
PRETORIA 0001
Tel: 086 1102 422
Fax: 012 382 5701

CONTENTS

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

The following are decisions approved by the SENEX. Due to time constraints these decisions could not be reflected in the Faculty Prospectus (Part 5) of 2011.

FACULTY RULE OF INFORMATION AND COMMUNICATION TECHNOLOGY

It is a Faculty rule that a student may repeat any subject offered in any of the qualifications at the Faculty of Information and Communication Technology only twice. If a student failed to comply with this rule, special permission must be granted by the Head of Department in order for a student to register again. A special intervention may be required by the Head of Department or the Head of Department may decide not to grant permission for re-registration in which case further studies would not be permitted.

1. DEPARTMENT OF COMPUTER SCIENCE

1.1 NATIONAL DIPLOMA: COMPUTER STUDIES
Qualification code: NDCS04

REMARKS

a. Admission requirement(s) and selection criteria:

- **FOR STUDENTS WHO OBTAINED A SENIOR CERTIFICATE BEFORE 2008:**

  Admission requirement(s): A Senior Certificate or an equivalent qualification (no Lower Grade subjects) and at least E symbols for Mathematics and English. Candidates should be computer literate, have access to the Internet and should be able to use an Internet browser, i.e. Internet Explorer or Netscape.

  Prospective students who did not obtain the required minimum symbols for Mathematics and English in Grade 12 will have to undergo potential assessment or pass bridging subjects, as determined by the Head of the Department.

  Recommended subject(s): Computer Studies.

  Selection criteria: Initial selection is based on school results. Further selection will be based on an assessment. Prospective students will be notified to make an appointment with the departmental secretary for the assessment. This rule applies to all prospective students, as well as to students who are already registered at other institutions.

- **FOR STUDENTS WHO HAVE OBTAINED A NATIONAL SENIOR CERTIFICATE SINCE 2008:**

  Admission requirement(s): A National Senior Certificate or an equivalent qualification, with English and Mathematics. Candidates with Mathematical Literacy will be considered for certain programmes if the required score is achieved.

  Recommended subject(s): None.

Selection criteria: Admission Points Score (APS):

SUBJECT REQUIREMENTS	MINIMUM PERFORMANCE LEVEL/SCORE
Specifically required subjects:	
English – home language or first additional language	3
Mathematics or Mathematical Literacy (for Foundation Programme only)	3 5
Additional subjects (excluding Life Orientation):	
Any four other subjects with a final score of 12	
TOTAL APS SCORE (with Mathematics and five other subjects):	**18**
TOTAL APS SCORE (with Mathematical Literacy and five other subjects):	**20**

Assessment procedures: Candidates who meet these minimum requirements will be considered for admission to the National Diploma.

b. Minimum duration: Three years.

c. Presentation and campus: Polokwane Campus (day classes).

When fewer than 15 students are enrolled for a specific subject, the Department may decide not to offer the subject.

d. Intake for the qualification: January only (Polokwane Campus).

e. Readmission: See Chapter 3 of Students' Rules and Regulations.

f. Exemption: Exemption will be given to students who have already passed the Comptia A+ for PC Support I and Comptia N+ for Network Support I.

g. Subject credits: Subject credits are shown in brackets after each subject. The total number of credits required for this qualification is 3,000.

FIRST YEAR

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
BUC101B	Business Communication I	(0,100)	
BUO101B	Business Organisation I	(0,100)	
COY101B	Computer Technology I	(0,100)	
PBB101B	Practical Business Project I	(0,200)	
SYD101B	Systems Development I	(0,100)	
	plus four of the following subjects:		
EKM101B	E-Commerce I	(0,100)	
ITN101B	Internet Programming I	(0,100)	
MTM101B	Multimedia I	(0,100)	
NST101B	Network Support I	(0,100)	
PUZ101B	PC Support I	(0,100)	
STU101B	Structured Programming Methods I	(0,100)	
VIS101B	Visual Programming I	(0,100)	
WEV101B	Website Development I	(0,100)	
TOTAL CREDITS FOR THE FIRST YEAR:		**1,000**	

SECOND YEAR

BSD201B	Systems Design II	(0,100)	Systems Development I
DDD201B	Database Design and Development II	(0,100)	Systems Development I
ENW201B	Enterprise Networking II	(0,100)	
PBB201B	Practical Business Project II	(0,200)	Practical Business Project I
SYA202B	Systems Analysis II	(0,100)	Systems Development I

plus four of the following subjects:

BPJ201B	Business Projects Management II	(0,100)	Business Organisation I
IAI201B	Internet and Intranet Security II	(0,100)	
ISA201B	Internet Systems Administration II	(0,100)	
ITN201B	Internet Programming II	(0,100)	Internet Programming I
OOP201B	Object-Orientated Programming Methods II	(0,100)	Structured Programming Methods I
VIS201B	Visual Programming II	(0,100)	Structured Programming Methods I Visual Programming I

TOTAL CREDITS FOR THE SECOND YEAR: **1,000**

THIRD YEAR

AVD302T	Advanced Database Management Systems III	(0,250)
DPY302T	Decision Support Systems III	(0,250)
NCS302T	Network Communication Systems Management III	(0,250)
SWG302T	Software Engineering Methods III	(0,250)

TOTAL CREDITS FOR THE THIRD YEAR: **1,000**

1.2 SUBJECT INFORMATION

Syllabus content subject to change to accommodate industry changes.

