DUT
DURBAN
UNIVERSITY OF
TECHNOLOGY

2016 HANDBOOK
INFORMATION TECHNOLOGY

FACULTY OF
ACCOUNTING
& INFORMATICS

HANDBOOK FOR 2016

FACULTY OF ACCOUNTING AND INFORMATICS

DEPARTMENT of INFORMATION TECHNOLOGY

Departmental Mission

Vision

Promoting leadership in business and related technology through real world education

Mission

Promoting quality in teaching and learning

Encourage a culture of ongoing research and technology transfer

Engage the business professions and other relevant stakeholders to provide relevant career focused education

Values

The Department prides itself as being innovative, participative, accountable, committed, and productive.

Goals

The goals of the Department are:

To continuously produce a critical mass of quality IT graduates from sound teaching, learning, and assessment practices

To produce and publish high quality applied research output in IT

To significantly contribute to the empowerment of communities, society, and humanity, using IT as an enabler.

What is a University of Technology?

A university of technology is characterized by being research informed rather than research driven where the focus is on strategic and applied research that can be translated into professional practice. Furthermore, research output is commercialized thus providing a source of income for the institution. Learning programmes, in which the emphasis on technological capability is as important as cognitive skills, are developed around graduate profiles as defined by industry and the professions.

IMPORTANT NOTICE

The departmental rules in this handbook must be read in conjunction with the University's General Rules included in the Student Handbook.

The University reserves the right to change the contents without prior notice.

NOTE TO ALL REGISTERED STUDENTS

Your registration is in accordance with all current rules of the Institution. If, for whatever reason, you do not register consecutively for every year/semester of your programme, your existing registration contract with the Institution will cease. Your re-registration anytime thereafter will be at the discretion of the Institution and, if permitted, will be in accordance with the rules applicable at that time.

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1. DEPARTMENT AND FACULTY CONTACT DETAILS

All Departmental queries to:

Secretary:	Ms W Xulu
Tel No:	031 373 5446
Fax No:	031-373 5598
Location of Department:	2nd Floor IT block (East and West Wing) Ritson Campus

Faculty Query: Information Technology

All Faculty queries to:	Ms D Small
Faculty officer:	Ms N. Singh - Sakichand
Tel No:	031-3735418/5152
Fax to Email:	086 2626836
Location of Faculty office:	East Wing, Hotel School Building, Ritson Campus

Faculty Query: Financial Information Systems

All Faculty queries to:	Mrs B Nkosi
Faculty officer:	Ms N. Singh - Sakichand
Tel No:	031-3735670/5152
Fax to Email:	086 6760873
Location of Faculty office:	East Wing, Hotel School Building, Ritson Campus

Executive Dean:	Mohammed Saleem Essop Kharwa (Acting)
Executive Dean Secretary:	Beulah Martin
Tel No:	031- 3735597
Location of Executive Dean's office:	North Wing, Hotel School Building, Ritson Campus

2. STAFFING Name and Qualification

Head of Department Mrs Singh K, BSc (Hons) Comp Sc, BEd (Hons) UHDE (UDW)

Professor Prof Olugbara, Oludayo O, PHD (Computer Science) (Univ of Zululand)

Associate Professors Prof Eyono Obono S D, PhD Computer Science (University of Rouen, France)
Prof Richard C Millham, PhD (Computer Science) (De Montfort University)

Associate Directors Mrs Khan F T, B Tech (MLST), MSc (University of Sydney)
Mr Ally M I, ND EDP (MLST), NHD CDP (MLST)
Dr Heukelman D, BSc (Ed) (RAU), BSc (Hons) (RAU); MEd Computers (Rhodes), DTech: IT (DUT)

Senior Lecturers Asmal E, NHD CDP (MLST)
Foolchand S, UDE (UDW), BCom (UNISA), BSc (Hons) (UNISA)
Hansrajh A, JSED (SCE), BSc (Hons) (Unisa)
Khalili P, MSc (Cal. State Univ) BSc (Cal. State Univ) (USA)
Gonsalves N, MA (UND), ND IT (MLST), BA (Hons) (UDW)
Naidoo SC, BTech IT (MLST)
Pancham J, ND Telecom (Telkom), BSc (Hons) (UDW)
Wing J W, NHDip. (TN), MTech IT (DIT)

Lecturers

Bhoola N,	BSc (Hons) (UDW) MCom (UKZN)
Boamah-Abu C,	BSc (Hons) Comp Sc (Rhodes) MCom (IS) UCT
Bugwandin R,	BTech IT (DUT)
Dwarika, J	BTech IT (DIT), BSc IS (Hons) (UNISA), MSc IS (UNISA) cum laude
Dlalisa FS	BTech (DUT), MCom IS&T (UKZN)
Govender A,	BTech. (IT) (MLST)
Govender T P,	BSc (UNISA); HED (TCE), BTech IT (MLST), MEd (UKZN)
Hoosen S,	BSc (Hons) (UDW)
Moodley S G,	BTech IT (DUT)
Moodley U,	BTech IT (DIT)
Naicker N,	MSc (UNISA), BSc (Hons) (UNISA), Dip Data Metrics (UNISA); HED (SCE)
Ngxata B,	Dip IT (Border Tech) BTech IT (MLST)
Ramnarain A,	BTech IT (TSA) MCom (IS&T) (UKZN)
Singh A,	BTech IT (TN), MTech IT (DIT), DTech IT (DUT)
Singh RS,	HDE (UN), Dip Data Metrics (UNISA), BSc (UNISA)
Soobramoney R,	BSc (Hons) (UND)

Soobramoney S,	BTech IT (TN)
Sosibo NS,	BTech IT (DIT), MTech IT (DUT)
Thompson R C,	NH Dip (TN)
Vanker C,	BTech IT (MLST)
Vilakazi Z,	BTech IT (DIT)
White C R,	BSc (Info Proc), BSc (Hons), HDE (PG) (Rhodes)
Zincume X,	BTech IT (DIT), BTech FIS (DIT)

Specialist Instructors: Jackson P, BTech IT (DUT)

CO-ORDINATOR: DEAF PROGRAMME

Kanaye N, (L.S.T.D -Springfield Col of Educ; Dip in Spec Ed: Aurally Handicapped -UNISA; BA: Eng, Psych -UNISA; MA: Advanced Deaf Educ Gallaudet Univ (Washington,DC, USA)

South African Sign Language Interpreters

Phakathi, Isabella Nokuthula N (JPTD-Mpumalanga, Dip Rem Ed, BEd (Univ of Potch)

Administrative Staff:

Secretary:	Ms W Xulu
Senior Technician Networks:	Mr A Ramdass
Senior Technician Desktop:	Mr R M Nepaul
Technicians:	Mr M Womack Mrs G Pursan Mr H Khan Mr BNM Mbuthuma

3. PROGRAMMES OFFERED BY THE DEPARTMENT

Programmes are offered in this Department which, upon successful completion, lead to the awarding of the following qualifications:

Qualification Name	Qualification Code	SAQA NLRD	Current Status
NEW Programme offerings			
Diploma in ICT in Applications Development	Offered 2016	94697	Replaces ND: IT (Software Development)
Diploma in ICT in Business Analysis	Pending HEQC name change		Replaces ND: IT (Business Applications)
Diploma in ICT in Applications Development (4-year Extended Curriculum)	Pending DHET approval		Replaces ND: IT Foundation
Masters in ICT (MICT)	MICMT1	96833	Replaces MTECH: IT
Doctorate in ICT (DICT)	DRICT1	96804	Replaces DTECH: IT
CURRENT AND PHASE-OUT Programme offerings			
ND: Information Technology (Software Development)	NDINS1	72241	Last intake in 2015- phased out in 2016
ND: Information Technology (Business Applications)	NDINB1	72241	Last intake in 2015- phased out in 2016
ND: Information Technology (4-year Extended Curriculum)	NDISF1	72241	Last intake in 2015- phased out in 2016
ND: Financial Information Systems	NDFIS2	72234	Last intake in 2015- phased out in 2016
BTECH: Financial Information Systems	BTFIS2	72134	Last intake in 2019- phased out in 2020
BTECH: Information Technology	BTINF2	72142	Last intake in 2019- phased out in 2020
MTECH: Information Technology	MTINF2	72188	Last intake in 2015- phased out in 2016
DTECH: Information Technology	DTINF2	71849	Last intake in 2015- phased out in 2016

4. PROGRAMME INFORMATION (*New* programme offerings)

4.1 GENERAL

Student attendance

The department does not hold itself responsible for the recording of attendance of its students.

Conduct of students in laboratories

Rules of conduct pertaining to the specific laboratory as instituted by the head of the department, shall apply to all students registered for that subject.

- eating, playing music, smoking or drinking in any lecture venue or laboratory is forbidden.
- safety rules are to be strictly adhered to at all times.
- mobile phones are to be switched off during lecture, laboratory and assessment sessions.

Course/ year marks

- With reference to Rule G15, the calculation of the year/semester mark for each subject will be indicated within the learner guide of each subject.

- In addition to the general requirements for a year mark as stipulated in Rule G15 the department reserves the right to recommend at the end of a reasonable portion of the course that a student withdraw from the course, either due to poor performance in the majority of subjects, or due to inadequate presentation of assigned work.

- A year/semester mark is valid only for the main examination in the year/semester in which a student is registered, plus the supplementary examination in that subject, if granted to the student in terms of Rule G16.

4.2 UNDER-GRADUATE PROGRAMMES

4.2.1 General Education

All undergraduate programmes at DUT include a General Education component which adds value by providing learning opportunities to help students think critically, develop values, understand traditions, respect diverse cultures and opinions, create an awareness of the environment and their role in protecting it, and most importantly, put that knowledge to use. The knowledge is holistic, not specialised; integrative, not fragmented.

In line with the embedded values of DUT (as outlined in the DUT Strategic Plan) the aim of General Education is:-

- to build a student-centred educational experience embedded in the local context.
- to prepare students for an increasingly diverse and complex globalised work environment.
- to cultivate an engaged and critical citizenry in the context of an emerging and fragile democracy in an ever changing world order.

4.2.2 Diplomas in ICT

The 2 new CHE-accredited Diploma offerings in ICT (Applications Development and Business Analysis) will be offered in 2016. The closing dates for applicants will be via the CAO at the end of September. An augmented 4-year curriculum is devised in order to enhance student development and to improve the student's chances of successful completion. The department may accept a limited number of students into the second or third year of study, who's IT Programme aligns with the University, subject to availability of space.

Career Opportunities

Software developers, Analyst/Programmers, IT Managers, Business Analysts Information systems specialists with numerous entrepreneurial opportunities.

Normal duration

3 years full-time

4.2.2 4-Year Extended Curriculum Diploma in ICT

An augmented 4-year curriculum is devised in order to enhance student development and to improve the student's chances of successful completion.

Normal Duration

4 years full-time

4.3 POST-GRADUATE PROGRAMMES

The department offers two full-research post-graduate qualifications, namely the Master's Degree in Information and Communications Technology (MICT) and the Doctoral Degree in Information and Communications Technology (DICT).

The candidate is advised to meet with potential supervisors within the department to discuss his/her intended research topic and garner interest in their study. If a supervisor is identified, the candidate may then proceed with registration. Once registered the student must complete a research proposal under the guidance of the supervisor and submit this to the Faculty Research Committee for approval. Once the proposal is approved the student then continues with the research which culminates in a thesis. This thesis is submitted for examination. There are no formal lectures or assessments other than the thesis examination. During the course of the Degrees, the student is advised to publish journal papers and present papers at conferences.

