



 **DUT**
DURBAN
UNIVERSITY OF
TECHNOLOGY

 **FACULTY OF**
ACCOUNTING
& **INFORMATICS**

2019 HANDBOOK

INFORMATION TECHNOLOGY

HANDBOOK FOR 2019

FACULTY OF ACCOUNTING AND INFORMATICS

**DEPARTMENT of
INFORMATION TECHNOLOGY**

Faculty of Accounting & Informatics

Vision A globally recognised faculty for academic excellence.

Mission

“Developing Leaders for the Information Society” through

- Excellence in teaching and learning
- Relevant research and creative innovation
- Social entrepreneurship

Values

- **Fairness:** We treat people equitably with respect. Our decisions are impartial. We embrace diversity and inclusion.
- **Accountability:** We accept responsibility for activities, decisions, actions and disclose outcomes in a transparent way.
- **Integrity:** We enhance our reputation with consistent trustworthy conduct.

Department of Information Technology

Vision Leading ICT Scholarship and Innovation

Mission

“Advancing ICT” through

- A Quality Teaching and Learning Experience
- Relevant and Problem-Driven Research
- Engagement with Society
- Entrepreneurship

Values

- **Innovation:** Thinking out of the box. Striving for better. Cutting-edge curriculum, research and process. Creativity. Exciting. Embrace collaboration.
- **Compassion:** To care and have empathy – to consider from another’s perspective. Understand our students. Ethics – do no harm. Committed. uBuntu: “I am because we are”.
- **Transformation:** Embrace the digital revolution. The architects of change. Be adaptive. Economic and societal progress. A mix of human and technological values.

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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I 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 and Information Communications
Technology (ICT)

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: Prof Olugbara, Oludayo O,

Secretary: Ms B 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	Dr Mtshali PQT	PhD CIS (NSU)
Professor	Prof Olugbara, Oludayo O	PhD Computer Science (University 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), CEng (British Engineering Society)
Associate Directors	Singh K	BSc (Hons) Computer Science, BEd (Hons) UHDE (UDW)
	Khan F T	MSc (University of Sydney),
	Ally M I	ND EDP (MLST), NHD CDP (MLST)
	Dr Heukelman D	DTech IT (DUT), M.Ed Computers (Rhodes), BSc (Hons) (RAU), BSc (Ed) (RAU)
Senior Lecturers	Asmal E	NHD CDP (MLST), ND EDP (MLST)
	Foolchand S	BSc (Hons), BCom (UNISA), UDE (UDW)
	Gonsalves N	MA (UND), ND IT (MLST), BA (Hons) (UDW)
	Hansrajh A	BSc (Hons) (Unisa) JSED (SCE),
	Khalili P	MSc, BSc (Cal. State Univ) (USA)
	Naidoo SC	BTech IT (MLST)
	Pancham J	MICT (DUT) ND Telecom (Telkom), BSc (Hons) (UDW)
	Dr Singh A	DTech IT (DUT), MTech IT (DIT), BTech IT (TN)
Lecturers	Dr Wing J W	PhD IT (DUT)
	Bhoola N	MCom (UKZN), BSc (Hons) (UDW)
	Boamah-Abu C	MCom IS (UCT), BSc (Hons) Comp Sc (Rhodes)
	Dwarika, J	MSc IS (cum laude) (UNISA), BSc (Hons) (UNISA), BTech IT (DIT)
	Dlalisa FS	MCom IS&T (UKZN)
	Govender A	BTech IT (MLST)
	Govender T P	MEd (UKZN), BTech IT (MLST), BSc (UNISA), HED (TCE)
	Hoosen S	BSc (Hons) (UDW)
	Jackson P	MICT (DUT), BTech IT (DUT)
	Joseph S	MTech IT (DUT)
	Lingwati L	MICT (DUT), BTech IT (DUT), PGDBM (MANCOSA)
	Moodley S G	BTech IT (DUT)
	Moodley U	BTech IT (DIT)
	Naicker E	BTech IT (DUT)
	Dr Naicker N	PhD IST(UKZN) MSc, BSc (Hons) (UNISA), HED (SCE)
	Ngxata B	MCom IS&T (UKZN), BTech IT (MLST), Dip IT (WSU)
	Ramnarain A	MCom IS&T (UKZN),

Singh RS	BSc, Dip Data Metrics (UNISA), HDE (UN)
Soobramoney R	BSc (Hons) (UND)
Soobramoney S	BTech IT (TN)
Sosibo-Khena NS	MTech IT (DUT), BTech IT (DIT), ND IT (TN)
Thompson R C	MICT (DUT), NH Dip (TN),
Vanker C	MCom IS&T (UKZN) BTech IT (MLST)
Vilakazi Z	BTech IT (DIT)
White C R	BSc (Hons),HDE (PG) (Rhodes)
Zincume X	MCom IS&T (UKZN), BTech IT (DIT), BTech FIS (DIT)

**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)
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South African Sign Language Interpreters

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

Administrative Staff:

Secretary:	Ms W Xulu
Administrative Assistants:	Ms F Naidoo Mr N Ngcobo
Senior Technician Networks:	Mr A Ramdass
Senior Technician Desktop:	Mr R M Nepaul
Technicians:	Mr M Womack Mrs G Pursan Mr BNM Mbuthuma Mr R Govender

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
Programme offerings			
Diploma in ICT in Applications Development	DIADI	94697	Replaces ND: IT (Software Development)
Diploma in ICT in Business Analysis	DIIBAI	97709	Replaces ND: IT (Business Applications)
Diploma in ICT in Applications Development (4-year Foundation)	DIIAFI	94697	Replaces ND: IT Foundation
Bachelor of ICT	BINCTI	104534	New
Masters in ICT	MICMTI	96833	Replaces MTECH: IT
PhD in IT	DPINFI	96804	Replaces DTECH: IT
PHASE-OUT Programme offerings			
ND: Information Technology (Software Development)	NDINSI	72241	Last new intake in 2015
ND: Information Technology (Business Applications)	NDINBI	72241	Last new intake in 2015
ND: Information Technology (Foundation)	NDISFI	72241	Last new intake in 2015
ND: Financial Information Systems	NDFIS2	72234	Last new intake in 2015
BTECH: Financial Information Systems	BTFIS2	72134	Last new intake in 2019*
BTECH: Information Technology	BTINF2	72142	Last new intake in 2019*

*Numbers permitting



4 PROGRAMME INFORMATION (Current 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 PROGRAMME

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 Diploma in ICT in Applications Development

The CHE-accredited Diploma offering in ICT (Applications Development) commenced in 2016. 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 ICT Programme aligns with the University, subject to availability of space.