SUBJECT NAME: ADVANCED DATABASE MANAGEMENT SYSTEMS III
SUBJECT CODE: AVD302T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
This unit builds upon students' general understanding of database management systems, enabling them to design and implement complex database systems. This subject has a strong element of practical database design and implementation.

SUBJECT NAME: BUSINESS COMMUNICATION I
SUBJECT CODE: BUC101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students develop the basic communication skills and concepts required at the interpersonal level. They acquire the ability to relate these to the broader information needs of organisations, so that the knowledge of information systems and appropriate communication may be applied intelligently and effectively.

SUBJECT NAME: BUSINESS ORGANISATION I
SUBJECT CODE: BUO101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire an understanding of the various types of organisation, the principal functional areas within organisations and the needs of organisations, as well as the needs of employees in the workplace.

SUBJECT NAME: COMPUTER TECHNOLOGY I
SUBJECT CODE: COY101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire a detailed and secure foundation in the various computer technologies required to function effectively in a technical role.

SUBJECT NAME: DATABASE DESIGN AND DEVELOPMENT II
SUBJECT CODE: DDD201B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
An essential introduction to modern database technology and the development of database systems, with the emphasis on the practicalities of using database systems in the ongoing development of information systems.

SUBJECT NAME: DECISION SUPPORT SYSTEMS III
SUBJECT CODE: DPY302T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Functions and applications of computer-based information systems used in business for the support of management – management information systems, decision support systems, executive information systems, etc.

SUBJECT NAME: E-COMMERCE I
SUBJECT CODE: EKM101B
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire a thorough understanding of the major issues associated with the development of e-commerce solutions and applications, particularly in relation to both the business and commercial considerations and the technical requirements.

SUBJECT NAME: ENTERPRISE NETWORKING II
SUBJECT CODE: ENW201B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire an understanding of the basic functions and characteristics of the telecommunications networks used by businesses for transporting information.

SUBJECT NAME: INTERNET AND INTRANET SECURITY II
SUBJECT CODE: IAI201B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire the skills required to avoid security breaches and develop strategies for secure systems.

SUBJECT NAME: INTERNET PROGRAMMING I
SUBJECT CODE: ITN101B
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire an understanding of the core principles of Java and they learn how to produce well-designed, effective applications using some of the more advanced features of the language.

SUBJECT NAME: INTERNET PROGRAMMING II
SUBJECT CODE: ITN201B
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Client-side programming using HTML and scripting languages. Advanced client-side programming.

SUBJECT NAME: INTERNET SYSTEMS ADMINISTRATION II
SUBJECT CODE: ISA201B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire the knowledge to manage Internet infrastructures.

SUBJECT NAME: MULTIMEDIA I
SUBJECT CODE: MTM101B
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Exploring the techniques involved in the design of effective multimedia interactive systems. The emphasis is on understanding the concepts of multimedia and their applications.

SUBJECT NAME: NETWORK COMMUNICATION SYSTEMS MANAGEMENT III
SUBJECT CODE: NCS302T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Building on earlier knowledge and equipping students with the knowledge and skills to communicate effectively with both technical and managerial staff in a communications systems context.

SUBJECT NAME: NETWORK SUPPORT I
SUBJECT CODE: NST101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Networks, while once used widely in large organisations only, now form an integral part of every area of computing. The widespread acceptance of the Internet means that the smallest business or personal user of a computer has a need to connect one computer to another. This subject teaches students to fulfil that need and to cover all the common aspects of networking.

SUBJECT NAME: OBJECT-ORIENTATED PROGRAMMING METHODS II
SUBJECT CODE: OOP201B
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students are exposed to extensive coverage of the three basic programming structures.

SUBJECT NAME: PC SUPPORT I
SUBJECT CODE: PUZ101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
The A+ (PC Support) syllabus gives students a thorough understanding of the technical and practical skills involved in PC technical support and is divided into two distinct parts, namely hardware and software support.

SUBJECT NAME: PRACTICAL BUSINESS PROJECT I
SUBJECT CODE: PBB101B
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students are given practical experience in the application of the subjects studied as electives. All work for a project should be additional to any work done for the subject or as an assignment.

SUBJECT NAME: PRACTICAL BUSINESS PROJECT II
SUBJECT CODE: PBB201B
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students are given practical experience in the planning, analysis, design, documentation and (as far as possible) development, testing, implementation and project management of a computer-based system to enable them to play a significant role in a systems development project.

SUBJECT NAME: SOFTWARE ENGINEERING METHODS III
SUBJECT CODE: SWG302T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire experience of large-scale software development. The emphasis is on the individual working as a member of a team.

SUBJECT NAME: STRUCTURED PROGRAMMING METHODS I
SUBJECT CODE: STU101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire a thorough understanding of the key concepts, techniques and methods that have emerged over time as programming has evolved into a process with increasingly formalised approaches. This subject focuses on the development of transferable ideas and skills and is not language-specific.

SUBJECT NAME: SYSTEMS ANALYSIS II
SUBJECT CODE: SYA202B
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire the technical, interpersonal and administrative skills that are required for systems analysts.