Normal Duration

MICT	**DICT**
Minimum 1 year	Minimum 2 years
Maximum 2 years	Maximum 4 years

4.4 MINIMUM ADMISSION REQUIREMENTS

4.4.1 Diplomas in ICT

The requirement below represents the minimum into either a three-year **Diploma in ICT in Applications Development** or a 3-year **Diploma in ICT in Business Analysis**..

ITD1 In addition to the requirements of the General Rules (Rules G7 and G21 (b)), the minimum entrance requirement is a national Senior Certificate (NSC) or Senior Certificate (SC) or a National Certificate Vocational (NCV) that is valid for entry into a Diploma and must meet the following requirements:

A National Senior Certificate (NSC) with a pass in:

English (HL) at level 3 (40-49%) or English first additional language (FAL) at level 4 (50-59%)

AND

Mathematics at level 3 (40-49%) or Mathematical Literacy at level 6 (70- 79%)

AND

Two 20 credit subjects at level 3 (40-49%)

Life Orientation and more than one additional language are excluded.

OR

A Senior Certificate or Equivalent with:

English with a minimum of E (Higher Grade) or C (Standard grade) AND
Mathematics with a minimum of E (Higher grade) or C (Standard grade)

OR

A National Certificate Vocational (NCV) with a pass of:

at least 50% in three fundamental subjects including English and Mathematics;
at least 60% in three compulsory vocational subjects.

Note: This requirement represents the minimum and students will be ranked according to a points system based on the rating code in General Rule 7

4.4.2 Diploma in ICT in Applications Development (4-year Extended Curriculum)

ITF1 In addition to the requirements of the General Rules (Rules G7 and G21 (b)), the minimum entrance requirement is a national Senior Certificate (NSC) or Senior Certificate (SC) or a National Certificate Vocational (NCV) that is valid for entry into a Diploma and must meet the following requirements:

A National Senior Certificate (NSC) with a pass in:

English (HL) at level 3 (40-49%) or English first additional language (FAL) at level 3 (40-49%)

AND

Mathematics at level 3 (40-49%) or Mathematical Literacy at level 5 (60- 69%)

AND

Two 20 credit subjects at level 3 (40-49%)
Life Orientation and more than one additional language are excluded.

OR

A Senior Certificate or Equivalent with:
English with a minimum of E (Higher Grade) or D (Standard grade)

AND

Mathematics with a minimum of E (Higher grade) or D (Standard grade)

OR

A National Certificate Vocational (NCV) with a pass of:
at least 50% in three fundamental subjects including English and Mathematics;
at least 60% in three compulsory vocational subjects.

In addition a combination of alternative access and placement tests may be administered to gauge the level of preparedness for the academic demand of the programme.

Note: This requirement represents the minimum and students will be ranked according to a points system based on the rating code in General Rule 7

4.4.3 Masters in Information & Communications Technology (MICT)

ITM1 In addition to Rule G24 the following shall apply:

The applicant must have been awarded an Honours Degree or Post Graduate Diploma in ICT or equivalent or the applicant must have been awarded a BTech: IT or equivalent.

4.4.4 Doctorate in Information & Communications Technology (DICT)

ITP1 In addition to Rule G25 the following shall apply:

The candidate must have been awarded a Master's Degree in ICT or equivalent.

5. PROGRAMME RULES

5.1 ITG1 UNSATISFACTORY ACADEMIC PROGRESS

A student who fails a module twice may be excluded in terms of Rule G17*.

5.2 ITD2 PROGRESSION RULES

In addition to Rules G14* and G16* the following is applicable:-

In order to progress from study period 2 to study period 3, a student must have passed a minimum of 2 modules from study period 2.

In order to progress from study period 4 to study period 5, a student must have passed a minimum of 2 modules from study period 4.

5.3 ITG2 RE-MARKING OF PRACTICAL EXAMS

Students may apply for re-marking of practical examinations where the examination script is stored on electronic media.

5.4 ITG3 INTERRUPTION OF STUDIES

Should a student interrupt their studies by more than three (3) years, the student will be required to prove currency of appropriate knowledge prior to being given permission to re-register.

5.5 ITG4 ASSESSMENT RULES

Course marks are awarded for written (or oral) tests and assignments during the academic year. The number and duration of subject tests are set out in the subject study (learner) guides issued to students at the first lecture.

5.6 ITG5 COURSE MARK WEIGHTING

The weighting of Course mark versus Exam mark for examinable subjects offered by the Department of Information Technology is 40/60.

5.7 ITG6 GENERAL EDUCATION SUBJECT RULES

The General Education component is compulsory and covers 30% of the total credits of an under-graduate diploma and degree programme. These module offerings and its pre-requisites may be found in section 6.

5.8 ITG7 PHASE-OUT SUBJECT RULES

Phase out subject offerings may not be offered on *both* full-time and part-time basis.

5.9 ITG8 PART-TIME SUBJECT RULES

Part time students may have to write tests and/or examinations during full-time (normal working hours).

6. PROGRAMME STRUCTURE (*New* programme offerings)

6.1 Diploma in Information and Communications Technology in Applications Development (Diploma in ICT in Applications Development)

Year 1 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level
	Cornerstone101	(GE) Institution	Continuous Assessment (CA)	5
	ICT Literacy & Skills	(GE) Institution	Continuous Assessment (CA)	5
	Business Fundamentals 1	(GE) Faculty	Continuous Assessment (CA)	5
	Application Development 1A	(C)	Exam	5
	Fundamentals of Computer Security	(F)	Exam	5
	Information Systems 1	(C)	Exam	5

Year 1 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisites	Co-requisites
	Me, My World, My Universe	(GE) Institution	CA	5		
	Operating Systems	(F)	Exam	5		
	Applications Development Project 1	(GE Prog)	CA	5	App Dev 1A	App Dev 1B
	Applications Development 1B	(C)	Exam	5	App Dev 1A	
	Communications Networks 1	(F)	Exam	5		

Year 2 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Business Fundamentals 2	(GE) Faculty	CA	6	Business Fundamentals 1
	Mobile Computing 2A	(C)	Exam	6	
	Information Systems 2A	(C)	Exam	6	Information Systems 1
	Applications Development 2A	(C)	Exam	6	App Dev 1B
	Information Management 2A	(C)	Exam	6	
	IT Project Management	(C)	Exam	6	

Year 2 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisites
	Community Engagement Project	(GE) Institution	CA	6	
	Mobile Computing 2B	(C)	Exam	6	Mobile Computing 2A
	Information Systems 2B	(C)	Exam	6	Information Systems 2A
	Applications Development 2B	(C)	Exam	6	App Dev 2A
	Information Management 2B	(C)	Exam	6	Info Management 2A
	Applications Development Projects 2	(GE Prog)	CA	6	App Dev 2A Info Systems 2A

Year 3 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Applications Development 3A	(C)	Exam	6	App Dev 2B
	Information Systems 3A	(C)	Exam	6	Information Systems 2B
	Applications Development Project 3A	(GE Prog)	CA	6	Application Development Projects 2
	Human Computer Interaction	(C)	Exam	6	
	Theory of ICT Professional Practice 3	(C)	Exam	6	

Year 3 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisites
	Entrepreneurial Spirit	(GE) Faculty	CA	6	Business Fundamentals 1 Business Fundamentals 2
	Applications Development 3B	(C)	Exam	6	App Dev 3A
	Information Systems 3B	(C)	Exam	6	Information Systems 3A
	Applications Development Project 3B	(GE Prog)	CA	6	Applications Development Project 3A

6.2 Diploma in Information and Communications Technology in Business Analysis (Diploma in ICT in Business Analysis)

Year 1 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level
	Cornerstone101	(GE) Institution	CA	5
	ICT Literacy & Skills	(GE) Institution	CA	5
	Business Fundamentals 1	(GE) Faculty	CA	5
	Applications Development 1A	(C)	Exam	5
	Fundamentals of Computer Security	(F)	Exam	5

Year 1 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Me, My World, My Universe	(GE) Institution	CA	5	
	Applications Development 1B	(C)	Exam	5	App Dev 1A
	Financial Accounting 1	(C)	Exam	5	
	Business Analysis Project 1	(GE Prog)	CA	5	
	Business Information Systems 1	(C)	Exam	5	

Year 2 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Business Fundamentals 2	(GE) Faculty	CA	6	Business Fundamentals 1
	Business Analysis 2A	(C)	Exam	6	Financial Accounting 1
	Applications Development 2A	(C)	Exam	6	App Dev 1B
	Information Management 2A	(C)	Exam	6	
	Computer Applications in Business and Finance 2	(C)	Exam	6	
	Business Information Systems 2	(C)	Exam	6	Business Info Systems 1

Year 2 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Theory of Internal Auditing 2	(C)	Exam	6	
	Business Analysis 2B	(C)	Exam	6	Business Analysis 2A
	Applications Development 2B	(C)	Exam	6	App Dev 2A
	Information Management 2B	(C)	Exam	6	Info Management 2A
	Business Analysis Project 2	(GE Prog)	CA	6	Business Info Systems 2
	IT project Management	(C)	Exam	6	

Year 3 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Business Analysis 3A	(C)	Exam	7	Business Analysis 2A Business Analysis 2B
	Business Information Systems 3A	(C)	Exam	7	Business Info Systems 2
	Business Analysis Projects 3A	(C)	CA	6	Business Analysis 2B Business Analysis Proj 2
	Theory of ICT Professional Practice 3	(C)	CA	6	

Year 3 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Entrepreneurial Spirit	(GE) Faculty	CA	6	Business Fundamentals 1 Business Fundamentals 2
	Business Analysis 3B	(C)	Exam	7	Business Analysis 3A
	Business Information Systems 3B	(C)	Exam	7	Business Info Systems 3A
	Business Analysis Projects 3B	(C)	CA	6	Business Analysis Proj 3A Business Analysis 3A
	GE Module	(GE) Institution	CA	5	

6.3 Diploma in Information and Communications Technology in Applications Development (4-year Extended Curriculum)

Year 1 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level
	Cornerstone101	(GE) Institution	CA	5
	Fundamentals of Computer Security	(F)	Exam	5
	Information Systems 1	(C)	Exam	5
	IT Logic & Technology 1A	(F)	CA	5
	Skills Development 1 A	(F)	CA	5

Year 1 – Semester 2

Code	Subjects	Core/ Fundamental/ General Educ	Assessment Method	NQF Level
	ICT Literacy & Skills	(GE) Institution	CA	5
	Operating Systems	(F)	Exam	5
	IT Logic & Technology 1B	(F)	CA	5
	Skills Development 1 B	(F)	CA	5

Year 2 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level
	Communications Networks 1	(F)	Exam	5
	Application Development 1A	(C)	Exam	5
	IT Logic & Technology 2A	(F)	CA	5
	Skills Development 2A	(F)	CA	5
	Business Fundamentals 1	(GE) Faculty	CA	5

Year 2 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite	Co-requisite
	Me. My World, My Universe	(GE) Institution	CA	5		
	Application Development Project 1	(GE Prog)	CA	5	App Dev 1A	App Dev 1B
	Applications Development 1B	(C)	Exam	5	App Dev 1A	
	GE module	(GE) Faculty	CA	5		
	IT Logic & Technology 2B	(F)	CA	5		
	Skills Development 2B	(F)	CA	5		