Normal duration

3 years full-time

4.2.3 **Diploma in ICT in Business Analysis**

The CHE-accredited Diploma offering in ICT (Business Analysis) is offered for the first time in 2017. The department may accept a limited number of students into the second or third year of study, who's ICT Programme aligns with the University, subject to availability of space.

Normal duration

3 years full-time

4.2.4 **Diploma in ICT in Applications Development (4 year Foundation)**

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

4.2.5 **Bachelor of ICT (new)**

This new CHE-accredited Degree offering in BICT is offered for the first time in 2019. The department may accept a limited number of students into the second or third year of study, who's BICT Programme aligns with the University, subject to availability of space.

Normal duration

3 years full-time

4.2.6 **Career Opportunities**

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

4.3 **POST-GRADUATE PROGRAMMES**

The department offers two post graduate qualifications namely, the Master of Information and Communication Technology (MICT) and the Doctor of Philosophy in Information Technology (PhD). Both post graduate programmes are full research programmes requiring submission of a full-thesis for examination. There is no coursework.

Normal Duration

MICT

Minimum 1 year

Maximum 3 years

PhD

Minimum 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 three-year **Diploma in ICT in Business Analysis**.

ITDI 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:

Compulsory Subjects	NSC Rating	Senior Certificate		NCV
		HG	SG	
English (Home Language) OR English (1 st Additional Language)	3 (40-49%) 4 (50-59%)	E n/a	C n/a	50% n/a
Mathematics OR Mathematical Literacy	3 (40-49%) 6 (70- 79%)	E n/a	C n/a	50% n/a
Two 20 credit subjects (Life Orientation or more than one additional language is excluded)	3 (40-49%)	n/a	n/a	(a) At least 50% in one fundamental subject, in addition to English & Mathematics. (b) 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 Foundation)

ITFI 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:

Compulsory Subjects	NSC Rating	Senior Certificate		NCV
		HG	SG	
English (Home Language) OR English (1 st Additional Language)	3 (40-49%) 3 (40-49%)	E n/a	C n/a	50% n/a
Mathematics OR Mathematical Literacy	3 (40-49%) 5 (60- 69%)	E n/a	C n/a	50% n/a
Two 20 credit subjects (Life Orientation or more than one additional language is excluded)	3 (40-49%)	n/a	n/a	(a) At least 50% in one fundamental subject, in addition to English & Mathematics. (b) 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 and Communications Technology (MICT)**

In addition to the General Rule G24(1), the minimum entry requirement is Honours Degree in ICT OR Post Graduate Diploma in ICT OR Bachelor of Technology in Information Technology OR equivalent. Students are selected for this programme based on the quality of a submitted draft proposal.

4.4.4 **Doctor of Philosophy in Information Technology (PhD)**

In addition to the General Rule G25 (1), the minimum entry requirement is a Master of Information and Communications Technology Degree OR equivalent. Students are selected for this programme based on the quality of a submitted draft proposal.

5. **PROGRAMME RULES (Diploma offerings)**

5.1 **ITGI UNSATISFACTORY ACADEMIC PROGRESS**

The DUT general rules G17* and G19* – G25* apply.

5.2 **ITD2 PROGRESSION RULES**

5.2.1 **PROGRESSION RULES: Diplomas in ICT DIIADI and DIIBAI**

- For a student to be progressed from study period two to study period three the student must have passed at least two subjects which belongs to study period two.
 - For a student to be progressed from study period four to study period five the student must have passed at least three subjects which belongs to study period four.
- In addition to Rules G14*, G16*, G17* and G21* the following is applicable:

End of Year	Minimum Credits
1	50
2	120
3	200
4	280

- The student shall pass and accumulate the minimum number of credits at the end of each year period, as indicated in the table above
- This gives the student five years to complete the three year qualification **without** intervention as required within DUT general rules G17* and G21*.
- At the end of any year, if the student has not met the progression rules, he/ she may appeal.

5.2.2 **PROGRESSION RULES: Diploma in ICT in Applications Development (4-year Foundation) DIIFAI**

- For a student to be progressed from study period two to study period three the student must have passed at least two subjects which belongs to study period two.
- For a student to be progressed from study period four to study period five the student must have passed at least two subjects which belongs to study period four.
- For a student to be progressed from study period six to study period seven the student must have passed at least three subjects which belongs to study period six.

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 to Exam mark for examinable subjects offered by the Department of Information Technology is 40% course mark and 60% exam mark in order to calculate Final Mark.

5.7 ITG6 GENERAL EDUCATION SUBJECT RULES

The General Education component is compulsory and covers 30% of the total credits of an undergraduate 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 bases.

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 (Diploma offerings)

6.1 Diploma in ICT in Applications Development

Year 1 – Semester 1 (Study Period – 1)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits
CSTN101	Cornerstone101	(GE) Institution	CA	5	12
ICTL101	ICT Literacy & Skills	(GE) Institution	CA	5	8
BFND101	Business Fundamentals I	(GE) Faculty	CA	5	12
APDA101	Applications Development IA	(C)	Exam	5	12
FCSC101	Fundamentals of Computer Security	(F)	Exam	5	8
INSS101	Information Systems I	(C)	Exam	5	8

Year 1 – Semester 2 (Study Period – 2)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
MWMU101	Me, My World, My Universe	(GE) Institution	CA	5	8	
OSYS101	Operating Systems	(F)	Exam	5	12	
APDP101	Applications Development Project I	(GE) Program	CA	5	12	Applications Development IA (E) Applications Development IB (C)
APDB101	Applications Development IB	(C)	Exam	5	12	Applications Development IA (E)
CNTW101	Communications Networks I	(F)	Exam	5	16	

Year 2 – Semester 1 (Study Period – 3)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
BFND201	Business Fundamentals 2	(GE) Faculty	CA	6	12	Business Fundamentals 1 (P)
MCPA201	Mobile Computing 2A	(C)	Exam	6	8	
ISYA201	Information Systems 2A	(C)	Exam	6	8	Information Systems 1(P)
APDA201	Applications Development 2A	(C)	Exam	6	12	Applications Dev 1A (P) Applications Dev 1B (P)
ITPM101	IT Project Management	(C)	Exam	6	12	
INMA201	Information Management 2A	(C)	Exam	6	8	

Year 2 Semester 2 (Study Period – 4)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
CMEPI01	Community Engagement Project	(GE) Institution	CA	6	8	
MCPB201	Mobile Computing 2B	(C)	Exam	6	12	Mobile Computing 2A (E)
ISYB201	Information Systems 2B	(C)	Exam	6	8	Information Sys 2A (E)
APDB201	Applications Development 2B	(C)	Exam	6	12	Applications Dev 2A (E)
INMB201	Information Management 2B	(C)	Exam	6	8	Information Management 2A (E)
APDP201	Applications Development Project 2	(GE) Program	CA	6	12	Applications Dev Project 1 (P) Applications Dev 2A (E) Information Sys 2A (E)