SUBJECT NAME: SYSTEMS DESIGN II
SUBJECT CODE: BSD201B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire the technical, interpersonal and management skills that are required for systems designers. Students will be able to select and use appropriate systems design techniques and tools, introduce controls to ensure availability, integrity and privacy of systems, and plan the implementation of systems.

SUBJECT NAME: SYSTEMS DEVELOPMENT I
SUBJECT CODE: SYD101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire knowledge of the methods, disciplines, techniques and skills used by IT systems development teams. This provides them with a thorough appreciation of how such teams operate.

SUBJECT NAME: VISUAL PROGRAMMING I
SUBJECT CODE: VIS101B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire a firm foundation and knowledge of the Visual Basic programming environment based on sound programming techniques.

SUBJECT NAME: VISUAL PROGRAMMING II
SUBJECT CODE: VIS201B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students acquire in-depth knowledge of advanced programming design in Visual Basic.

SUBJECT NAME: WEBSITE DEVELOPMENT I
SUBJECT CODE: WEV101B
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students are equipped with the knowledge and skills to design and build relatively complex websites based on sound design principles. They will be able to demonstrate both practical skills, such as website construction using HTML, and an understanding of the use of websites as a business tool.

2. DEPARTMENT OF COMPUTER SYSTEMS ENGINEERING

2.1 NATIONAL DIPLOMA: ENGINEERING: COMPUTER SYSTEMS
Qualification code: NDCY03

Purpose of qualification:
To instill the necessary knowledge, understanding and skills required for the learner's progression towards becoming a competent practicing Engineering Technician. A candidate who has gone through this training should be able to apply the acquired knowledge, understanding, skills attitudes and values in the South African work setting.

A person in possession of this qualification is able to do the following:
- Meet the requirements for registration with the Engineering Council of South African as a candidate Engineering Technician;
- Design, maintain and update computer systems including computer networks;
- Perform hardware and software integrated designs;
- Identify, analyse, conduct and manage a project and give an appropriate presentation of it to varying audiences;
- Work both independently and as a member of a team;
- Apply the acquired knowledge to new situations in the workplace and/or community;
- Relate engineering activity to health and safety, to the environment, and to cultural and economic sustainability;
- Use and interpret mathematical formulae used in engineering calculations.

REMARKS

a. Admission requirement(s) and selection criteria:

- **FOR STUDENTS WHO OBTAINED A SENIOR CERTIFICATE BEFORE 2008:**

  Admission requirement(s): A Senior Certificate or an equivalent qualification with a pass in English and a pass of at least 50% at the Higher Grade or at least 60% at the Standard Grade for Physical Science and Mathematics. Candidates must have access to personal computers to do assignments after hours.

  Recommended subject(s): Computer Studies.

  Selection criteria: Initial selection is based on school results. A further selection is based on an assessment. Prospective students will be notified that they should make an appointment with the departmental secretary for this assessment. This rule applies to all prospective students, as well as to students who are already registered at other institutions.

  The selection status of students who have been accepted, but whose final Grade 12 results do not meet the minimum requirements, will automatically change to conditional acceptance. This implies that such students should pass at least 60% of their subjects at the end of the first semester in order to be permitted to continue with the qualification.

- **FOR STUDENTS WHO HAVE OBTAINED A NATIONAL SENIOR CERTIFICATE SINCE 2008:**

  Admission requirement(s): A National Senior Certificate or an equivalent qualification, with English, Mathematics and Physical Sciences or an equivalent subject considered by the Faculty.

  Recommended subject(s): None.

  Selection criteria: Admission Points Score (APS):

SUBJECT REQUIREMENTS	MINIMUM PERFORMANCE LEVEL/SCORE
Specifically required subjects:	
English – home language or first additional language	4
Mathematics	4
Physical Sciences (or an equivalent subject considered by the Faculty)	3
Additional subject (excluding Life Orientation):	
Any three other subjects with a final score of 13	
TOTAL APS SCORE:	**24**

	Assessment procedures:	Candidates who meet these minimum requirements will be considered for admission to either the National Diploma or the Foundation Programme (See the Department of End-User Computing). Of these candidates, those with a score of more than 3 in Mathematics will be admitted directly to the National Diploma. Upon admission and before registration the rest of the candidates will be required to do a placement test and may be directed to registration for either the standard or the extended curriculum as my be appropriate.
b.	Minimum duration:	Three years.
c.	Presentation and campus:	Soshanguve South Campus (day classes).
d.	Intake for the qualification:	January and July.
e.	Readmission:	See Chapter 3 of Students' Rules and Regulations.
f.	Experiential Learning I and II:	See Chapter 5 of Students' Rules and Regulations.
g.	Engineering Council of South Africa (ECSA):	The National Diploma: Engineering: Computer Systems is accredited by the Engineering Council of South Africa (ECSA), and students completing the qualification will be able to register with that Council. The Department or ECSA can be contacted for additional information and registration purposes.
h.	Purpose of qualification:	Students who have completed this qualification will be qualified to apply the theoretical and practical knowledge and skills pertaining to hardware, software, networking and basic engineering to the computer engineering environment.
i.	Subject credits:	Subject credits are shown in brackets after each subject. The total number of credits required or this qualification is 3,000.