Year 3 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Business Fundamentals 2	(GE)Faculty	CA	6	Business Fundamentals 1
	Mobile Computing 2A	(C)	Exam	6	
	Information Systems 2A	(C)	Exam	6	Information Systems 1
	Applications Development 2A	(C)	Exam	6	App Dev 1B
	Information Management 2A	(C)	Exam	6	
	IT Project Management	(C)	Exam	6	

Year 3 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Community Engagement Project	(GE) Institution	CA	6	
	Mobile Computing 2B	(C)	Exam	6	Mobile Computing 2A
	Information Systems 2B	(C)	Exam	6	Information Systems 2A
	Applications Development 2B	(C)	Exam	6	App Dev 2A
	Information Management 2B	(C)	Exam	6	Info Management 2A
	Applications Development Projects 2	(GE Prog)	CA	6	App Dev 2A, Info Systems 2A

Year 4 – Semester 1

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Applications Development 3A	(C)	Exam	6	App Dev 2B
	Information Systems 3A	(C)	Exam	6	Information Systems 2B
	Applications Development Project 3A	(GE Prog)	CA	6	Applications Development Project 2
	Human Computer Interaction	(C)	Exam	6	
	Theory of ICT Professional Practice 3	(C)	Exam	6	

Year 4 – Semester 2

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Pre-requisite
	Entrepreneurial Spirit	(GE) Faculty	CA	6	Business Fundamentals 1 Business Fundamentals 2
	Applications Development 3B	(C)	Exam	6	App Dev 3A
	Information Systems 3B	(C)	Exam	6	Information Systems 3A
	Applications Development Project 3B	(GE Prog)	CA	6	Applications Development Project 3A

7. SUBJECT CONTENT **ABRIDGED SYLLABI (*New* programme offerings)**

Applications Development 1A

Introduction .Net Platform
Introducing the C# Programming Language
Getting start with .Net developing using C#
Language Essentials
Expressions and Operators
Primer on Types and Objects
Simple Flow Control
Basics of Exception and Resource Management
Introduction Types
Methods
Introduction To Unit Testing

Applications Development 2A

Introduction to ASP.NET MVC
ASP.NET MVC in Detail
Session Hijacking
Cross Site Request Forgery / SQL Injection
Using the MVC Framework Securely

Applications Development 3A

Introduction to Azure Features and Services
Scalability, Fault tolerance, Security
Uploading and testing Azure applications
Developing Azure Applications with Visual Studio
Saving data with Azure blob storage
Storing structured data using Azure table
Migrating ASP.NET Applications to Azure
Customizing Web Forms security for Azure
Enabling ASP.NET sessions and profiles for Azure

Applications Development Project 1

Structure of Report
Basic Research Methodology
Project Presentation

Applications Development Project 3A

Identify the expected outcomes of the project.
Provide a well-documented description of the problem to be addressed and why it is important.
Indicate the expected outcomes of the project, preferably in measurable terms.
List key personnel who will work on the project and include their cv's.
Describe how long (days, months) specific tasks or components of the project will take.
Show the annual and overall cost of the project. A detailed budget should be divided into categories such as salaries, fringe benefits, travel, supplies, equipment, etc.
Construct a plan of action for how the objectives will be achieved.
Draw up a checklist that provides the means to determine if the project has accomplished its objectives.

Applications Development 1B

Fields, Properties & Indexers
Constructors and Finalizes
Operators, Overloading and Conversions
Object Oriented Programming
Generic Types and Methods
Collection Types
Delegates
Events
Language Integrated Query Essentials
Exceptions
Working With IO

Applications Development 2B

Filters, Controller Extensibility, Views
Model Templates, Model Validation
Unobtrusive Ajax, JQuery
Security and Vulnerability
Authentication and Authorization
Deployment

Applications Development 3B

Building Service-Oriented Azure Applications
Building interoperable Azure services
Leveraging Azure for Asynchronous Computing
Implementing queue storage for messaging
SQL Azure Cloud-Based Storage
Migrating to a SQL Azure database
Controlling access using AppFabric

Applications Development Project 2

Planning and Analysis: Documents and Presentation
Design: documents and Presentation
Implementation and Testing
Applications must include the use of either a relational model database server or an object-relational database.
Examples of these database servers are:
Oracle, MS SQL/ MY SQL , DB4objects
All applications must be developed as either web/mobile based and designed for the use of Asynchronous JavaScript and XML (Ajax) Technology

Applications Development Project 3B

Understanding and application of concepts in application development
Application Development Methodology: Agile/Scrum, Waterfall, RAD, etcIntroduction to Project Management
The project management and Information Technology Context
The project management process groups
Project Integration Management
Project Scope Management
Project Time Management
Project Cost Management
Project Quality Management
Project Human Resource Management

Business Analysis Project 1

Structure of Report
Executive Summary: Write this last. It's just a page or two of highlights.
Company Description: Legal establishment, history, start-up plans etc.
Product or Service: Describe what you're selling. Focus on customer benefits.
Market Analysis: You need to know your market, customer needs, where they are, how to reach them, etc.
Strategy and Implementation: Be specific. Include management responsibilities with dates and budget.
Management Team: Include backgrounds of key members of the team, personnel strategy, and details.
Financial Plan: Include profit and loss, cash flow, balance sheet, break-even analysis, assumptions, business ratios, etc.
Basic Research Methodology
Project Presentation

Business Analysis 2A

Framework for Business Analysis and valuation using financial statements
Strategy Analysis
Implementing Accounting Analysis
Financial Analysis
Forecasting
Valuation Theory and concepts
Valuation Implementation

Business Analysis 3A

An in-depth study in object-oriented systems analysis and design and UML
Role of the Business Analysis Consultant
Application of UML diagrams in business scenarios
Case studies
Compile and execute a test plan to validate an ICT solution

Business Analysis Project 3A

Identify the expected outcomes of the project.
Provide a well-documented description of the problem to be addressed and why it is important.
Indicate the expected outcomes of the project, preferably in measurable terms.
List key personnel who will work on the project and include their cv's.
Describe how long (days, months) specific tasks or components of the project will take.
Show the annual and overall cost of the project. A detailed budget should be divided into categories such as salaries, fringe benefits, travel, supplies, equipment, etc.
Construct a plan of action for how the objectives will be achieved.
Draw up a checklist that provides the means to determine if the project has accomplished its objectives

Business Analysis Project 2

Strategies for creating a Portfolio of evidence
Creating a Portfolio of Evidence for a Business related problem
Presentation of a Research based Report
Overview of Feasibility study, requirements analysis and Specification Business

Business Analysis 2B

UML as the Tool
Business Analysis Planning and Monitoring
Plan the execution of business analysis tasks
Update or change the approach to business analysis as required
Assess effectiveness of and continually improve business analysis practices
Enterprise Analysis
Identify and propose projects that meet strategic needs and goals.
Elicitation
Explore, identify and document stakeholder needs.
Requirements Analysis
Progressively elaborate stated requirements to sufficient level of detail that accurately defines the business need within specified scope
Validate requirements meet the business need
Verify requirements are acceptable quality
Solution Assessment and Validation
Assess solutions to ensure that strategic goals are met and requirements are satisfied using different methodologies viz. agile, waterfall, incremental, SDLC, etc.
Requirements Management and Communication

Business Analysis 3B

SAP as the Tool
Using IT for process management and improvement
Business process improvement and modeling software
Tools of business process simulation
ERP systems
Use cases
Organizational issues in business process management
Understanding the customer
Business process outsourcing
Managing processes that cross organizational borders
Case Studies

Business Analysis Project 3B

Understanding and application of concepts in business analysis
Presentation / display skills
Developing a Business Case/Structure of a Business Case and Presentation of Business Case

Business Information Systems 3A

Information systems strategy
Information systems management
Managing information security
Providing end user services
Ethical, legal and moral constraints on information systems

Business Information Systems 2
An introduction to acquiring and developing BIS
Initiating systems development
BIS project Management
Systems Analysis
Identifying the requirements
Focus on requirements determination in a lean or agile environment
Documenting the findings
Focus on soft systems methodology
Software tools for systems analysis
Case study
Systems Design
Aims of Design
Constraints on system design
The relationship between analysis

Business Fundamentals 1
Efficiently manage key aspects of academic life
Basic business communication, written and verbal
Information Literacy
Basic Business Finance
Critical Citizenry in a business environment

Business Fundamentals 2
Introduction to research methodology (research terms and concepts e.g. qualitative; quantitative; research ethics; types of research)
Business Communication
Societal consequences of technological developments
Appropriate technologies for business practices
Current social issues (Energy, Health and Agriculture)

Computer Applications in Business and Finance 2
Application Installation
End user functionality of the different modules in the application
Accessing an existing database
Input-process-output
Generate end user reports
Security features of the applications

Community Engagement project
The principles of community engagement.
Working in groups(being an effective team player).
Guidelines for undertaking a community engagement project.
The community as a main factor in community engagement.
Skills for community engagement.
Ethical issues in community engagement.
Planning a community engagement project.
Implementing a community engagement project.
Evaluating a community engagement project.

Business Information Systems 3B
The Internet, Intranets, and Extranets
E-commerce
Global Information Systems
Enterprise Systems
Management Support Systems
Intelligent Information Systems
Emerging Trends, Technology and Applications

Communication Networks 1
Introduction to Networking
Networking Fundamentals
Networking Media
Cabling Testing
Cabling LANs and WANs
Ethernet Fundamentals & Ethernet Technologies
Ethernet Switching
OSI/TCP/IP network model
TCP/IP & IP Addressing
Routing Fundamentals and Subnets
TCP/IP Transport & Application Layers
CASE STUDY--Structured Cabling

Cornerstone 101
The module content will be developed around the concept of journeys, across time, across space, and across human relationships. It will take the journey of the UMngeni River (which is close to all DUT campuses) as a metaphor. The module will bring different disciplinary perspectives to this content-environmental, historical and sociological in particular.

The metaphor of the journey will be sustained across the module and will be applied to personal journeys, historical, political and environmental journeys, and social journeys, with a specific focus on gender. Each section will draw in issues of ethics, diversity and critical citizenry. The design team may later take a different metaphor or theme, but with the same outcomes and attributes.

At each stage of the module, activities such as weekly online journey and class discussion will involve reflection and build communicative practices. There will be concluding section in which students will identify their learning and examine the implications for their roles as students and as citizens.