Year 3 Semester 1 (Study Period – 5)

Code	Module	Core/ Fundamental / General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
APDA301	Applications Development 3A	(C)	Exam	6	12	Applications Dev 2A (P) Applications Dev 2B (P)
ISYA301	Information Systems 3A	(C)	Exam	6	12	Information Systems 2A (P) Information Systems 2B (P) Applications Dev Project 2 (E)
ADPA301	Applications Development Project 3A	(GE) Program	CA	6	12	Applications Dev Projects 2 (P) Applications Dev 2A (P) Applications Dev 2B (P)
HCINI101	Human Computer Interaction	(C)	Exam	6	12	
TIPP301	Theory of ICT Professional Practice 3	(GE) Program	Exam	6	12	

Year 3 Semester 2 (Study Period – 6)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
ENSP101	Entrepreneurial Spirit	(GE) Faculty	CA	6	12	Business Fund 1 (P) Business Fund 2 (P)
APDB301	Applications Development 3B	(C)	Exam	6	12	Applications Dev 3A (E)
ISYB301	Information Systems 3B	(C)	Exam	6	12	Information Systems 3A (E)
ADPB301	Applications Development Project 3B	(GE) Program	CA	6	24	Applications Dev Project 3A (E)



6.2 Diploma in ICT in Business Analysis

Year 1 – Semester 1 (Study Period – 1)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits
CSTN101	Cornerstone101	(GE) Institution	CA	5	12
ICTL101	ICT Literacy & Skills	(GE) Institution	CA	5	8
BFND101	Business Fundamentals 1	(GE) Faculty	CA	5	12
APDA101	Applications Development 1A	(C)	Exam	5	12
FCSC101	Fundamentals of Computer Security	(F)	Exam	5	8
MWMU101	Me, My World, My Universe	(GE) Institution	CA	5	8

Year 1 – Semester 2 (Study Period – 2)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
LWLF101	Law for Life	(GE) Institution	CA	5	8	
APDB101	Applications Development 1B	(C)	Exam	5	12	Applications Dev 1A (E)
FINA101	Financial Accounting 1	(C)	Exam	5	12	
BSAP101	Business Analysis Project 1	(GE) Program	CA	5	16	
BSIS101	Business Information Systems 1	(C)	Exam	5	12	

Year 2– Semester 1 (Study Period – 3)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
BFND201	Business Fundamentals 2	(GE) Institution	CA	6	12	Business Fundamentals 1 (P)
BSAA201	Business Analysis 2A	(C)	Exam	6	8	Financial Accounting 1 (P)
APDA201	Applications Development 2A	(C)	Exam	6	12	Applications Dev 1A (P) Applications Dev 1B (P)
INMA201	Information Management 2A	(C)	Exam	6	8	
CABF201	Computer Applications in Business and Finance 2	(C)	Exam	6	12	
BSIS201	Business Information Systems 2	(C)	Exam	6	8	Business Information Systems 1 (P)

Year 2– Semester 2 (Study Period – 4)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
THIA201	Theory of Internal Auditing 2	(C)	Exam	6	8	
BSAB201	Business Analysis 2B	(C)	Exam	6	8	Business Analysis 2A (E)
APDB201	Applications Development 2B	(C)	Exam	6	12	Applications Dev 2A (E)
INMB201	Information Management 2B	(C)	Exam	6	8	Info Management 2A (E)
BSAP201	Business Analysis Project 2	(GE) Program	CA	6	12	Business Anal Proj 1 (P) Business Info Sys 2 (E)
ITPM101	IT project Management	(C)	Exam	6	12	

Year 3 – Semester 1 (Study Period – 5)

Code	Modules	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
BSAA301	Business Analysis 3A	(GE) Program	Exam	7	16	Business Analysis 2A (P) Business Analysis 2B (P) Business Analysis Project 2(E)
BISA301	Business Information Systems 3A	(C)	Exam	7	16	Business Info Sys 2 (P)
BAPA301	Business Analysis Project 3A	(GE) Program	CA	6	16	Business Anal 2A (P) Business Anal 2B (P) Business Anal Proj 2 (P)
TIPP301	Theory of ICT Professional Practice 3	(C)	CA	6	12	

Year 3 – Semester 2 (Study Period – 6)

Code	Module	Core/ Fundamental /General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
ENSP101	Entrepreneurial Spirit	(GE) Faculty	CA	6	12	Business Fundamentals 1 (P) Business Fundamentals 2 (P)
BSAB301	Business Analysis 3B	(GE) Program	Exam	7	16	Business Analysis 3A (E)
BISB301	Business Information Systems 3B	(C)	Exam	7	12	Business Info Systems 3A(E)
BAPB301	Business Analysis Project 3B	(GE) Program	CA	6	20	Business Anal Proj 3A (E) Business Analysis 3A (E)

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

Year I – Semester I (Study Period – 1)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level
CSTN101	Cornerstone101	(GE) Institution	CA	5
FCSC101	Fundamentals of Computer Security	(F)	Exam	5
ICTL101	ICT Literacy & Skills	(GE) Institution	CA	5
ILGA101	IT Logic & Technology 1A	(F)	CA	5
SKDA101	Skills Development 1 A	(F)	CA	5

Year I – Semester 2 (Study Period – 2)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Prerequisites (P) Co-Requisites (C) Exposure (E)
OSYS101	Operating Systems	(F)	Exam	5	
ILGB101	IT Logic & Technology 1B	(F)	CA	5	IT Logic & Technology 1A (E)
SKDB101	Skills Development 1 B	(F)	CA	5	
INSS101	Information Systems I	(C)	Exam	5	

Year 2 – Semester 1 (Study Period – 3)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Prerequisites (P) Co-Requisites (C) Exposure (E)
CNTW101	Communications Networks 1	(F)	Exam	5	
APDA101	Applications Development IA	(C)	Exam	5	
ILGA201	IT Logic & Technology 2A	(F)	CA	5	IT Logic & Technology IA (P) IT Logic & Technology IB (P)
SKDA201	Skills Development 2A	(F)	CA	5	Skills Development IA (P) Skills Development IB (P)
BFND101	Business Fundamentals I	(GE) Faculty	CA	5	

Year 2 – Semester 2 (Study Period – 4)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Prerequisites (P) Co-Requisites (C) Exposure (E)
MWMU101	Me. My World, My Universe	(GE) Institution	CA	5	
APDP101	Applications Development Project I	(GE) Program	CA	5	Applications Development IA (E) Applications Development IB (C)
APDB101	Applications Development IB	(C)	Exam	5	Applications Development IA (E)
ILGB201	IT Logic & Technology 2B	(F)	CA	5	IT Logic & Technology 2A(E)
SKDB201	Skills Development 2B	(F)	CA	5	Skills Development IA (P) Skills Development IB (P)