FIRST YEAR

FIRST SEMESTER

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
COS101T	Communication Skills I	(0,036)	
CSK101T	Computer Skills I	(0,055)	
DSY131T	Digital Systems I	(0,083)	
EEN111T	Electrical Engineering I	(0,083)	
ELC111T	Electronics I	(0,083)	
MAT141F	Mathematics I	(0,083)	
PGG111T	Programming I	(0,083)	
TOTAL CREDITS FOR THE SEMESTER:		0,506	

SECOND SEMESTER

DSY231T	Digital Systems II	(0,083)	Digital Systems I
ELC211T	Electronics II	(0,083)	Electronics I
MAT251F	Mathematics II	(0,083)	Mathematics I
NSY211T	Network Systems II	(0,083)	
PGG211T	Programming II	(0,083)	Programming I

plus one of the following subjects:

DPC201T	Digital Process Control II	(0,083)	
PJT101B	Projects I	(0,083)	Programming I

TOTAL CREDITS FOR THE SEMESTER: 0,498

TOTAL CREDITS FOR THE FIRST YEAR: **1,004**

SECOND YEAR

FIRST SEMESTER

DSY341T	Digital Systems III	(0,083)	Digital Systems II
NSY311T	Network Systems III	(0,083)	Network Systems II
OSY301T	Operating Systems III	(0,083)	Programming II
PGG311T	Programming III	(0,083)	Programming II
SYA201T	Systems Analysis II	(0,083)	

plus one of the following subjects that was not taken in the previous semesters:

DPC201T	Digital Process Control II	(0,083)	
DPC301T	Digital Process Control III	(0,083)	Digital Process Control II
MMA301T	Mathematical Applications III	(0,083)	Mathematics II
ORS311T	Operational Research III	(0,083)	Mathematics I
PJT101B	Projects I	(0,083)	Programming I

TOTAL CREDITS FOR THE SEMESTER: 0,498

SECOND SEMESTER

DBR311T	Database Principles III	(0,083)	Programming II Systems Analysis II
LOD311B	Logic Design III	(0,083)	Digital Systems III
SFE311T	Software Engineering III Systems Analysis II	(0,083)	Programming III

plus two of the following subjects that were not taken in the previous semesters:

DPC201T	Digital Process Control II	(0,083)	
DPC301T	Digital Process Control III	(0,083)	Digital Process Control II
MMA301T	Mathematical Applications III	(0,083)	Mathematics II
ORS311T	Operational Research III	(0,083)	Mathematics I
PJT101B	Projects I	(0,083)	Programming I

TOTAL CREDITS FOR THE SEMESTER: 0,415

TOTAL CREDITS FOR THE SECOND YEAR: **0,913**

THIRD YEAR

FIRST SEMESTER
On completion of all the above subjects.

EXP1ECS	Experiential Learning I	(0,500)

TOTAL CREDITS FOR THE SEMESTER: 0,500

SECOND SEMESTER

EXP2ECS	Experiential Learning II	(0,500)	Experiential Learning I
PJD301B	Design Project III	(0,083)	

TOTAL CREDITS FOR THE SEMESTER: 0,583

TOTAL CREDITS FOR THE THIRD YEAR: **1,083**

2.2 SUBJECT INFORMATION

Syllabus content subject to change to accommodate industry changes.

SUBJECT NAME: COMMUNICATION SKILLS I
SUBJECT CODE: COS101T
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: ± 20 hours
OVERVIEW OF SYLLABUS:
Emphasis is placed on the use of different communication media in IT case studies. The basic concepts of hardware, software, data communication and elementary programming skills are covered in the theoretical component. The Windows operating system is studied. Application packages such as Microsoft Word and Excel are covered in the practical component.

SUBJECT NAME: COMPUTER SKILLS I
SUBJECT CODE: CSK101T
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: ± 20 hours
OVERVIEW OF SYLLABUS:
Students are expected to acquire theoretical knowledge relevant to the IT-orientated society we live in today. The practical component covers the Window Operating System, MS Word, MS Excel and MS PowerPoint.

SUBJECT NAME: DATABASE PRINCIPLES III
SUBJECT CODE: DBR311T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
An introduction to databases and database management principles. Theoretical principles are applied in the query language SQL, using Oracle SQL. Students' insight and skills are tested in the development, design and implementation of a relational database.

SUBJECT NAME: DESIGN PROJECT III
SUBJECT CODE: PJD301B
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: ± 10 hours
OVERVIEW OF SYLLABUS:
The planning, design and implementation of an industry-related project by applying the knowledge obtained and the tools students were introduced to in the programme. The project should deal with an actual computer science problem and should include hardware and software elements. This subject is supported by short project management and entrepreneurship programmes.

SUBJECT NAME: DIGITAL PROCESS CONTROL II
SUBJECT CODE: DPC201T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
System software assembly language and practical projects, using the printer port as PLC.

SUBJECT NAME: DIGITAL PROCESS CONTROL III
SUBJECT CODE: DPC301T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
A detailed examination of the functional operations of a PLC, as used in factory automation. An introduction to robotics, electromechanical and sensory tactics and methods.