Fundamentals of Computer Security
Basic Security Principles & Terms
Computer System Security
Network Security
Internet & Email Security
Application Security
Human & Physical Security
User Security
Malware
Law, Ethics, & Privacy
Policies/Procedures & Documentation
Basic Cryptography
Best Security Practices

Entrepreneurial Spirit

Orientation to Entrepreneurial Spirit (Course Expectations)
Spirit of Entrepreneurship
Operations
Project Management
Team Management
Business and Finance
Investigating the Business Environment/Architecture
Financing (Cost and Profit analysis, projected pro-forma statements, budgets, Working Capital Management and Capital Budgeting) outcome 4
Marketing (Advertising, Promotions etc)
Risk Management
Entrepreneurial Case study Analysis (Creativity enhancement)
ICT Enablers (Excel, , social media, M&E commerce)

Financial Accounting 1

Basic concepts in accounting
Transactions
Ledger accounts
The accounting cycle
Trial Balance
Presentation and disclosure of financial statements
The adjusting and closing process
Applications of accounting systems
Receivables and payables
Inventories
Cash equivalents
Non-current assets

ICT literacy and Skills

Basics of ICTs Hardware, Software, and Users
Internet Search
Word Processing
Spreadsheets
Presentations
Referencing
Security, Legal, Ethical, and Societal Issues
Economics of ICTs

IT Logic & Technology 1A

Introduction to Computers
Computer Technology Concepts
Input, Process, Output with requirements in each step
Algorithms
Flowcharts
Flowcharts with constructs

IT Logic & Technology 2A

Introduction to Programming
Levels / generations of Language
Explore different Software Packages
Introduce Programming Tool
Syntax – Variable
Decision constructs
Repetition constructs

Human Computer Interaction

Database systems
The Database Approach
Database Development Process
Database Alternatives
Database Models
Relational Models Characteristics
Database Design
Data Modeling with Entity Relationship Diagrams
Data Modeling Advanced Concepts
Introduction to Structured Query Language
Data Definition Commands
Data Manipulation Commands
Select Queries
Additional Data Definition Commands
Additional Select Query Keywords
Basic Database Table Joins

IT Project Management

Backdrop: The Science of Scrum
New Management Responsibilities
The Scrum Master
Bringing Order from Chaos
The Product Owner
Planning a Scrum Project
Project Reporting— Keeping Everything Visible
The Team
Scaling Projects Using Scrum Rules

IT Logic & Technology 1 B

Pseudocode with variables and constructs
Logic skills & Problem solving techniques
Problem solving with puzzles
Critical Reasoning – logic
Deductive and Inductive reasoning
Problem solving using pseudocode
Trace Tables

IT Logic & Technology 2 B

Methods
1D arrays
Objects and classes
GUI interface
Problem Solving using a programming tool

Information Management 2B

Advanced Structured Query Language
Implementation Alternatives
Database Management

Information Systems 1

An Overview of systems analysis and design
The role of the systems analyst
Investigating systems requirements
Use Cases
Domain Modeling
Extending the Requirements models
Project planning and Project Management

Information Management 2A

Database systems
The Database Approach
Database Development Process
Database Alternatives
Database Models
Relational Models Characteristics
Database Design
Data Modeling with Entity Relationship Diagrams
Data Modeling Advanced Concepts
Normalizing Database Designs
Introduction to Structured Query Language

Information Systems 2A

Essentials of Design and the Design Activities
Designing the User and Systems Interfaces
Object oriented design principles
Object oriented design: Use Case realization
Database, Controls, and Security
Making the system Operational

Information Systems 3A

The Scope of Software Engineering
The Software Process and its Attendant Problems
Software Life-Cycle Models
Software Quality Assurance
Current Trends in Systems Development

Me, My World, My universe

The module will be developed within the context of decision making and consequences of these on the self, the world and the universe.
The module will start with a "refresher" on the appropriate mathematical computations and solving of simple, single context applications in the following areas of mathematics:
Numbers and Operations, Functional Relationships.
Space, Shape, Measurement and Data handling
Broader issues involving the quantitative literacies/reasoning will be addressed by examining relevant/current case studies within the themes indicated above. Not all themes maybe addressed in a particular year. But at least two issues will be analysed and discussed from a quantitative reasoning perspective.

Mobile Computing 2A

Overview of Mobile technologies and platforms
Basic User Interface design
Advanced **User** interface Design
Working with Files and Directories
Understanding Protocol Independent Multicast Technology
Mobile Internationalization
Generic connection framework
Text and multimedia messaging
Sending and receiving messages (binary and multipart)

Information Systems 2B

The Software life cycle models
Software Security
Software Maintenance
Agile development using SCRUM as a tool
History of agile methods
Philosophy of agile methods

Information Systems 3B

Fundamentals of Software Testing
Ensuring Testing throughout the Software Life Cycle
Recognizing key concepts in maintenance testing
Comparing the four test types
Coping with the psychology of testing
Implementing Static Analysis Techniques
Leveraging Test-Design Techniques
Differentiating various "specifications"
Applying specification-based techniques
Utilizing structure-based techniques
Deploying experience-based knowledge
Test Management, Structuring a test plan
Interpreting a test summary report
Managing incidents, Addressing project and product risks
Implementing Configuration Management (CM)
Defining the functions of CM
Evaluating objectives of CM
Adopting Test Support Tools

Mobile Computing 2B

Wireless Devices and Services
XML and Web Services
Session Initiation Protocol
Responses
Multimedia
Advanced Multimedia
Security and transactions
Smartcards? Really?
Testing SATSA Applications with the Emulator Basic
Smartcard Communication
Smart Card Communication with Java Card RMI
Generating Signatures
Managing Certificates
Cryptography

Theory of ICT Professional Practice 3

Organizational structure
Communication Skills
Responsibility of the computer professional
Skills of ethical analysis
Elements of social analysis
Professional Ethics and Social Responsibility

Skills Development 1 B

Business English
Communication
Life Skills

Operating Systems
Introduction
Multi-Programming
Concurrency
Memory Management
Device Management
File Systems
Inter process Communication
Network Organisation Concepts
Management of Network Functions

Skills Development 1 A
Academic Literacy
Information Literacy
Language Skills
Numeracy

Skills Development 2 A
Basic Accounting Skills
Accounting concepts
Basic Business Skills

Skills Development 2 B
Business Processes
Enterprise Systems Knowledge for Business
Sales processes
Purchasing processes
ERP foundation scenarios using SAP

8. PROGRAMME INFORMATION (*Current* programme offerings)

8.1 GENERAL

Student attendance

The department does not hold itself responsible for the recording of attendance of its students.

Conduct of students in laboratories

Rules of conduct pertaining to the specific laboratory as instituted by the head of the department, shall apply to all students registered for that subject.

- Eating, playing music, smoking or drinking in any lecture venue or laboratory is forbidden.
- Safety rules are to be strictly adhered to at all times.
- Mobile phones are to be switched off during lecture, laboratory and assessment sessions

Course/ year marks

- With reference to Rule G15, the calculation of the year/semester mark for each subject will be indicated within the learner guide of each subject.
- In addition to the general requirements for a year mark as stipulated in Rule G15 the department reserves the right to recommend at the end of a reasonable portion of the course that a student withdraw from the course, either due to poor performance in the majority of subjects, or due to inadequate presentation of assigned work.
- A year/semester mark is valid only for the main examination in the year/semester in which a student is registered, plus the supplementary examination in that subject, if granted to the student in terms of Rule G16.

8.2 DEGREE PROGRAMMES

8.2.1 BTECH: Information Technology (Software Development)

This instructional programme will have a final intake of new students in 2018 and phased out in 2019.

The programme shall consist of 10 modules completed during one year of full-time study or two years part-time study. Project 4 counts as 2 modules. The offering of each module / instructional programme will be subject to availability of resources. In order to qualify one of the modules is required to be completed at advanced level e.g. Advanced Development Software 4. Students are responsible for selecting subjects in order to qualify for graduation.

Normal duration
1 year full time or 2 years part time

8.2.2 BTECH: Financial Information Systems

This instructional programme is an annual programme run over two year's part time only.

This programme will have a final intake of new students in 2018 and phased out in 2019.

Insufficient student numbers may result in the programme *not* being offered.

Normal duration
2 years part-time *only*

8.3 MINIMUM ADMISSION REQUIREMENTS

8.3.1 Bachelor of Technology in Information Technology (BTECH: IT)

A student may register for the B Tech: Information Technology provided that the student has:

- Successfully completed the National Diploma: Information Technology (Software Development). This includes the completion of the pre-requisite subjects Technical Programming 2 (or equivalent) and Development Software 3 (project) or its equivalent.
- Obtained an average of 60% or greater for third level subjects or has at least two years appropriate industry experience.

In exceptional cases, variations in these requirements shall be considered by the Head of Department.

8.3.2 Bachelor of Technology in Financial Information Systems (BTECH: FIS)

A National Diploma or University Degree with Financial Accounting III and Financial Information Systems III or the equivalents. In exceptional cases, variations in these requirements shall be considered by the Head of Department.

8.4 PROGRAMME RULES

Slow progress

A student who does not obtain a credit for a subject after having twice been registered for that subject will be given a warning of slow progress. If after a third registration a credit is not obtained the student will not be allowed to re-register for the programme.

Re-admission

After the first year of study a student has to have successfully passed 50% of the registered subjects in the B Tech Degree in order to re-register for the programme.

Appeals

Students may appeal in writing to the Head of Department, motivating why they should be considered for re-admission. The Head of Department will make a recommendation to the Faculty Board for a decision.

8.5 PROGRAMME STRUCTURE

8.5.1 Bachelor of Technology in Information Technology (BTECH: IT)

FULL TIME - STUDY PERIOD 1

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
DBSY404	Database Systems 4	C	Semester	Exam	7		
DSFW401	Development Software 4	C	Semester	Exam	7		
INTM401	Information & Technology Mgt 4	C	Semester	Exam	7		
OSYS404	Operating Systems 4	C	Semester	Cont Assmnt	7		
RMIT101	Research Methodology	C	Semester	Cont Assmnt	7		

FULL TIME - STUDY PERIOD 2

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ADSW401	Advanced Development Software 4	C	Semester	Exam	7		DSFW401
INSC401	Information Security 4	O	Semester	Exam	7		
NETW404	Networks 4	O	Semester	Exam	7		
PRJT402	Project 4	O	Semester	Cont Assmnt	7	RMIT101 pass mark >= 60%	
RMIT121	Research Methodology 2nd registration	C	Semester	Cont Assmnt	7	RMIT101 < 50%	
SWED401	Software Engineering & Design 4	O	Semester	Exam	7		
USRI401	User Interfaces 4	O	Semester	Exam	7		

SUBJECTS ACCEPTED FOR EXEMPTION FROM OTHER UNIVERSITIES OF TECHNOLOGY FOR GRADUATION PURPOSES

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ARIN402	Artificial Intelligence 4	O	Semester	Exam	7		
ESYS401	Expert Systems 4						

PART TIME - THIS PROGRAMME RUNS ON A TWO YEAR CYCLE. CHOOSE SUBJECTS INDICATED BY A # AS THESE ARE ONLY OFFERED EVERY SECOND YEAR

PART TIME - (EVEN YEARS) 2016, 2018 (Choose 3)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
DSFW401	Development Software 4	C	Semester	Exam	7		
OSYS404	Operating Systems 4 #	O	Semester	Cont Assmnt	7		
RMIT101	Research Methodology	C	Semester	Cont Assmnt	7		
INTM401	Information & Technology Mgt 4	O	Semester	Exam	7		

PART TIME (EVEN YEARS) 2016, 2018 (Choose 3)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ADSW401	Advanced Development Software 4	C	Semester	Exam	7	DSFW401	
PRJT402	Project 4	O	Semester	Cont Assmnt	7	RMIT101 pass mark >= 60%	
RMIT121	Research Methodology 2nd registration	C	Semester	Cont Assmnt	7	RMIT101 < 50%	
SWED401	Software Engineering & Design 4 #	O	Semester	Exam	7		
USRI401	User Interfaces 4 #	O	Semester	Exam	7		