Year 3 - Semester 1 (Study Period – 5)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Prerequisites (P) Co-Requisites (C) Exposure (E)
BFND201	Business Fundamentals 2	(GE)Faculty	CA	6	Business Fundamentals I (P)
MCPA201	Mobile Computing 2A	(C)	Exam	6	
ISYA201	Information Systems 2A	(C)	Exam	6	Information Systems I (P)
APDA201	Applications Development 2A	(C)	Exam	6	Applications Development IA (P) Applications Development IB (P)
INMA201	Information Management 2A	(C)	Exam	6	
ITPM101	IT Project Management	(C)	Exam	6	

Year 3 - Semester 2 (Study Period – 6)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Prerequisites (P) Co-Requisites (C) Exposure (E)
CMEP101	Community Engagement Project	(GE) Institution	CA	6	
MCPB201	Mobile Computing 2B	(C)	Exam	6	Mobile Computing 2A (E)
ISYB201	Information Systems 2B	(C)	Exam	6	Information Systems 2A (E)
APDB201	Applications Development 2B	(C)	Exam	6	Applications Development 2A (E)
INMB201	Information Management 2B	(C)	Exam	6	Information Management 2A (E)
APDP201	Applications Development Project 2	(GE) Program	CA	6	App Dev Proj 1 (P) App Dev 2A (E) Info Sys 2A (E)

Year 4 - Semester 1 (Study Period – 7)

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Prerequisites (P) Co-Requisites (C) Exposure (E)
APDA301	Applications Development 3A	(C)	Exam	6	App Dev 2A (P) App Dev 2B (P)
ISYA301	Information Systems 3A	(C)	Exam	6	App Dev Project 2(P) Applications Dev Project 2 (E)
ADPA301	Applications Development Project 3A	(GE) Program	CA	6	Applications Dev 2A (P) Applications Dev 2B (P)
HCIN101	Human Computer Interaction	(C)	Exam	6	
TIPP301	Theory of ICT Professional Practice 3	(GE) Program	Exam	6	

Year 4 - Semester 2 (Study Period – 8)

Code	Subjects	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Prerequisites (P) Co-Requisites (C) Exposure (E)
ENSP101	Entrepreneurial Spirit	(GE) Faculty	CA	6	Business Fund 1 (P) Business Fund 2 (P)
APDB301	Applications Development 3B	(C)	Exam	6	Applications Dev 3A (E)
ISYB301	Information Systems 3B	(C)	Exam	6	Info Systems 3A (E)
ADPB301	Applications Development Project 3B	(GE) Program	CA	6	App Dev Project 3A (E)

6.4 SUBJECT CONTENT ABRIDGED SYLLABI (Diploma programme offerings)

Applications Development IA (APDA101)

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 (APDA201)

Introduction to (a) development framework(s), Client-side languages for Web Development, Server-side languages for Web Development, Frontend Frameworks for Web Development, Backend Frameworks for Web Development, Web Development Tools.

Applications Development 3A (APDA301)

Informed understanding of Cloud Computing concepts
Design and build applications that are cloud computing ready
Create, deploy, configure and monitor applications that run in the chosen cloud platform
Ability host Windows Communication Foundation (WCF) services using the chosen cloud platform
Solid knowledge of virtualization and storage
A sound understanding of Blobs
Include web forms security in cloud-based applications
Ability to upload and test cloud applications

Applications Development Project 1 (APDP101)

Fundamental knowledge of how to design, develop and implement an application, Ability to test the application in a live environment, Ability to incorporate limited processing capabilities into the application, Create and submit documentation for the web application in the form of a report
Ability to apply logic and problem solving skills, Abilities to synthesize knowledge from other learning areas into the capstone project, Demonstrate and present the application

Applications Development Project 3A (ADPA301)

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 IB (APDB101)

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 (APDB201)

Creating and managing Filters, controller Extensibility, creating and managing Views, Designing Model Templates, Model Binding, Model Validation, Creating Asynchronous Java Script Functions, Working with Java Script Frameworks, Security Vulnerability when developing applications, Authentication and Authorizing access to applications, Deployment.

Applications Development 3B (APDB301)

Build service oriented cloud applications
Manage service oriented cloud applications
Analyse the programming of cloud computing services to fully reveal and understand the framework behind the various services
Sound knowledge of creating and deploying cloud services
Employ worker roles and queues for asynchronous processing
Create and access SQL databases for cloud-based storage
Control access to cloud applications.
Build cloud applications taking into consideration security, confidentiality and audits.

Applications Development Project 2 (APDP201)

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, and DB2. **All applications must be developed as either web / mobile based and designed to incorporate the relevant development libraries.**

Applications Development Project 3B (ADPB301)

Understanding and application of concepts in application development Application Development Methodology: Agile/Scrum, Waterfall, RAD, etc. Introduction 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 2A (BSAA201)

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 (BSAA301)

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 3B (BSAB301)

SAP as the Tool

Using IT for process management and improvement

Business process improvement and modelling 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 2 (BSAP201)

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 Project 3A (BAPA301)

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 Fundamentals I (BFND101)

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 Analysis 2B (BSAB201)

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 Project I (BSAP101)

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 Project 3B (BAPB301)

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 Fundamentals 2 (BFND201)

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)

Business Information Systems 1 (BSIS101)

Basic Concepts- an introduction to business information systems
Selection of appropriate hardware for a BIS
Selection of appropriate software for a BIS
Networks, telecommunications and the Internet as related to a BIS
Enterprise and functional BIS

Business Information Systems 3A (BISA301)

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

Communication Networks I (CNTW101)

Introduction to Networks
Networks in Our Daily Lives
Communicating on a Local Network
Network Addressing
Providing Network Services
Building A Home Network
Network Security
Configuring Devices
Testing and Troubleshooting

Computer Applications in Business and Finance 2 (CABF201)

Introduction to the functionalities of SMMEs and their roles in the economy
Core business processes of the financial components of SMMEs
Selection of appropriate applications to manage the business finances
Evaluating the feasibility of different business software applications
Legal, ethical, social, economic and political issues relating to business applications
Types and uses of business reports

Business Information Systems 2 (BSIS201)

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 Information Systems 3B (BISB301)

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

Community Engagement project (CMEP101)

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.

Cornerstone 101 (CSTN101)

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 Umgeni River (which is close to all DUT campuses) as a metaphor bringing 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.