SUBJECT NAME: DIGITAL SYSTEMS I
SUBJECT CODE: DSY131T
EVALUATION METHOD: 1 X 3 HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The basic components of digital circuits, such as NOT, AND and OR gates. The more complex gate and logic functions are built by using these basic components. Boolean algebra and Karnaugh maps are used to simplify functions. Combination logic circuits, including adders, multivibrators, comparators, decoders, encoders, multiplexers and demultiplexers, are also discussed. Binary, octal, decimal and hexadecimal number systems are included. Theoretical information is supported by practical experiments in a laboratory.

SUBJECT NAME: DIGITAL SYSTEMS II
SUBJECT CODE: DSY231T
EVALUATION METHOD: 1 X 3 HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The basic components of sequential circuits, namely latches and flip-flops. More complex memory components, such as adders and registers, are derived from the basic components. Different analogue-to-digital and digital-to-analogue converters are discussed. In the introduction to microprocessor systems, the central processor, memory, ports and interrupts are covered.

SUBJECT NAME: DIGITAL SYSTEMS III
SUBJECT CODE: DSY341T
EVALUATION METHOD: 1 X 3 HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The student should show a conceptual understanding of microcomputer systems, including microprocessors, microcomputers, microcontrollers and the MCS-51 family. Memory devices and design. Microcomputer programming. The MCS-51 instruction set, the use of serial and parallel ports, interrupts and timers (counters). The student should be able to perform a variety of tasks relating to the theoretical aspect of the subject, such as operating equipment, programming the 8031 and representing findings in a report.

SUBJECT NAME: ELECTRICAL ENGINEERING I
SUBJECT CODE: EEN111T
EVALUATION METHOD: 1 X 3 HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The subject consists of theoretical and practical elements. Correct use of SI units and their applications. Physical and electrical quantities. Network analysis on DC circuits and AC theory. An investigation of the magnetic lines of force and the application of magnetic fields. Inductance in DC circuits. RLC circuits and phase differences. Capacitors, their operation and applications. Practical sessions cover soldering, resistor circuits and advanced resistor networks, transistor and capacitor applications, and an application of electromagnetism.

SUBJECT NAME: ELECTRONICS I
SUBJECT CODE: ELC111T
EVALUATION METHOD: 1 X 3 HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The basic concepts of electronics, such as the use of measuring instruments, the semi-conductor theory, the P-N junction, diodes and rectification, simple power supplies, the bipolar junction transistor, the field-effect transistor and operational amplifiers are studied. The theoretical presentations are supported by practical experiments in a laboratory.

SUBJECT NAME: ELECTRONICS II
SUBJECT CODE: ELC211T
EVALUATION METHOD: 1 X 3 HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The basic concepts and operation of rectification, voltage regulation, single-stage transistor amplifiers, transistor configurations, field-effect transistors. Characteristics of operational amplifiers and basic configurations. Special semiconductors, multilayer semiconductors and opto-electronics. The theoretical presentations are supported by practical experiments in a laboratory.

SUBJECT NAME: EXPERIENTIAL LEARNING I
SUBJECT CODE: EXP1ECS
EVALUATION METHOD: EXPERIENTIAL LEARNING
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students experience the industry realistically by becoming involved in its day-to-day operations.

SUBJECT NAME: EXPERIENTIAL LEARNING II
SUBJECT CODE: EXP2ECS
EVALUATION METHOD: EXPERIENTIAL LEARNING
TOTAL TUITION TIME: Not available
OVERVIEW OF SYLLABUS:
Students function at a higher level in an IT-related industry by becoming involved in its operations.

SUBJECT NAME: LOGIC DESIGN III
SUBJECT CODE: LOD311B
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
Logic design using hardware description language (WHDL) to realise logic circuits.

SUBJECT NAME: MATHEMATICAL APPLICATIONS III
SUBJECT CODE: MMA301T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
Higher-order differential equations and partial differential equations. Introduction to numerical mathematics.

SUBJECT NAME: MATHEMATICS I
SUBJECT CODE: MAT141F
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
Basic mathematics. Differentiation. Integration. Matrices and determinants. Vectors. Data handling. Complex numbers or mensuration.

SUBJECT NAME: MATHEMATICS II
SUBJECT CODE: MAT251F
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
Differentiation of functions of more than one variable. Further integration. Numerical methods. First-order ordinary differential equations. Matrices (Gauss elimination).

SUBJECT NAME: NETWORK SYSTEMS II
SUBJECT CODE: NSY211T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
This subject covers various aspects and technologies involved in data communications and networking. Students are introduced to topics, such as network topologies, transmission fundamentals, contention protocols, data compression techniques, data security and integrity, flow-control protocols and the various IEEE standards. The subject is aimed at giving students a solid understanding of local area networks (LANs), although aspects of wide area networks (WANs) are also covered briefly.

SUBJECT NAME: NETWORK SYSTEMS III
SUBJECT CODE: NSY311T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
TCP and related protocols. The practical component concentrates on the application protocol of TCP/IP.

SUBJECT NAME: OPERATING SYSTEMS III
SUBJECT CODE: OSY301T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The development of the operating system as a control programme and resource manager. Principles to take into consideration when designing a modern operating system, such as memory management, process management, scheduling and input/output. The LINUX operating system. CPU scheduling, parallelism, secondary memory management, LINUX applications.