PART TIME (ODD YEARS) 2017, 2019

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
DBSY404	Database Systems 4 #	O	Semester	Exam	7		
DSFW401	Development Software 4	C	Semester	Exam	7		
INTM401	Information & Technology Mgt 4	C	Semester	Exam	7		
RMIT101	Research Methodology	C	Semester	Cont Assmnt	7		

PART TIME (ODD YEARS) 2017, 2019

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ADSW401	Advanced Development Software 4	C	Semester	Exam	7	DSFW401	
INSC401	Information Security 4 #	O	Semester	Exam	7		
PRJT402	Project 4	O	Semester	Cont Assmnt	7	RMIT101 pass mark >= 60%	
RMIT121	Research Methodology 2nd registration	C	Semester	Cont Assmnt	7	RMIT101 < 50%	

8.5.2 Bachelor of Technology in Financial Information Systems (BTECH: FIS)

Even Years (2016, 2018)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
FNMT101	Functional Management	C	Semester	Exam	7		
AMCS201	Advanced Management Communication Skills 2	C	Semester	Exam	7		
FNLM413	Financial Management IV mod1	C	Semester	Exam	7		
FNLM423	Financial Management IV mod2	C	Semester	Exam	7		
FACC412	Financial Accounting 4 mod1	C	Semester	Exam	7		
FACC422	Financial Accounting 4 mod 2	C	Semester	Exam	7		

Odd Years (2017, 2019)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
FISY402	Financial Information Systems IV	C	Annual	Cont Assmnt	7		
RMIT101	Research Methodology	C	Semester	Cont Assmnt	7		
RMIT121	Research Methodology 2nd registration	C	Semester	Cont Assmnt	7	RMIT101 < 50%	
INLW101	Industrial Law	C	Semester	Exam	7		

8.6 ABRIDGED SYLLABUS (*Current* BTECH programme offerings)

ADVANCED DEVELOPMENT SOFTWARE 4

SAPSE Code 60704606
Subject Code ADSW401
Theory
Advanced Java Programming Data Structures
Java Design Patterns and/or Graphical Applications
Practical:
Practical work shall consist of tutorials, assignments and a group project.

ARTIFICIAL INTELLIGENCE 4

SAPSE Code 69900706
Subject Code ARIN402
Theory
Not currently offered.
Method of Evaluation:
Course mark - 40%; Exam mark - 60% (one three hour exam)

DEVELOPMENT SOFTWARE 4

SAPSE Code 60703706
Subject Code DSFW401
Theory
Advanced Data Structures
Advanced Programming Techniques with Java programming
Practical:
Practical work shall consist of tutorials and assignments.

ADVANCED MANAGEMENT COMMUNICATION SKILLS 2

SAPSE Code 059901222
Subject Code AMCS201
Theory
Problem Solving
Conflict Management and Leadership
Negotiation
Organisational Communication
Job Application, Interviews, Business letter writing, Memos
Motivation and Persuasion
Advertisement
Meeting Procedures and Minutes of a meeting
Practical:
Power Point Presentations.
Oral Presentations

DATABASE SYSTEMS 4

SAPSE Code 60503306
Subject Code DBSY404
Theory
Database Background
The relational model and languages
Database analysis and design
Methodology
Selected database issues
Business Intelligence
Practical:
Practical work shall consist of tutorials, assignments and a group project.

INFORMATION AND TECHNOLOGY MANAGEMENT 4

SAPSE Code 060207106
Subject Code INTM401
Theory
Managers and Management
The Historical Roots of Contemporary Management
The Management Environment
Foundations of Planning
Foundations of Decision-Making
Basic Organization Designs
Managing Change, Stress, and Innovation
Motivating and Rewarding Employees
Leadership and Trust
Communication and Interpersonal Skills
Foundations of control
Method of Evaluation:
Course mark 40% and Exam mark 60% (One three hour paper).

EXPERT SYSTEMS 4

SAPSE Code 69900606
Subject Code ESYS401
Theory
Knowledge Representation and Acquisition
Knowledge Engineering
Building Expert Systems
Inferences, Explanations and Uncertainty
Uncertainty in Expert Systems
Software Evaluation in Expert Systems
Fuzzy Logic
Practical:
There will be some Expert System development using shells.
Method of Evaluation:
Course mark 40% and Exam mark 60% (One three hour paper).

FINANCIAL MANAGEMENT IV MODULE 1

SAPSE Code 040923106
Subject Code FNLM413
(Module 1)
The role and environment of financial management.
Time value of money.
Risk and return.
Valuation of capital assets (bonds and shares)
Dividend Policy
Analysis and interpretation of financial statements
Method of Evaluation:
Course mark - 40%; Exam mark - 60% (one three hour exam)

FINANCIAL INFORMATION SYSTEMS IV

SAPSE Code 060504006
Subject Code FISY401
Theory
The theory covered in Research Methodology is applied. As there is no contact time, students are required to apply sound research principles to complete a proposal and implement the research.
Practical:
None
Method of Evaluation:
NO EXAM. 100% Course Mark

FINANCIAL MANAGEMENT IV MODULE 2

SAPSE Code 040923106
Subject Code FNLM423
(Module 2)
Cost of Capital
Capital Budgeting.
Sources of Finance
Working Capital Management
Mergers and Take-overs
International managerial finance

FUNCTIONAL MANAGEMENT

SAPSE Code 040926212
Subject Code FNMT101
Theory
Managers and Management
The Historical Roots of Contemporary Management
The Management Environment
Foundations of Planning
Foundations of Decision-Making
Basic Organization Designs
Managing Change, Stress, and Innovation
Motivating and Rewarding Employees
Leadership and Trust
Communication and Interpersonal Skills
Foundations of control

INFORMATION SECURITY 4

SAPSE Code 60705306
Subject Code INSC401
Theory
Data Encryption
Internet Security
Access Control
Software security
Security policies
Legal issues
Practical:
Practical work shall consist of tutorials and assignments.
Method of Evaluation:
Course mark 40% and Exam mark 60% (One three hour paper).

INDUSTRIAL LAW

SAPSE Code 130306712
Subject Code INLW101
Theory
Intellectual Property Law
Labour Law
Computer-related Law
Practical:
None
Method of Evaluation: Course mark - 40%; Exam mark - 60% (one three hour exam)

NETWORKS 4

SAPSE Code 60301906
Subject Code NETW404
Theory
Top-down approach to Computer Networking (featuring the Internet)
Advanced topology and design issues relating to TCP and UDP.
Network Protocols (HTTP, FTP, SMTP, DNS)
In-depth study of the five Internet layers, viz. Application, Transport, Network, Link and Physical.
Advanced network issues: Delay, Congestion, Reliability, Routing (algorithms), Security, Wireless and mobile networks, and network management.
Practical:
One project to cover the practical aspects of networking.
Method of Evaluation:
Course mark 40% and Exam mark 60% (One three hour paper).

RESEARCH METHODOLOGY

SAPSE Code 229900012
Subject Code RMIT101
Theory
Research methods aim to equip the student with the basic skills to do academic research. It is a compulsory prerequisite for MTECH studies. Topics such as research approaches, methods and data collection methods are covered. The assessment of the subject consists of tests, assignments and a full proposal. It is an annual subject with contact time during semester 1 and the development of the proposal during semester 2.
Method of Evaluation:
NO EXAM. 100% Course Mark
NB: Students to read this section in conjunction with the relevant learner guides.

OPERATING SYSTEMS 4

SAPSE Code 60801506
Subject Code OSYS404
Theory
Computer System & Operating System Overview
Process Description and Control
Threads, SMP and Micro Kernels
Concurrency: Deadlock and Starvation
Memory Management & Virtual Memory
Uni-processor Scheduling
Method of Evaluation: 100% Course Mark

PROJECT 4

SAPSE Code 69900206
Subject Code PRJT402
Theory
Theories and concepts relevant to the project are covered in the Research Methodology course (229900012)
Practical:
Practical work shall consist of the design and execution of a research project with the following research phases: proposal development, Implementation of the proposal, write up of findings, including literature review, data collection, analysis and discussion.
Method of Evaluation:
NO EXAM
100% Course Mark
The student's project will be evaluated by means of a proposal and research dissertation. Semester 1 and 2.

SOFTWARE ENGINEERING AND DESIGN 4

SAPSE Code 60705106
Subject Code SWED401
Theory
Intro to Software Engineering
Revision of classic process models
Agile process models
IT project management frameworks
Software quality frameworks
Requirements engineering
Systems methods in software analysis
Cost estimation
Software architectural design
Software team organization
Method of Evaluation:
Course mark 40% and Exam 60%

USER INTERFACES 4

SAPSE Code 60703206
Subject Code USRI401
Theory
Interface standardization
Computer graphics
Computer user interfaces
Input/output peripherals
Practical:
Practical work shall consist of self-study assignments.
Method of Evaluation:
Course mark 40% and Exam mark 60% (One three hour paper).
None
Method of Evaluation:
Course mark - 40%; Exam mark - 60% (one three hour exam)

9. PROGRAMME INFORMATION (*Phase-out* programme offerings)

9.1 GENERAL

Student attendance

The department does not hold itself responsible for the recording of attendance of its students.

Conduct of students in laboratories

Rules of conduct pertaining to the specific laboratory as instituted by the head of the department, shall apply to all students registered for that subject.

- Eating, playing music, smoking or drinking in any lecture venue or laboratory is forbidden.
- Safety rules are to be strictly adhered to at all times.
- Mobile phones are to be switched off during lecture, laboratory and assessment sessions

Course/ year marks

- With reference to Rule G15, the calculation of the year/semester mark for each subject will be indicated within the learner guide of each subject.
- In addition to the general requirements for a year mark as stipulated in Rule G15 the department reserves the right to recommend at the end of a reasonable portion of the course that a student withdraw from the course, either due to poor performance in the majority of subjects, or due to inadequate presentation of assigned work.
- A year/semester mark is valid only for the main examination in the year/semester in which a student is registered, plus the supplementary examination in that subject, if granted to the student in terms of Rule G16.

9.2 DIPLOMA PROGRAMMES

9.2.1 National Diploma in Information Technology (Software Development)

The National Diploma in Information Technology had TWO STREAMS on offer for students to choose from upon admission, depending on their area of interest and aptitude. The Streams were:-

National Diploma in Information Technology (Software Development) NDINS1

AND

National Diploma in Information Technology (Business Applications) NDINB1

The **Software Development** stream provides students with computer software development skills as well as theoretical and practical grounding for work in the information technology sector as dictated by industry needs.

Career Opportunities:
Software developers, Analyst/Programmers, IT Managers, Information systems specialists with numerous entrepreneurial opportunities.

The **Business Applications** stream covers Enterprise Resource Planning (ERP) systems. Topics include integration of business processes and transactions in ERP. The University, being an active member of the SAP University Alliances (UA), uses the SAP software as the training tool in the course for students to gain insights into the best practices on how information can be leveraged to optimize the integration of business processes for improved business performances.

Career Opportunities:
Analyst/Programmers, Business Analysts, Information systems specialists with numerous entrepreneurial opportunities.

Normal duration
Minimum 3 years full-time or minimum 4 years' phase-out part-time

9.3 PROGRAMME RULES

Re-admission for first year of study
Students who show unsatisfactory performance in laboratory-based subjects in the first year may be required to attend part-time classes.

Exclusion rule
A first year student who does not successfully pass 50% of the 8 modules in first year will be excluded from the programme.