Financial Accounting I (FINA101)

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

Human Computer Interaction (HCIN101)

Informed understanding of the human cognitive and physical capabilities to process information

Sound understanding of incorporating HCI into design of technology

Informed understanding of availability and functionality of technology

Fundamental knowledge of principles and paradigms embodying usability of interactive systems

Fundamental knowledge of methods for evaluating Designs

Ability to analyse user's behaviour

Understand the principles and paradigms embodying Usability

Information Management 2B (INMB201)

Advanced Structured Query Language

Implementation Alternatives Database Management

Entrepreneurial Spirit (ENSP101)

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)

Fundamentals of Computer Security

(FCSC101)

Basic Security Principles & Terms

System Security

Human & Physical Security

User Security

Malware

Policies/Procedures & Documentation

Basic Cryptography

ICT literacy and Skills (ICTL101)

Basics of ICTs Hardware, Software, and Users

Internet Search

Word Processing

Spreadsheets

Presentations

Referencing

Security, Legal, Ethical, and Societal Issues

Economics of ICTs

Information Management 2A (INMA201)

Database systems

The Database Approach

Database Development Process

Database Alternatives

Database Models

Relational Models Characteristics

Database Design

Data Modelling with Entity Relationship Diagrams

Data Modelling Advanced Concepts

Normalizing Database Designs

Introduction to Structured Query Language

Information Systems 1 (INSS101)

An Overview of systems analysis and design
 The role of the systems analyst
 Investigating systems requirements
 Use Cases
 Domain Modelling
 Extending the Requirements models

Information Systems 2B (ISYB201)

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 (ISYB301)

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

IT Logic & Technology 2A (ILGA201)

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

IT Project Management (ITPM101)

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

Information Systems 2A (ISYA201)

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 (ISYA301)

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

IT Logic & Technology 1A (ILGA101)

Computer Technology Concepts
 Logic skills & Problem solving techniques
 Pseudocode with variables and constructs
 Problem solving with puzzles
 Critical Reasoning – logic
 Deductive and Inductive reasoning
 Problem solving using pseudocode, trace tables
 Input, Process, Output
 Simple Algorithms
 Flowchart

IT Logic & Technology 1B (ILGA101)

Structured algorithms
 Flowcharts
 Trace tables
 Introduction to Compiler, programming language
 Loops
 Arrays

IT Logic & Technology 2 B (ILGB201)

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

Law for Life (LWLF101)

Introduction
 Civil and criminal law
 Law of insurance
 Road accident fund
 Law of contract
 Marriage
 Succession

Me, My World, My universe (MWMU101)

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 2B (MCPB201)

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

Skills Development 1B (SKDB101)

Business English
Communication
Life Skills

Skills Development 2B (SKDB201)

Business Processes
Enterprise Systems Knowledge for Business
Sales processes
Purchasing processes
ERP foundation scenarios using SAP

Mobile Computing 2A (MCPA201)

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)

Operating Systems (OSYS101)

Introduction to Operating Systems
Memory Management: Simple and Virtual Systems
Processor Management
Process Management
Concurrent Processes
Device Management
File Management

Skills Development 1A (SKDA101)

Academic Literacy
Information Literacy
Language Skills
Numeracy

Skills Development 2A (SKDA201)

Basic Accounting Skills Accounting concepts
Basic Business Skills

Theory of ICT Professional Practice 3 (TIPP301)

Organizational structure
Communication Skills
Skills of ethical analysis
Professional Ethics and Social Responsibility
Elements of social analysis
Intellectual Property
Information Privacy
Responsibility of a computer professional

Theory of Internal Auditing (THIA201)

Basic introduction to Internal Auditing
The role of the internal auditor
Basic audit concepts internal control
Elementary systems of internal control
Evaluation of internal control system cycles internal audit reports

7. PROGRAMME INFORMATION (new Degree offering)

Bachelor of Information and Communications Technology(BICT)

This new CHE-accredited Degree offering in BICT is offered for the first time in 2019. The department may accept a limited number of students into the second or third year of study, who's BICT Programme aligns with the University, subject to availability of space.

Normal duration

3 years full-time

7.1 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 in- adequate 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.

7.2 Entrance requirements

Bachelor of Information and Communications Technology(BICT)

The requirement below represents the minimum into a three-year **Degree in ICT**.

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 Degree and must meet the following requirements:

DEPARTMENTAL NSC REQUIREMENTS		DEPARTMENTAL SENIOR CERTIFICATE REQUIREMENTS		NCV REQUIREMENTS
NSC Degree Entry		A Senior Certificate with Matriculation Exemption		
Compulsory Subjects	NSC Rating	Compulsory Subjects	HG	
English (Home Language) OR English (1 st Additional Language)	4	English	D	
Mathematics	4	Mathematics	D	
And at least one of the following subjects: Physical Science OR Information Technology OR Accounting	4	And at least one of the following subjects: Physical Science OR Information Technology OR Accounting	D	(a) At least 60% in one fundamental subject, in addition to English & Mathematics. (b) At least 70% in three compulsory vocational subjects

7.3 ITBI Promotion to a Higher Level / Progression Rules

In addition to Rules G14*, G16*, G17* and G21* the following is applicable:

The student shall pass and accumulate the minimum number of credits at the end of each year of registration, as indicated in the table below:

End of year	Minimum Credits
1	60
2	120
3	200
4	260

Should a student not achieve the minimum credit indicated in the table above, he/she will not be permitted to register in the subsequent year.

This gives the student five years to complete the three year qualification without intervention as required within DUT general rules G17* and G21*.

At the end of any year, if the student has not met the progression rules, he/ she may appeal.

7.4 ITB2 Unsatisfactory Academic Progress

The DUT general rules G17* and G19* – G25* apply.

7.5 ITB4 Eligibility for Exams

The DUT General rule G12* applies.

7.6 ITB5 Academic Integrity

The DUT General rule G13 (o)* applies.

7.7 PROGRAMME STRUCTURE New Bachelor of Information and Communications Technology**Year I – Semester 1 (Study Period - 1)**

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits
BFND101	Business Fundamentals I	(GE) Faculty	CA	6	12
INCPI01	Introduction to Computing	(F)	Exam	5	12
SWDFI01	Software Development Fundamentals	(F)	Exam	5	12
ICMSI01	Interpersonal Communication & Self	(GE) Institution	CA	5	8
MCMAI01	Mathematics for Computing IA	(C)	CA	6	12

Year I – Semester 2 (Study Period - 2)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
CSTN101	Cornerstone 101	(GE) Institution	CA	5	12	
BFND201	Business Fundamentals II	(GE) Faculty	CA	6	12	Business Fundamentals I (P)
DSTR101	Discrete Structures	(C)	Exam	6	16	
MCMB101	Mathematics for Computing IB	(C)	CA	6	12	
SYSF101	Systems Fundamentals	(F)	Exam	5	12	