SUBJECT NAME: OPERATIONAL RESEARCH III
SUBJECT CODE: ORS311T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
Linear programming, distribution and assignment problems, network models. Project scheduling, decision theory, forecasting, queuing models, simulation, inventory control. Practical applications in a management sciences package.

SUBJECT NAME: PROGRAMMING I
SUBJECT CODE: PGG111T
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
An introduction to object-orientated programming that also covers control structures and stream manipulation.

SUBJECT NAME: PROGRAMMING II
SUBJECT CODE: PGG211T
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
Advanced object-orientated concepts, which include inheritance and abstract programming.

SUBJECT NAME: PROGRAMMING III
SUBJECT CODE: PGG311T
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
Network programming by using client-server technologies, as well as database connectivity.

SUBJECT NAME: PROJECTS I
SUBJECT CODE: PJT101B
EVALUATION METHOD: CONTINUOUS ASSESSMENT
TOTAL TUITION TIME: ± 70 hours
OVERVIEW OF SYLLABUS:
Use of instruments and equipment, such as multimeter, oscilloscope, power supply and function generator. Measurement of alternating and direct current, voltage and frequency. Component identification, application, measurement and testing. Reading basic schematic diagrams. Construction and testing of an electronic project. Stripping and insulating conductors. Writing and placing components. Basic health and safety. Laboratory policies and procedures. Basic hand skills such as soldering, metal working including drilling. Building of a project into an enclosure. Web programming using appropriate Web system engineering environment such as http/html/php/MySqL/FORMS, which includes direct socket connections.

SUBJECT NAME: SOFTWARE ENGINEERING III
SUBJECT CODE: SFE311T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
The technical concepts, methods and measurements that are applicable to the analysis, design and testing of object-orientated software are studied in detail. Concepts, such as the planning and management of object-orientated software projects. Object-orientated analysis by using UML.

SUBJECT NAME: SYSTEMS ANALYSIS II
SUBJECT CODE: SYA201T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 80 hours
OVERVIEW OF SYLLABUS:
A detailed study of the five phases of the systems development life cycle (SDLC), giving the student an in-depth understanding of how information technology supports operational and business requirements in today's competitive environment. The importance of communication, economic analysis and project planning skills in all phases of the SDLC is discussed.

3. DEPARTMENT OF END-USER COMPUTING

3.1 NATIONAL DIPLOMA: INFORMATION TECHNOLOGY (EXTENDED CURRICULUM PROGRAMME WITH FOUNDATION PROVISION)
Qualification code: NDITF0

NO NEW REGISTRATIONS FOR THIS QUALIFICATION WILL BE ACCEPTED AS FROM 2010. STUDENTS WHO ARE CURRENTLY REGISTERED FOR THIS QUALIFICATION HAVE UNTIL 2012 TO OBTAIN IT, SUBJECT TO THE STIPULATIONS OF REGULATION 3.1.1 ON THE MAXIMUM DURATION OF STUDY.

Phase-out date: 31 December 2012

Presentation and campus: Soshanguve South Campus (day classes).

It is recommended that students who have registered for the ICT Foundation Programme (NDITF0) for the first time before 2011 may not register for more than three modules per semester. In extraordinary circumstances, based on student results, permission may be granted for an extra subject if there are no clashes on the time table.

The structure of the first eighteen months of the extended curriculum is as follows:

FIRST YEAR

FIRST SEMESTER

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
ISY13AF	Foundation Information Systems IA	(0,125)	
ITS11AF	Foundation Information Technology Skills IA	(0,125)	
SSF11AF	Foundation Systems Software IA	(0,125)	
TOTAL CREDITS FOR THE SEMESTER:		0,375	

SECOND SEMESTER

DSO15AF	Foundation Development Software IA	(0,125)	
DSO15BF	Foundation Development Software IB	(0,125)	
ISY13BF	Foundation Information Systems IB	(0,125)	Foundation Information Systems IA
TOTAL CREDITS FOR THE SEMESTER:		0,375	
TOTAL CREDITS FOR THE FIRST YEAR:		**0,750**	

SECOND YEAR

FIRST SEMESTER

ITS11BF	Foundation Information Technology Skills IB	(0,125)
SSF11BF	Foundation Systems Software IB	(0,125)

Students who have passed all subjects during the first and second semester of the first year, may also register for one of the following subjects in the third semester (first semester of the second year):

One of the following:

MIS22AT	Management Information Systems IIA (for specialisation field: Business Applications)	(0,125)
TPG11AT	Technical Programming IA (for specialisation fields: Industrial Information Systems and Systems Development)	(0,125)
TPG12AT	Technical Programming IA (for specialisation fields: Communication Networks, Multimedia, Technical Applications and Web and Application Development)	(0,125)
TPG14AT	Technical Programming IA (for specialisation field: Support Services)	(0,125)
TOTAL CREDITS FOR THE SEMESTER:		0,375

As from the second semester of the second year of study, a student will register under another qualification code for the specific Information Technology specialisation field.