Progression rules for ND: IT, ND: FIS and FOUNDATION programme
A student is required to pass at least one module from the current study period in order to progress to the next study period.

9.4 PROGRAMME STRUCTURE

NATIONAL DIPLOMA: Information Technology
(Software Development - 1st Year) – PHASED OUT FOR 2016

STUDY PERIOD 1

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS113	IS1 MOD1	C	Semester 1	Exam	5		
DSFW112	DS1 MOD1	C	Semester 1	Exam	5		
SSFT111	SS1 MOD1	C	Semester 1	Exam	5		
TPRG111	TP1 MOD1	C	Semester 1	Exam	5		

STUDY PERIOD 2

ISYS123	IS1 MOD2	C	Semester 2	Exam	5
DSFW122	DS1 MOD2	C	Semester 2	Exam	5
SSFT121	SS1 MOD2	C	Semester 2	Exam	5
TPRG121	TP1 MOD2	C	Semester 2	Exam	5

NATIONAL DIPLOMA: Information Technology
(Software Development -2nd Year)

STUDY PERIOD 3

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS213	IS2 MOD1	C	Semester 1	Exam	6	ISYS103	
DSFW212	DS2 MOD1	C	Semester 1	Exam	6	DSFW102	
SSFT223	SS2 MOD2	C	Semester 1	Exam	5	SSFT101	
TPRG211	TP 2 MOD1	C	Semester 1	Exam	6	TPRG101	
ITSK111	IT Skills 1 MOD1	C	Semester 1	Continuous Assessment	5		

STUDY PERIOD 4

ISYS223	IS2 MOD2	C	Semester 2	Exam	6	ISYS213
DSFW222	DS2 MOD2	C	Semester 2	Exam	6	DSFW102
SSFT213	SS2 MOD1	C	Semester 2	Exam	5	SSFT101
TPRG221	TP2 MOD2	C	Semester 2	Exam	6	TPRG101
ITSK121	IT Skills 1 MOD2	C	Semester 2	Continuous Assessment	5	

NATIONAL DIPLOMA: Information Technology
(Software Development - 3rd Year)
STUDY PERIOD 5

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS314	IS3 MOD1	C	Semester 1	Exam	6	ISYS203	
ISYS324	IS3 MOD2	C	Semester 2	Exam	6	ISYS203	
DSFW302	DS3	C	Annual	Continuous Assessment	6	DSFW202 & ISYS203	
CMPG101	CP1	O	Annual	Continuous Assessment	6	ISYS203& DSFW102	
IPRO201	IP2	O	Annual	Exam	6	TPRG101	

NATIONAL DIPLOMA: Information Technology
(4-year Program 1st Year) – No new intake in 2016- Phased out
STUDY PERIOD 1

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Final offering - Phased out
ISYS113	IS1 MOD1	C	Semester 1	Exam	5	2016
ILGT101	IT Logic	C	Annual	Continuous Assessment	4	2016
SKDV101	Skills Dev	C	Annual	Continuous Assessment	4	2016
SSFT111	SS1 MOD1	C	Semester 1	Exam	5	2016
ISYS123	IS1 MOD2	C	Semester 2	Exam	5	2016
SSFT121	SS1 MOD2	C	Semester 2	Exam	5	2016

NATIONAL DIPLOMA: Information Technology
(4-year Program 2nd Year)

STUDY PERIOD 2

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ILGT201	IT Logic	C	Annual	Continuous Assessment	5	ILGT101	
SKDV201	Skills Dev	C	Annual	Continuous Assessment	5	SKDV101	
DSFW112	DS1 MOD1	C	Semester 1	Exam	5		
TPRG111	TP1 MOD1	C	Semester 1	Exam	5		
DSFW122	DS1 MOD2	C	Semester 2	Exam	5		
TPRG121	TP1 MOD2	C	Semester 2	Exam	5		

NATIONAL DIPLOMA: Information Technology
(4-year Program 3rd Year)

STUDY PERIOD 3

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS213	IS2 MOD1	C	Semester 1	Exam	6	ISYS103	
DSFW212	DS2 MOD1	C	Semester 1	Exam	6	DSFW102	
SSFT223	SS2 MOD2	C	Semester 1	Exam	5	SSFT101	
TPRG211	TP 2 MOD1	C	Semester 1	Exam	6	TPRG101	
ITSK111	IT Skills 1 MOD1	C	Semester 1	Continuous Assessment	5		

STUDY PERIOD 4

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS223	IS2 MOD2	C	Semester 2	Exam	6	ISYS213	
DSFW222	DS2 MOD2	C	Semester 2	Exam	6	DSFW102	
SSFT213	SS2 MOD1	C	Semester 2	Exam	5	SSFT101	
TPRG221	TP2 MOD2	C	Semester 2	Exam	6	TPRG101	
ITSK121	IT Skills 1 MOD2	C	Semester 2	Continuous Assessment	5		

NATIONAL DIPLOMA: Information Technology
(Software Development 4th Year)

STUDY PERIOD 5

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS314	IS3 MOD 1	C	Semester 1	Exam	6	ISYS203	
ISYS324	IS3 MOD 2	C	Semester 1/2(P/T)	Exam	6	ISYS203	
DSFW302	DS3	C	Annual	Continuous Assessment	6	DSFW202 & ISYS203	
CMPG101	CP1	O	Annual	Continuous Assessment	6	ISYS203& DSFW102	
IPRO201	IP2	O	Annual	Exam	6	TPRG101	

NATIONAL DIPLOMA: Information Technology
(Business Applications - 1st Year)

STUDY PERIOD 1

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
IISYS113	IS1 MOD1	C	Semester 1	Exam	5		
DSFW112	DS1 MOD1	C	Semester 1	Exam	5		
SSFT111	SS1 MOD1	C	Semester 1	Exam	5		
FACC113	FA1 MOD1	C	Semester 1	Exam	5		

STUDY PERIOD 2

ISYS123	IS1 MOD2	C	Semester 2	Exam	5
DSFW122	DS1 MOD2	C	Semester 2	Exam	5
SSFT121	SS1 MOD2	C	Semester 2	Exam	5
FACC123	FA1 MOD2	C	Semester 2	Exam	5

NATIONAL DIPLOMA: Information Technology
(Business Applications - 2nd Year)

STUDY PERIOD 3

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS213	IS2 MOD1	C	Semester 1	Exam	6	ISYS103	
DSFW212	DS2 MOD1	C	Semester 1	Exam	6	DSFW102	
BSAN212	BA 2 MOD1	C	Semester 1	Exam	6	ISYS103	
ITSK111	IT Skills 1 MOD1	C	Semester 1	Continuous Assessment	5		
SSFT223	SS2 MOD2	C	Semester 1	Exam	5	SSFT101	

STUDY PERIOD 4

ITSK121	IT Skills 1 MOD2	C	Semester 2	Continuous Assessment	5	
ISYS223	IS2 MOD2	C	Semester 2	Exam	6	ISYS213
DSFW222	DS2 MOD2	C	Semester 2	Exam	6	DSFW102
BSAN222	BA2 MOD2	C	Semester 2	Exam	6	BSAN212
SSFT213	SS2 MOD1	C	Semester 2	Exam	5	SSFT101

NATIONAL DIPLOMA: Information Technology
(Business Applications - 3rd Year)

STUDY PERIOD 5

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite	Co-Req.
ISYS314	IS3 MOD1	C	Semester 1	Exam	6	ISYS203	
ISYS324	IS3 MOD2	C	Semester 2	Exam	6	ISYS203	
DSFW302	DS3	C	Annual	Continuous Assessment	6	DSFW202 & ISYS203	
IPRO201	IP2	O	Annual	Exam	6	TPRG101	
BSAN312	BA3 MOD1	C	Semester1	Exam	6	BSAN202	
BSAN322	BA3 MOD2	C	Semester2	Exam	6	BSAN312	
CMPG101	CP1	O	Annual	Continuous Assessment	6	ISYS203& DSFW102	

NATIONAL DIPLOMA: Financial Information Systems (1st Year)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Final Year of Offering
CTAC101	Cost Accounting I	C	2	Exam	6	to be announced
FACC113	Financial Accounting I MOD1	C	1	Exam	6	2016
FACC123	Financial Accounting I MOD2	C	2	Exam	6	2016
IAUD118	Internal Auditing I MOD1	C	1	Exam	6	to be announced
IAUD128	Internal Auditing I MOD2	C	2	Exam	6	to be announced
FISY111	Financial Information Systems I MOD1	C	1	Exam	5	2016
FISY121	Financial Information Systems1 MOD2	C	2	Exam	5	2016
BCAL101	Business Calculation 1	C	1	Exam	5	to be announced
CLAC101	Commercial Law for Acct 1	C	2	Exam	5	to be announced
ENSK103	Entrepreneurial Skills 1	C	1	Exam	5	to be announced
CMUN101	Communication 1	C	1	Cont Assmnt	5	to be announced

NATIONAL DIPLOMA: Financial Information Systems (2nd Year)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite
FACC213	Financial Accounting 2 Mod 1	C	3	Exam	6	Financial Accounting I
FACC223	Financial Accounting 2 Mod 2	C	4	Exam	6	Financial Accounting I
IAUD214	Internal Auditing 2 Mod 1	C	3	Exam	6	Financial Accounting I & Internal Auditing I
IAUD224	Internal Auditing 2 Mod 2	C	4	Exam	6	Financial Accounting I & Internal Auditing I
FISY211	Financial Information Systems 2 Mod 1	C	3	Exam	6	Financial Info Systems 1
FISY221	Financial Information Systems 2 Mod 2	C	4	Exam	6	Financial Info Systems 1
SWSK111	Software Skills 1Mod 1	C	3	Exam	6	
SWSK121	Software Skills 1Mod 2	C	4	Exam	6	Software Skills 1 Mod 1
CTAC211	Cost Accounting 2 Mod 1	C	3	Exam	6	Cost Accounting 1
CTAC221	Cost Accounting 2 Mod 2	C	4	Exam	6	Cost Accounting 1

NATIONAL DIPLOMA: Financial Information Systems (3rd Year)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre-requisite
TAXN102	Taxation I	C	6	Exam	5	Financial Acct I
FACC313	Financial Accounting 3 Mod 1	C	5	Exam	6	Financial Acct 2
FACC323	Financial Accounting 3 Mod 2	C	6	Exam	6	Financial Acct 2
IAUD314	Internal Auditing 3 Mod 1	O	5	Exam	6	Internal Auditing 2 & Financial Acct 2
IAUD324	Internal Auditing 3 MOD2	O	6	Exam	6	Internal Auditing 2 & Financial Acct 2
MGTA312	Management Accounting 3 MOD1	O	5	Exam	6	Cost Accounting 2
MGTA322	Management Accounting 3 MOD2	O	6	Exam	6	Cost Accounting 2
FISY311	Financial Information Systems 3 MOD1	C	5	Exam	6	FIS 2
FISY321	Financial Information Systems 3 MOD2	C	6	Exam	6	FIS 2
PROG113	Programming I MOD1	C	5	Cont Assmnt	6	Software Skills I
PROG123	Programming I MOD2	C	6	Cont Assmnt	6	Software Skills I

9.5 SUBJECT CONTENT **ABRIDGED SYLLABI**

Business Analysis 2

Module 1 and 2

The module focuses on an introduction to business concepts. It entails the use of Enterprise Resource Planning (ERP) software programs which manage companywide business processes using a central database.