Year 2 – Semester I (Study Period - 3)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
SADS201	Systems Analysis and Design II	(C)	Exam	6	12	Business Fundamentals I (P)
LWLF101	Law for Life	(GE) Institution	CA	5	8	
OGBH201	Organisational Behaviour II	(C)	Exam	5	12	
NOPS201	Networks and Operating Systems II	(C)	Exam	6	16	Systems Fundamentals(C)
PRLN201	Programming Languages II	(C)	Exam	6	12	

Year 2 Semester 2 (Study Period - 4)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
ALDS201	Algorithms and Data Structures II	(C)	Exam	6	12	Discrete Structures (C)
INFM201	Information Management 2	(C)	Exam	6	12	
INAS201	Information Assurance and Security II	(C)	Exam	6	16	
COAR201	Computer Organisation and Architecture II	(C)	Exam	6	16	Systems Fundamentals(C)
ENSP101	Entrepreneurship spirit	(GE) Faculty	CA	6	12	Business Fundamentals I (P) Business Fundamentals II (P)

Year 3 Semester I (Study Period – 5)

Code	Module	Core/ Fundamental/ General Education	Assessment Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
SFEN301	Software Engineering III	(C)	Exam	7	16	
PBDV301	Platform Based Development III	(C)	Exam	7	16	Programming Languages II(C)
IPRT301	Integrative Programming and Technology III	(C)	Exam	7	16	
SPRI301	Social and Professional Issues III	(C)	Exam	7	16	
PRJA301	Project IIIA	(C)	CA	7	8	Programming Languages II(C)

Year 3 Semester 2 (Study Period - 6)

Code	Module	Core/ General Education/Opti onal	Assesse nt Method	NQF Level	Module Credits	Prerequisites (P) Co-Requisites (C) Exposure (E)
PRJB301	Project IIIB	(C)	CA	7	12	Programming Languages II(C)
IEXP101	Industry Exposure	(GE) Institution	CA	7	12	
PJMN301	Project Management III	(O)	Exam	7	16	
BSIT301	Business Intelligence III	(O)	Exam	7	16	Information Management II(C)
PDCP301	Parallel and Distributed Computing III	(O)	Exam	7	16	Programming Languages II(C)
MCHI301	Machine Intelligent III	(O)	Exam	7	16	
GRPH301	Graphics III	(O)	Exam	7	16	
HCPI301	Human Computer Interaction III	(O)	Exam	7	16	
SAQM301	Strategy Acquisition and Management III	(O)	Exam	7	16	
WSYT301	Web Systems and Technology III	(O)	Exam	7	16	

7.9 ABRIDGED SYLLABI (New BICT Degree programme offerings)**Algorithms and Data Structures II (ALDS201)**

Basic analysis
Algorithmic strategies
Fundamental data structures and algorithms
Basic Automata, Computability and Complexity
Advanced Computational Complexity
Advanced Automata Theory and Computability
Advanced Data Structures Algorithms and Analysis

Introduction to Computing (INCP101)

Pervasive themes in Computing
History of Computing
Computing Disciplines
Computing Application Domains
Foundations of Computing Systems
The IS function
Impact of IS and computing on organisational structures and processes

Cornerstone 101 (CSTN101)

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 UMgeni River (which is close to all DUT campuses) as a metaphor bringing 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.

Discrete Structures (DSTR101)

Sets, Relations, and Functions Propositional logic
Basic Logic
Proof Techniques
Basics of Counting

Software Development Fundamentals (SYSF101)

Algorithms and design
Fundamental programming concepts
Fundamental data structures
Development methods

Software Engineering III (SFEN301)

Software Processes
Software Project Management
Tools and Environments
Requirements Engineering
Software Design
Software Construction
Software Verification Validation
Software Evolution

Platform Based Development III (PBDV301)

Introduction to Platform-based development
Web Platforms
Mobile Platforms
Game Platforms
Industrial Platforms

Integrative Programming and Technology III (IPRT301)

Intersystem Communications
Data Mapping and Exchange
Integrative Coding
Scripting Techniques
Software Security Practices

Social and Professional Issues III (SPRI301)

Social context of computing
Analytical Tools
Professional Ethics
Legal protection and personal privacy
Professional Communication
Sustainable computing

Project IIIA & Project IIIB (PRJA301 & PRJB301)

The project must incorporate any relevant area of emphasis either from the Computer Science or Information Technology focus area in the software engineering process of computer systems development.

Industry Exposure (IEXPI01)

Students will reflect on realistic workplace expectations to draw links with discipline knowledge and be able to explain real aspects of the real world setting. They will be expected to respond and compare their workplace in ways that inform and improve future practice. Structured learning activities and assessments tasks that allow students the opportunity to illustrate and critically measure learning and to share experience for a variety of audiences will be of importance.

Mathematics for Computing IA (MCMA101)

Differential Calculus
 Integral Calculus
 Multivariate Calculus
 Vector Algebra
 Elementary Linear Algebra

Mathematics for Computing IB (MCMB101)

Discrete probability
 Continuous probability
 Expectation
 Stochastic processes
 Sampling distributions
 Estimation
 Hypothesis tests

Systems Fundamentals (SYSFI01)

Computational Paradigms
 Cross-Layer Communications
 State and State Machines
 Parallelism
 Evaluation
 Resource Allocation and Scheduling
 Proximity
 Virtualization and Isolation
 Reliability through Redundancy
 Quantitative Evaluation

Systems Analysis and Design II (SADS201)

Organizational context
 IT-enabled organizational change
 Business process management
 Analysis of business requirements
 IT Project Management in global context
 System analysis and design methodology
 Analysis and specification of system requirements
 Approaches to implementation of Information Systems

Organisational Behaviour II (OGBH201)

Managing Demographic and Cultural Diversity
 Understanding People at Work: Individual Differences and Perception
 Individual Attitudes and Behaviours
 Theories of Motivation
 Designing a Motivating Work Environment
 Managing Stress and Emotions
 Communication
 Managing Groups and Teams
 Conflict and Negotiations
 Making Decisions
 Leading People Within Organizations
 Power and Politics
 Organizational Structure and Change
 Organizational Structure
 Organizational Culture Building a Customer Service Culture

Strategy Acquisition and Management III (SAQM301)

Business IS/IT alignment
 Strategic IS planning
 Strategic knowledge management
 Business exploitation of ICT
 Acquiring IT resources and capabilities
 IS/IT benefits management and realization
 IT risk management
 IT governance frameworks

Project Management III (PJM301)

Introduction to PM and IT PM
 Planning
 Schedule/time management
 Cost management
 Quality management
 Human resource management
 Communications management
 Risk management

Business Intelligence III (BSIT301)

Decision Making and Analytics: An Overview
 Descriptive Analytics
 Predictive Analytics
 Prescriptive Analytics
 Big Data and Future Directions for Business Analytics