3.2 NATIONAL DIPLOMA: INFORMATION TECHNOLOGY (EXTENDED CURRICULUM PROGRAMME WITH FOUNDATION PROVISION)

(pending final approval - DHET)
Qualification code: NDITF1

REMARKS

a. Admission requirement(s) and selection criteria:
See different fields of specialisation.

b. Minimum duration: One year

c. Presentation and campus: Soshanguve South Campus (day classes).
eMalahleni Campus (day classes). Only for students who will slot in with the first year of the National Diploma: Information Technology (Field of specialisation: Software Development).

d. Intake for the qualification: January only.
Please note: A maximum of 50 students only will be admitted to this qualification at the eMalahleni Campus.

e. Readmission: See Chapter 3 of Students' Rules and Regulations.

f. Laboratory periods: Apart from classes scheduled for these four modules, students will also have to attend compulsory laboratory periods for eight hours per week in order to become familiar with keyboard skills, computational thinking and problem-solving skills, and various other skills needed in the IT environment.

g. Subject credits: Subject credits are shown in brackets after each subject. The total number of credits required for this qualification is 0,500.

FIRST YEAR

FIRST SEMESTER

CODE	SUBJECT	CREDIT
FPITM01	Foundation ICT Mathematical Skills	(0,125)
FPALS01	Foundation Academic and Language Skills	(0,125)
TOTAL CREDITS FOR THE SEMESTER:		0,250

SECOND SEMESTER

FPIDS01	Foundation Information and Software Development Skills	(0,125)
FPPRS01	Foundation Presentation and Reporting Skills	(0,125)
TOTAL CREDITS FOR THE SEMESTER:		0,250
TOTAL CREDITS FOR THE YEAR:		**0,500**

As from the second year (after completing the dedicated foundation year and achieving the full 0,5 credits required) a student will continue onto the general first-year programme which all students directly accepted into the main stream qualifications register for. Once they have successfully completed those four subjects they will then register for more specialised subjects required for the various qualifications offered by the Faculty.

3.3 SUBJECT INFORMATION

Syllabus content subject to change to accommodate industry changes.

SUBJECT NAME: FOUNDATION ACADEMIC AND LANGUAGE SKILLS
SUBJECT CODE: FPALS01
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 84 hours
OVERVIEW OF SYLLABUS:
Interpret, relate and reflect on all available and relevant resource material in proper English. Communicate orally in a comprehensible and clear manner in both general and subject-specific communication. Demonstrate intermediate-level proficiency in written English. Computational and critical thinking skills, learning styles, study skills, research skills, presentation skills, legal issues in IT, communication skills and cultural sensitivity.

SUBJECT NAME: FOUNDATION DEVELOPMENT SOFTWARE IA
SUBJECT CODE: DSO15AF
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 108 hours
OVERVIEW OF SYLLABUS
The general purpose of this module is to learn to solve programs using the basic programming principles. The module focuses on the planning and understanding of problems and logical thinking skills. After completion of this module, the learner must be able to: understand problems and know how to solve them by using a computer; understand the general concepts and arithmetic used in programming; write algorithms containing sequential steps, selection and iteration control structures; write an algorithm using functions and sub procedures; and write an algorithm containing one-dimensional arrays. Additional notes and exercises will be provided in order to make the content more understandable. The additional foundation provision will also include brain teasers and games like SUDOKU in order to stimulate problem-solving and logical thinking skills.

SUBJECT NAME: FOUNDATION DEVELOPMENT SOFTWARE IB
SUBJECT CODE: DSO15BF
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: ± 108 hours
OVERVIEW OF SYLLABUS:
The general purpose of this module is to apply the basic programming principles studied in DSO15AT in Visual Basic.NET. The emphasis will not be on all the visual effects of the language, but to make the students competent problem solvers that can design and write VB.NET programs that will be error free, reliable and easy to modify and maintain. After completion of this module, the learner must be able to: create user interfaces with basic controls; understand the general concepts and arithmetic used in VB.NET; write VB.NET programs containing sequential steps, selection and iteration control structures; write VB.NET programs containing functions and sub procedures; and write VB.NET programs containing one-dimensional arrays. Students on this course will receive additional compulsory assignments on a weekly basis in order to practice VB.NET and to make the content more understandable. They will also receive additional time per week in order to complete these assignments.

SUBJECT NAME: FOUNDATIONAL ICT MATHEMATICAL SKILLS
SUBJECT CODE: FPITM01
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 96 hours
OVERVIEW OF SYLLABUS:
The following topics will be covered: Arithmetic and Basic Algebra (fractions, decimals, percentages, patterning and formula generation), Sets and set notation, Graphing transformations and associated word problems with linear and quadratic functions only and Linear programming (in word problem format). Introduction to basic discrete mathematical skills. Elements of symbolic logic. The subject will be offered in an interactive way in order to stimulate logical reasoning and computational thinking skills.

SUBJECT NAME: FOUNDATION INFORMATION AND SOFTWARE DEVELOPMENT SKILLS
SUBJECT CODE: FPIDS01
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 96 hours
OVERVIEW OF SYLLABUS:
Brain teasers will be used as an initial stimulus to get students interested in the problem-solving process. Various word problems will be provided and students will learn how to analyse these problems in a systematic way as the starting point in the problem-solving approach. The subject focuses on the utilisation of various tools to develop the cognitive problem-solving skills of the student, including computational thinking pedagogical software tools. Students will also be introduced to abstract logical reasoning and computational thinking skills. These skills are further developed through practical exercises relating to various day-to-day problem-solving activities. Introduction to algorithmic problem solving is further supported by the application of a graphical programming tool.