Describe how ERP systems can solve the problems in accounting in disintegrated systems.

Describe Enron scandal affected accounting information systems.

Use similar South African examples.

Explain accounting and Management reporting benefits from ERP systems.

Method of Evaluation:

Course mark 40% and Exam mark 60% (One two hour paper).

Commercial Programming 1 (60702512) (Annual)

Commercial Programming 1 is a 3rd year course that covers database design and interaction, using the Oracle product. You will learn how to create relational tables, how to create relationships and how to manipulate the data in a database. Some Oracle specific functions will also be covered. You will be exposed to SQL & PL/SQL, in order to implement the concepts taught. Since Oracle is a programming tool and language, the practical component forms a crucial aspect in the course. This course should be studied in conjunction with Information Systems 3, as both courses deal with Databases and SQL programming code. You will be required to apply your knowledge gained in Information Systems 2 to the database programming being covered and will need to have good programming knowledge to cope with the PL/SQL component.

Method of Evaluation:

NO EXAM, 100% Course Mark

Development Software 1 (Visual C#) (60702312)

Module 1 (DSFW112)

Introduction: Computers

Computers: Components, Types, Uses, etc.

Discuss Software: OS (or SS) and Application S/W

Introduction: Programming

Overview of the .Net Platform

Procedural programming vs OOP

Program Development Cycle (Analyze, Design, Code, Test, Document, Maintain)

Structured Programming Techniques

I.P.O, Flow Charts, Trace Table

Overview of the .Net Platform

Variables: Naming, Declaration, Initialization, Scope

Data Types: Integral, Floating, Bool, Char, String, Constants, etc.

Operators: Assignment, Relational, Logic, and Arithmetic

Business Analysis 3

Module 1 and 2

Educate Learners on manufacturing terminology, concepts, and strategies related to demand management, procurement and supplier planning, material requirements planning, capacity requirements planning, sales and operations planning, master scheduling, performance measurements, supplier relationships, quality control, and continuous improvement.

Increase functional knowledge of production and inventory management.

Improve efficiency across the processes of an organization's supply chain.

Streamline operations through accurate forecasting.

Predict outcomes more accurately.

Maximize customer satisfaction by delivering products and services Just-in-Time.

Increase profitability by optimizing an organization's inventory investment.

Method of Evaluation:

Course mark 40% and Exam mark 60% (One two hour paper).

Development Software 2 (60702722)

The Development Software II course aims to integrate theory and practical components of Web based database systems using an object oriented approach to development. Learners are exposed to advanced development concepts and given simulated problems allowing them to use their programming skills to solve these problems.

Module 1

To become familiar with Web based programming using the Visual Studio .NET Framework components and the C# language.

Use ASP.NET web controls to design information systems with a user-friendly Graphical User Interface (GUI).

Design information systems that adhere to the object oriented programming paradigm.

To develop knowledge of SQL Server.

Design and develop information systems that facilitate the management of data stored in a SQL Server database.

Enforces the features and benefits of the ADO.NET data access model and its' components.

Practical:

Practical work shall consist of tutorials, assignments and a group project.

Method of Evaluation:

Course mark 40% and Exam 60% (One two hour paper).

Module 2

Design and develop applications built around a 3-tier application paradigm.

Use advanced ASP.NET web controls, web forms and ASP.NET data controls.

Creating ASP.NET custom controls and using those controls in an ASP.NET application.

Setting up ASP.NET Membership Provider for an application.

Creating an ASP.NET application to send email.

Create and consume Web Services.

Caching objects to improve performance in ASP.NET.

Deploying web applications using Visual Studio and Internet Information Server.

Practical:

Practical work shall consist of tutorials, assignments and a group project.

Introduction to C# (Web Application)
Decision/Selection Structures
Looping/iteration/repetition
Practical:
Extensive use of problem solving using algorithms and Visual C#.
Method of Evaluation:
Course mark 40% and Exam 60% (One two hour paper).

Development Software 1 (Visual C#) (60702312) Module 2 (DSFW122)

The "visual aspects" of Visual C# Web Application
Methods
Debugging
String Manipulation
XML
Multiple web pages, Hyperlinks
Classes and Objects
Practical:
Extensive use of problem solving & OOP by solving problems using Visual C#.
Method of Evaluation:
Course mark 40% and Exam 60 %(One two hour paper).

Development Software 3 (60702803) (Annual)

The Development Software 3 course integrates various theory and practical components that a learner would have been exposed to during the course of the diploma. The course achieves this through the use of a work integrated learning project. Students are required to obtain non-trivial exposure to the real working world by attempting to solve software problems in the retail, services, manufacturing, government and small business sectors.
The ultimate objective is for each student to experience the complete design and development of a real-life information system. The course includes an agile project management component that provides the foundation for students to administer and manage their projects successfully.
Method of Evaluation:
NO EXAM
100% Course Mark

Information Systems 1 (60503612) – Phased Out- Final offering 2016 Module 1

Introduction to Computers, the internet & WWW
Application Software
Components of the system unit
Input and Output, Storage
Operating systems and utility programs
Method of Evaluation:
Course mark 40% and Exam 60% (One two hour paper).

Financial Accounting 1 (0401092120) Module 1

Financial Reporting as specified in AC000
Identify overall objectives of Financial Reporting
Define elements of financial statements related to measurement
Define and advise the qualitative characteristics of financial information
Identify and apply recognition and measurement
Explain the need for a conceptual framework
Explain the meaning of GAAP
Prepare basic financial reports
Practical:
Practical work shall consist of tutorial and self-study assignments on all sections of the syllabus.
Method of evaluation:
Year Mark 40% and one examination of 3 hours 60% = 100%

Financial Accounting 1 (0401092120) Module 2

Statement of Changes in equity:
Sole Trader - changes in capital
Partnership
Close Corporations
Company
Change in ownership:
Sole trader - dissolution of entity Partnership - entry and retirement
Close Corporations - entry of new member
AC Statements
AC101
AC108
AC123
AC128
Practical:
Practical work shall consist of tutorial and self-study assignments on all sections of the syllabus.
Method of evaluation:
Year Mark 40% and one examination of 3 hours 60% = 100%

Information Systems 2 (60502122)

Module 1
Introductory concepts: information and the organization
Methodologies for developing Information Systems in an object oriented approach
Tools and Techniques available for Systems Analysis
Practical:
Microsoft Projects (or a project management tool) and Microsoft Visio
Method of Evaluation:
Course mark 40% and Exam 60% (One two hour paper-Semester 1)

Module 2
Identification of alternatives Systems Design
Database concepts and structures.
Practical:
Microsoft Visio
Method of Evaluation:
Course mark 40% and Exam 60% (One two hour paper).

Practical:
Practical work shall consist of an in-depth study, and hands-on training on the use of Presentation, Word Processing and Spreadsheet software packages, (Assignments are given to cover all aspects of these packages).
Module 2
The World of the Systems Analyst
Approaches to System Development
Structured Systems Analysis
Structured Systems Design
Practical:
Practical work shall consist of an in-depth study, and hands-on training on the use of Databases software packages and CASE tool software packages (Assignments are given to cover all aspects of these packages).
Method of Evaluation:
Course mark 40% and Exam mark 60% (One two hour paper).

IT Logic and Technology 1
Introduction to Computers
ICDL
Problem-solving using pseudo code
Introduction to Programming
Logic skills
Mark-up Languages
Method of Evaluation:
NO EXAM, 100% Course Mark

IT Logic and Technology 2

Software Packages
Web 2 standards
HTML
Method of Evaluation:
NO EXAM, 100% Course Mark

Internet Programming 2 (60704122)

Web development, including:
HTML 4 leading onto XHTML
Cascading Style Sheets
Server side scripting language / MySQL
Practical:
Exercises are given to the student for all topics within the syllabus. These exercises are expected to be programmed on the computer.
Method of Evaluation:
Course mark 40% and Exam mark 60% (One three hour paper).

Skills Development 1

Academic Literacy
Information Literacy
Numeracy
Language skills
Life skills
Method of Evaluation:
NO EXAM, 100% Course Mark

Information Systems 3 (60502203)

Module 1

Introduction to software engineering
Software engineering concepts
The software process
Classic process models
Agile process models
Software teams
Requirements engineering concepts
Software design concepts
Web application design
Method of Evaluation:
Course mark 40% and Exam 60%
Module 2
Object-oriented databases
Database administration
Data Warehouses and Data Mining
Knowledge based expert systems
Practical:
This will consist of hands on work on Oracle MS SQL database system.
Method of Evaluation:
Course mark 40% and Exam 60% (One two hour paper).

Information-Technology Skills (60502012)

Module 1

Communication Theory:
Interpersonal Communication
Meeting Procedure
Small Group Communication
Organisational Communication
Electronic Communication
Presentations
Accounting:
The Business entity
Starting a business
The ledger - first glance
The accounting equation
Final accounts and balance sheet
Year-end financial statements
Method of Evaluation:
NO EXAM
100% Course Mark

Module 2
Management:
The role of management
The role of IT management
Business processes in Finance, Marketing, Production, Personnel
The impact of IT on Business and Society
Starting your own business
Developing a Business Plan
Legal Aspects:
Labour Legislation in S.A
Legislation regarding Information and technology
Method of Evaluation:
NO EXAM
100% Course Mark

Skills Development 2
Accounting skills
Business Skills
Language Skills
Method of Evaluation:
NO EXAM, 100% Course Mark

Systems Software 1 (60801212)
Module 1
The purpose of module 1 is to provide the student with the basic skills and knowledge that can be used to install, upgrade, repair, configure, troubleshoot, optimize, and perform preventative maintenance of basic personal computer hardware and operating systems. Introduce the student to the digital representation of data in a pc and to demonstrate an understanding of how digital data is stored
Practical:
Getting to grips with hardware components.
Method of Evaluation:
Course Mark 40% (Three tests) and Exam 60% (One two hour paper)

Systems Software 1 (60801212) Module 2
On completion of module 2 the learner will be able to:
Distinguish between the different types of networks
Demonstrate an understanding of the importance of network standards
Design a small network using their knowledge of network technologies
Practical:
Designing a LAN
Method of Evaluation:
Course mark 40% (Three tests) and Exam 60% (One two hour paper)

Technical Programming 1 (60702412) Module 1
Object Oriented programming techniques
Java Selection structures
Java Control Structures
Java methods
Practical:
Programming tasks to cover all topics in the syllabus. These must be planned, designed and tested on a computer
Method of Evaluation:
Course mark 40% and Exam 60% (One two and a half hour paper)
NB: Technical Programming Module 1 is a pre-requisite for Module 2.