Parallel and Distributed Computing III (PDCP301)

Parallelism fundamentals
 Parallel Decomposition
 Communication and Coordination
 Parallel Algorithms, Analysis, and Programming
 Parallel Architecture
 Parallel Performance
 Distributed Systems

Machine Intelligent III (MCHI301)

Introduction to machine intelligence
 Search Strategies
 Knowledge Representation and Reasoning
 Machine Learning
 Intelligent Agents
 Natural language processing
 Computer vision

Graphics III (GRPH301)

Basic Rendering
 Geometric Modelling
 Computer Animation
 2 and 3-D transformations
 3-D Transformations in OpenGL
 Projection principles
 Objects and simple lighting in OpenGL
 Hidden line and surface removal, clipping
 Surface Representations: Bezier and Spline methods, Texture mapping

Networks and Operating Systems II (NOPS201)

Overview of Operating Systems
 Operating System Principles
 Concurrency
 Scheduling and Dispatch
 Memory Management
 Security and Protection
 Networked Applications
 Reliable Data Delivery

Human Computer Interaction III (HCPI301)

HCI Concepts
 Human Centered Development
 Graphical User Interface Programming
 Multimedia Systems Development
 Interactive GUI Design
 Graphics and Visualization

Programming Languages II (PRLN201)

Introduction
 Program Representation
 Language Translation and Execution
 Syntax Analysis
 Compiler Semantic Analysis
 Code Generation
 Runtime Systems
 Static Analysis

Information Management II (INFM201)

Information Management Concepts and Fundamentals
 Database Query Languages
 Data Organization Architecture
 Data Modelling
 Managing the Database Environment
 Special Purpose Databases

Information Assurance and Security II (INAS201)

Foundational Concepts in Security
 Principles of Secure Design
 Defensive Programming
 Threats and Attacks
 Network Security
 Cryptography
 Security Policy and Governance
 Digital Forensics

Interpersonal Communication and Self (ICMS101)

Fundamentals to Interpersonal Communication
 Interpersonal Communication Skills in Action
 Dimensions of Interpersonal Relationships

Entrepreneurial Spirit (ENSP101)

Orientation to Entrepreneurial Spirit
 Spirit of Entrepreneurship
 Operations
 Project Management
 Team Management
 Business and Finance
 Investigating the Business
 Environment/Architecture Financing
 Marketing (Advertising, Promotions etc.)
 Risk Management
 Entrepreneurial Case study Analysis

Computer Organisation and Architecture II (COAR201)

Fundamentals of computer architecture
 Computer arithmetic
 Memory system organization and architecture
 Interfacing and communication
 Device subsystems
 Processor systems design
 Organization of the CPU
 Performance
 Performance enhancements

Web Systems and Technology III (WSYT301)

Web Technologies
 Information Architecture
 Digital Media
 Web Development
 Vulnerabilities
 Vulnerabilities

Business Fundamentals I (BFND101)

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 (BFND201)

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)

Law for Life (LWLF101)

Introduction
 Civil and criminal law
 Law of insurance
 Road accident fund
 Law of contract
 Marriage
 Succession

8. PROGRAMME INFORMATION (Phase-out BTech 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.

8.1.1 Eating, playing music, smoking or drinking in any lecture venue or laboratory is forbidden.

8.1.2 Safety rules are to be strictly adhered to at all times.

8.1.3 Mobile phones are to be switched off during lecture, laboratory and assessment sessions

Course/ year marks

8.1.4 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.

8.1.5 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 in- adequate presentation of assigned work.

8.1.6 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 2019 (numbers permitting).

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.

This programme will have a final intake of new students in 2018 (number permitting). Insufficient student numbers may result in the programme *not* being offered.

Normal duration

2 years part time

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 prerequisite 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

8.4.1 (B TECH IT AND B TECH FIS)

Slow progress

A student who is unable to graduate within the allowed time period will be given a warning of slow progress.

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 for registration through the student portal.

8.5 PROGRAMME STRUCTURE

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

The programme shall consist of 10 modules completed during one year of fulltime 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.

Please note that the last possible registration for this qualification is January 2019.

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	CA	7		
RMIT101	Research Methodology	C	Semester	CA	7		

FULL TIME (Study Period - 2)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre- requisite	Exposure
ADSW401	Advanced Development	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	CA	7	RMIT101 Pass mark ≥ 60%	
RMIT121	Research Methodology	C	Semester	CA	7	RMIT101 <	
SWED401	Software Engineering &	O	Semester	Exam	7		
USRI401	User Interfaces 4	O	Semester	Exam	7		

* Registration for Project 4 is only available for students who meet the Pre-requisite and whose application is approved by the department. Space is limited and determined by the availability of resources.

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	O	Semester	Exam	7		

PART TIME - THIS PROGRAMME RUNS ON A TWO YEAR CYCLE.

PART TIME SEMESTER 1 (2019) (Max 3) (Study Period-A)

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

PART TIME SEMESTER 2 (2019) (Max 3) (Study Period-B)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Exposure	Co- Req.
ADSW401	Advanced Development Software 4	C	Semester	Exam	7	DSFW401	
INSC401	Information Security 4	O	Semester	Exam	7		
NETW404	Network 4#	O	Semester	Exam	7		

PART TIME SEMESTER 1 (EVEN YEARS) 2020 (Max 3) (Study Period-C)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre- requisite	Co- Req.
OSYS404	Operating Systems 4#	O	Semester	Exam	7		
RMIT101	Research Methodology	C	Semester	CA	7		

PART TIME SEMESTER 2 (EVEN YEARS) 2020 (Max 4) (Study Period-D)

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

**Phase Out Plan – B Tech IT (BTINF2)
NO NEW intake in 2020 - Phased Out**

Subject Code	*Subject	Semester/Year	** Last possible Registration
DBSY404	Database Systems 4	Semester	January 2019 (Full Time and Part Time)
DSFW401	Development Software 4	Semester	January 2019 (Full Time and Part Time)
INTM401	Information & Technology Management 4	Semester	January 2019 (Full Time and Part Time)
OSYS404	Operating Systems 4	Semester	January 2020 (Part Time only, returning students)
RMIT101	Research Methodology	Semester	January 2020 (Part Time only, returning students)
ADSW401	Advanced Development Software 4	Semester	July 2019 (Full Time and Part Time)
INSC401	Information Security 4	Semester	July 2019 (Full Time and Part Time)
NETW404	Networks 4	Semester	July 2019 (Full Time and Part Time)
PRJT402	Project 4 *	Semester	July 2019 (Full Time and Part Time)
RMIT121	Research Methodology 2nd registration	Semester	July 2020 (Part Time only, returning students)
SWED401	Software Engineering & Design 4	Semester	July 2020 (Part Time only, returning students)
USRI401	User Interfaces 4	Semester	July 2020 (Part Time only, returning students)

* Subjects may be offered part-time depending on class size and resources

** Last year of offering will be dependent on registration numbers - minimum class size of 15

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

This is a two year part time programme. Students may register on a full time basis in an odd year, given the odd year subjects are offered in the PART TIME slot only.