SUBJECT NAME: FOUNDATION INFORMATION SYSTEMS IA
SUBJECT CODE: ISY13AF
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 90 hours
OVERVIEW OF SYLLABUS:
An introduction to Windows including skills in handling a mouse and keyboard, file structures (what a file, drive and folder are, where and how to save and retrieve from folders), copy and paste, regular backups and formatting of disks. A study of the basic principles and background of computers, hardware, peripherals, computer software concepts, information system concepts and the impact of computers on society. The subject also contains a mathematical component which covers Basic Arithmetic, Essentials of Algebra and Fundamentals of Plane Geometry to help students develop critical thinking and analytical skills needed for better Computer Programming. Practicals: Microsoft Word and Microsoft Excel.

SUBJECT NAME: FOUNDATION INFORMATION SYSTEMS IB
SUBJECT CODE: ISY13BF
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 90 hours
OVERVIEW OF SYLLABUS:
A study of the basic concepts of systems of development, data management, management information systems, artificial intelligence and object-orientated programming, ethics, privacy and security, purchasing and maintenance of microcomputers, number systems and binary logic. The subject also contains a mathematical component which extends algebra concepts and explores arithmetic operations in a computer, numbering systems, counting methods, probability and odds, basic statistics, vectors and matrices. Practicals: Microsoft Access and the internet.

SUBJECT NAME: FOUNDATION INFORMATION TECHNOLOGY SKILLS IA
SUBJECT CODE: ITS11AF
EVALUATION METHOD: 2 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 72 hours
OVERVIEW OF SYLLABUS:
Interpret, relate and reflect on all available and relevant resource material in proper English. Communicate orally in a comprehensible and clear manner in both general and subject-specific communication. Demonstrate intermediate-level proficiency in written English. Thinking skills, learning styles, study skills, research skills, presentation skills, legal issues in IT, communication skills, cultural sensitivity.

SUBJECT NAME: FOUNDATION INFORMATION TECHNOLOGY SKILLS IB
SUBJECT CODE: ITS11BF
EVALUATION METHOD: 2 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 108 hours
OVERVIEW OF SYLLABUS:
Personality types, emotional intelligence, self-management, stress and time management, team dynamics, conflict, negotiation and assertiveness, dealing with change, relationship management. Continued training in English communication in order to interpret, relate and reflect on all available and relevant resource material in proper English. Communicate orally in a comprehensible and clear manner in both general and subject-specific communication. Demonstrate intermediate-level proficiency in written English.

SUBJECT NAME: FOUNDATION PRESENTATION AND REPORTING SKILLS
SUBJECT CODE: FPPRS01
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 84 hours
OVERVIEW OF SYLLABUS:
Personality types, emotional intelligence, self management, stress and time management, team dynamics, conflict, negotiation and assertiveness, dealing with change, relationship management. Continued training in English communication in order to interpret, relate and reflect on all available and relevant resource material in proper English. Communicate orally in a comprehensible and clear manner in both general and subject-specific communication. Demonstrate intermediate-level proficiency in written English, and critical thinking skills.

SUBJECT NAME: FOUNDATION SYSTEMS SOFTWARE IA
SUBJECT CODE: SSF11AF
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 90 hours
OVERVIEW OF SYLLABUS:
Basic functions of operating systems by using DOS and Windows platforms. Computer architecture, file handling, input/output and maintenance procedures. Additional instructions on A+ Managing and maintaining your PC.

SUBJECT NAME: FOUNDATION SYSTEMS SOFTWARE IB
SUBJECT CODE: SSF11BF
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 90 hours
OVERVIEW OF SYLLABUS:
This subject deals with different aspects and technologies in data communication and networks, including concepts, such as network architecture, transmission, protocols and a number of IEEE standards. This subject includes more practical exercises, assignments and examples to give the students a better understanding.

SUBJECT NAME: MANAGEMENT INFORMATION SYSTEMS IIA
SUBJECT CODE: MIS22AT
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 54 hours
OVERVIEW OF SYLLABUS:
Information systems for the information age with a practical component in linear programming, Expert Choice and SAS EIS.

SUBJECT NAME: TECHNICAL PROGRAMMING IA
SUBJECT CODE: TPG11AT, TPG12AT, TPG14AT
EVALUATION METHOD: 1 X 4-HOUR COMPUTER-BASED
TOTAL TUITION TIME: ± 72 hours
OVERVIEW OF SYLLABUS:
Basic to intermediate technical programming. An introduction to object-orientated programming, basic control structures and stream manipulation. (C++, JAVA and Visual Basic).

3.4 SUBJECT INFORMATION

The following subject is applicable to the departments of Computer Systems Engineering, Information Technology and Software Engineering.

SUBJECT NAME: BUSINESS FUNDAMENTALS IV
SUBJECT CODE: BAB401T
EVALUATION METHOD: 1 X 3-HOUR PAPER
TOTAL TUITION TIME: ± 40 hours
OVERVIEW OF SYLLABUS:
This subject covers the terminology of the business world and provides a working knowledge of the start-up and management of a business. The basic principles of globalisation are also covered. Students will complete a number of case studies to prove their mastery of this topic.

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