Module 2
One Dimensional Arrays
String Methods and Manipulation
Object Oriented programming techniques
Text Files

Systems Software 2 (60801322) Module 1
Operating systems (advanced)
Method of Evaluation:
Course mark 40% and Exam 60% (One two hour paper)
Module 2
Network Fundamentals
Practical:
Tutorial and self-study group assignments with individual assessment
Method of Evaluation:
Course mark 40% and Exam 60% (One two hour paper)

Technical Programming 2 (60704022)
Module 1
Object oriented programming
Practical:
Practical Programming to cover all topics in the syllabus. These must be planned, designed and tested on a computer
Method of Evaluation:
Course mark 40% and Exam 60% (One practical examination with a minimum duration of two hours)
Module 2
Advanced GUI Programming
Practical:
Practical Programming to cover all topics in the syllabus. These must be well planned, designed and tested on a computer
Method of Evaluation:
Course mark 40% and Exam 60% (One practical examination with a minimum duration of two hours)

ABRIDGED SYLLABUS for ND: FIS

Financial Accounting 1 (0401092120)
Module 1
Financial Reporting as specified in AC000
Identify overall objectives of Financial Reporting
Define elements of financial statements related to measurement
Define and advise the qualitative characteristics of financial information
Identify and apply recognition and measurement
Explain the need for a conceptual framework
Explain the meaning of GAAP
Prepare basic financial reports
Practical:
Practical work shall consist of tutorial and self-study assignments on all sections of the syllabus.
Module 2
Statement of Changes in equity:
Sole Trader - changes in capital
Partnership, Close Corporations, Company
Change in ownership
Sole trader - dissolution of entity Partnership - entry and retirement
Close Corporations - entry of new member
AC Statements, AC101, AC108, AC123, AC128
Practical:
Practical work shall consist of tutorial and self-study assignments on all sections of the syllabus.
Method of Evaluation:
Year Mark 40% and one examination of 3 hours 60% = 100%

Practical:
Programming tasks to cover all topics in the syllabus. These must be planned, designed and tested on a computer
Method of Evaluation:
Course mark 40% and Exam 60% (One two and a half hour paper)

ABRIDGED SYLLABI: FIS

Business Calculations (150805212) Module 1

Basic mathematics
Summarising and analysing data
Index numbers
Financial Accounting Module 2
SAPSE Code 040137406
Subject Code FACC422
Theory
Interim Reporting
Operating Segments
Employee Benefits
Financial Instruments
Borrowing Costs
Practical:
None
Method of Evaluation:
Course mark - 40%; Exam mark - 60% (one three hour exam)

Communication (059900512)

Effectively apply communication principles to a variety of communication activities, contexts and resolving problems.
Demonstrate verbal and written communication skills.

Cost Accounting II (040140522) Module 1

Administer an Integrated Accounting system and a Cost Ledger Accounting system.
Operate a basic job-costing system.
Administer contract accounts.
Draw up fixed, flexible and cash budgets.
Practical:
Practical work shall consist of tutorials and self-study assignments on all sections of the syllabus.
Method of Evaluation:
Year Mark 40% and one examination of three hours 60% = 100%

Commercial Law for Accountants I (130309912) Module 1

Understand the SA legal framework

Understand the rules relating to the Interpretation of Statutes
Understand and apply knowledge of principles relating to the Law of Contract
Understand the legal principles relating to Contract of Sale
Understand and apply knowledge of principles relating to the Law of Agency

Financial Accounting II (0401093220) (Module 1)

IAS 01 - Presentation of Financial Statements
IAS 01 - Inventories
IAS 18 - Revenue
IAS 10 - Events after the balance sheet
IAS 38 - Intangibles
IAS 37 - Provisions and contingencies
Practical:
Practical work shall consist of tutorial and self-study assignments
Computer applications
Method of Evaluation Year Mark 40% and two 3-hour examinations 60%

Financial Accounting II (0401093220) (Module 2)

IAS 01 - Presentation of Financial Statements
IAS 16 - Property, Plant & Equipment
IAS 36 - Impairments of Assets
IAS 21 - Foreign exchange
IAS 07 - Cash Flow Statements
Practical:
Practical work shall consist of tutorial and self-study assignments
Computer applications
Method of Evaluation:
Year Mark 40% and two 3-hour examinations 60% = 100%

Financial Information Systems 1 (FISY1001) Information Systems 1 (ISYS1003)

Theory
Overview of the computer and communication revolution
Information processing cycle
Computer software concepts
Information systems concepts
Impact of computers on society
Practical:
Practical work shall consist of an in-depth study and hands-on training on the use of Word Processing, Spreadsheets, Databases and Presentation software packages (tutorials and assignments are given to cover all aspects of these packages), as well as a written report on a site visit done in conjunction with Systems Software 1.
Method of Evaluation:
One 3-hour examination 50% and Year Mark 50% = 100%

Financial Information Systems 2 (FISY2001) Information Systems 2 (ISYS2003)

Theory
Introductory concepts: Information and the organisation
Methodologies for developing Information Systems
Tools and Techniques available for Systems Analysis
Database concepts and structures, especially the Relational Database
Practical:
ORACLE Case and Microsoft Access
Method of Evaluation:
One 3-hour examination 50% and Year Mark 50% = 100%
(Amended w.e.f. 2001/01)

Internal Auditing 1(040137312) Module 1

Basic introduction to Internal Auditing
The internal auditor
Control of the profession
Basic introduction to auditing

Cost Accounting I (040140412) Module 1

Understand the basic principles of cost classification and terminology
Define and understand the different terms and concepts in respect of stock holding and administer different stock systems.
Administer remuneration systems.
Classification and analysis of overheads and allocation of overheads by means of predetermined rates.
Understand the cost flow in a manufacturing concern determine cost of manufactured products and services.
Use the Cost-volume-profit analysis as a management tool.

Practical
Practical work shall consist of tutorials and self-study assignments on all sections of the syllabus.
Method of Evaluation
Year Mark 40% and one examination of three hours 60% = 100%

Cost Accounting II (040140522) Module 2

Demonstrate competency in the operation of process costing systems with equivalent units and normal and abnormal losses.
Demonstrate competency in the operation of process costing systems with joint and by products.
Demonstrate competency in preparing income statements according to the direct and absorption costing methods.
Demonstrate the ability to use pricing decisions.
Demonstrate the ability to implement a Standard Costing, system.
Practical:
Practical work consists of tutorials and self-study assignments
Method of Evaluation:
Year Mark 40% and one examination of three hours 60%

Entrepreneurial Skills (40510912) Module 1

Develop an understanding of the basic business and economic principles by identifying and justifying the relationship between business and economic principles.
The basic functions of the enterprise and how they relate.
Create, maintain and enhance a culture of entrepreneurship

Financial Accounting III Module 1

Identify overall objectives of financial reporting, the specific information needs of equity investors, and the general information needs of other users.
Define the elements of financial statements related to the measurement of financial position and performance and apply to the presentation of financial reports.
Define and advise the qualitative characteristics financial information
Identify and apply recognition and measurement criteria to financial statements.
Explain the need for a conceptual framework and for standards of financial reporting.
Identify the statutory disclosure requirements, and explain the meaning of fair presentation
Earnings per share, leases and statements of cash flow
Method of Evaluation:
Year Mark 40% and two 3-hour examinations 60% = 100%

Internal Auditing 1(040137312) Module 2

Planning the audit
Audit working papers
Basic audit concepts internal control
Elementary systems of internal control

Internal Auditing 2 (040111022) Module 1

Evaluation of internal control system cycles
Internal audit reports
Internal auditor's relationship with other parties

Internal Auditing 2 (040111022) Module 2

Statistical sampling
Operational auditing
Computer auditing

Internal Auditing 3 (040111103) Module 1

Professional matters pertaining to internal auditing
Audit working papers
The internal audit process

Internal Auditing 3 (040111103) Module 2

The audit approach of the cycles
Computer auditing
Fraud identification

Management Accounting 3 (40140603) Module 1

Explain, calculate, prepare and evaluate fixed and flexible operational and cash budgets
Prepare budget reports reflecting actual against budget
Discuss the use of budget reports to evaluate performance
Explain the behavioural implications of planning and budgeting
Explain the use of IT in the budget process
Analyse, calculate and interpret operational variances
Prepare reports using a range of benchmarks and evaluate the results
Explain the behavioural implications of standard costing
Explain, calculate, apply and compare different group incentive schemes
Discuss and apply the use of advanced stock control methods
Use activity based costing in cost determination

Management Accounting 3 (40140603) Module 2

Measuring relevant costs for decision-making
Apply and evaluate short-term decision-making techniques
Apply and discuss the experience and learning curve
Apply and discuss the linear programming model
Explain and apply the use of decision trees
Explain and apply the use of network analysis and PERT analysis
Explain the capital budgeting process
Evaluate projects using investment appraisal techniques, including, under conditions of capital rationing
Evaluate alternative investment appraisal techniques
Explain the relevance of qualitative factors
Prepare project cash flows that take account of taxations and inflation
Evaluate mutually exclusive projects with unequal lives
Method of Evaluation:
Year Mark 40% and one 3-hour examination 60% = 100%

Module 2
Apply techniques to account for group financial statements and valuations
Incorporate changes in the form or capital structure (Liquidations and reorganization, mergers and acquisitions) of an
Entity in the financial statements in accordance with the objectives to be achieved and the legal constraints.
Demonstrate the purpose of financial reporting by applying analysis and interpretation techniques to financial statements
Method of Evaluation:
Year Mark 40% and two 3-hour examinations 60% = 100%

Financial Information Systems 3 (FISY3001)

Module 1 (Offered in Semester 2)
Subject Code FISY311
Financial information system 3 is a project management course which equips learners with the tools and techniques used in running a project from the initial stage to the closing stage.
Introduction to Project management
Project, Program, and Portfolio selection
Project management knowledge areas
Tools and techniques used in each knowledge area
Project management process group
Mapping the process group to the knowledge areas
Project management best practices
Project management profession
Practical:
Practical work involves the application of all the tools and technique to manage a project from the initiation to closure
Method of Evaluation:
Course mark - 40% and exam mark - 60% (one two hour exam)

Financial Information Systems 3 (FISY301)

Module 2
Theory
Overview of analysis and design
Object-orientated analysis
Object-orientated design
File systems and databases
Transaction management and currency control
Object-orientated databases
Database administration
Knowledge based expert systems
Practical:
This will consist of hands-on work on the Oracle database and the XI-PLUS expert system.
Method of Evaluation:
One 3-hour examination 50% and Year Mark 50% = 100%

Programming I (PROG1001)

Theory
Problem-solving and structured programming techniques
The visual aspects of VISUAL BASIC
Control Structures (Sequence, Selection and Repetition)
Sub-procedures and Function procedures
Arrays
Strings
Graphics
De-bugging
Sequential File Processing
Practical:
Extensive use of problem solving and structured programming by solving problems using Visual Basic
Method of Evaluation:
One 3-hour examination 50% and Year Mark 50% = 100%

Software Skills I

Module 1 (SWSK111)

Problem Solving & Structured Programming Techniques
Programming Logic
Control Structures (Sequence, Selection & Repetition)
Introduction to VB .NET Console based
Practical:
Extensive use of problem solving VB .NET console applications.
Examination:
No exam —% course mark

Module 2 (SWSK121) Pre-requisite: Software Skills I (module 1)

The "visual aspects" of Visual Basic .NET Windows Application
Sub-procedures & Function procedures
Arrays
String Manipulation
Sequential Files (if time allows)
Practical:
Extensive use of problem solving & structured programming by solving problems using VB.NET
Method of Evaluation:
No exam —% course mark

Taxation I (040100512)

Establish what taxable income is
Determine and calculate the taxation of persons other than companies
Apply the provisions relating to non-resident taxpayers
Determine and calculate employees' tax and provisional tax
Identify and value fringe benefits and allowances
Method of Evaluation:
Course mark - 40% and exam mark - 60% (one three hour exam)