Please note that the last possible registration for this qualification is January 2019

Even Years (2018,2020)

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 (2019)

Code	Subjects	*C/O	Semester/ Year	Assessment Method	NQF Level	Pre- requisite	Co- Req.
FISY402	Financial Information Systems IV	C	Annual	CA	7		
RMIT101	Research Methodology	C	Semester	CA	7		
RMIT121	Research Methodology 2 nd registration	C	Semester	CA	7	RMIT101 < 50%	
INLW101	Industrial Law	C	Semester	Exam	7		
FNLM413	Financial Management IV mod 1	C	Semester	Exam	7		
FNLM423	Financial Management IV mod 2	C	Semester	Exam	7		

* Subjects may be offered part-time depending on class size and resources

** Last year of offering will be dependent on registration numbers - minimum class size of 15

Phase Out Plan – B Tech FIS (BTFIS2) NO NEW intake in 2020 - Phased Out			
Subject Code	*Subject	Semester/Year	** Last possible Registration
FISY402	Financial Information Systems IV	Annual	January 2019
RMIT101	Research Methodology	Semester	January 2020 (Part Time only, returning students)
RMIT121	Research Methodology 2 nd registration	Semester	July 2020 (Part Time only, returning students)
INLW101	Industrial Law	Semester	July 2019
FNLM413	Financial Management IV mod 1	Semester	January 2020 (Part Time only, returning students)
FNLM423	Financial Management IV mod 2	Semester	July 2020 (Part Time only, returning students)
FNMT101	Functional Management	Semester	January 2019
AMCS201	Advanced Management Communication Skills 2	Semester	July 2020 (Part Time only, returning students)
FACC412	Financial Accounting 4 mod 1	Semester	January 2020 (Part Time only, returning students)
FACC422	Financial Accounting 4 mod 2	Semester	July 2020 (Part Time only, returning students)
RMIT121	Research Methodology 2 nd registration	Semester	July 2020 (Part Time only, returning students)

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)

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.

FINANCIAL INFORMATION SYSTEMS IV

SAPSE Code 060504006
Subject Code FISY402

Theory

Management Information Systems. Concepts of Enterprise resource planning. Using models and frameworks. Complete a literature review research assignment.

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

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

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

EXPERT SYSTEMS 4

SAPSE Code 69900606
Subject Code ESYS401

Theory

Knowledge Representation and Acquisition Knowledge Engineering
Building Expert Systems
Inferences, Explanations and 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 I

SAPSE Code 040923106
Subject Code FNLM413

(Module I)

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)

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).

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).

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).

INDUSTRIAL LAW

SAPSE Code I30306712

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)

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%

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.

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

9. PROGRAMME INFORMATION (Phase-out Diploma offerings)

9.2 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.

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

Course/ year marks

- 9.2.4 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.
- 9.2.5 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.
- 9.2.6 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.

9.3 DIPLOMA PROGRAMMES

National Diploma in Information Technology

The National Diploma in Information Technology had TWO STREAMS namely:-

National Diploma in Information Technology (Software Development)

AND

National Diploma in Information Technology (Business Applications)

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' part time

9.4 PROGRAMME RULES

With regards to the Progression rules for ND: IT, ND: FIS and FOUNDATION programme a student needs to be aware of the Programme Rules listed on pages 10 and 11.

9.5 PROGRAMME STRUCTURE

ND: Information Technology (Software Development) [NDINSI]

ND: Information Technology (Software Development) 4-year Foundation [NDISFI]

ND: Information Technology (Business Applications) [NDINBI]

The three National Diplomas indicated above are in a process of being phased out. The last new intake for all these diplomas was in January 2015. However should you wish to pursue a module indicated as phased-out below, kindly contact the programme coordinator within the department, to consider alternate options.

The following table provides each of the modules for the respective diplomas and its last date of offering.

Module Code	Module Name	* C/O	** S/A	NQF Level	Prerequisite	Diploma(s)	*** Last offering Date
ILGT101	IT Logic & Technology 1	C	A	4		NDISFI	Phased out
SKDV101	Skills Development 1	C	A	4		NDISFI	Phased out
ISYS113	Information Systems 1 [mod 1]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
DSFW112	Development Software 1 [mod 1]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
SSFT111	System Software 1 [mod 1]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
TPRG111	Technical Programming 1 [mod 1]	C	S	5		NDISFI, NDINSI	Phased out
FACC113	Financial Accounting 1 [mod 1]	C	S	5		NDINBI	Phased out
ISYS123	Information Systems 1 [mod 2]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
DSFW122	Development Software 1 [mod 2]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
SSFT121	System Software 1 [mod 2]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
TPRG121	Technical Programming 1 [mod 2]	C	S	5		NDISFI, NDINSI	Phased out
FACC123	Financial Accounting 1 [mod 2]	C	S	5		NDINBI	Phased out
ILGT201	IT Logic & Technology 2	C	A	5	ILGT101	NDISFI	Phased out
SKDV201	Skills Development 2	C	A	5	SKDV201	NDISFI	Phased out
ISYS213	Information Systems 2 [mod 1]	C	S	6	ISYS113, ISYS123	NDISFI, NDINSI, NDINBI	Phased out
DSFW212	Development Software 2 [mod 1]	C	S	6	DSFW112, DSFW122	NDISFI, NDINSI, NDINBI	Phased out
SSFT213	System Software 2 [mod 1]	O	S	5	SSFT111, SSFT121	NDISFI, NDINSI, NDINBI	Phased out
SSFT223	System Software 2 [mod 2]	O	S	5	SSFT111, SSFT121	NDISFI, NDINSI, NDINBI	Phased out

Module Code	Module Name	* C/O	** S/A	NQF Level	Prerequisite	Diploma(s)	*** Last offering Date
TPRG211	Technical Programming 2 [mod 1]	C	S	6	TPRG111, TPRG121	NDISFI, NDINSI	Phased out
BSAN212	Business Analysis 2 [mod 1]	C	S	6	ISYS113, ISYS123	NDINBI	Phased out
ISYS223	Information Systems 2 [mod 2]	C	S	6	ISYS213	NDISFI, NDINSI, NDINBI	Phased out
DSFW222	Development Software 2 [mod 2]	C	S	6	DSFW112, DSFW122	NDISFI, NDINSI, NDINBI	Phased out
TPRG221	Technical Programming 2 [mod 2]	C	S	6	TPRG111, TPRG121	NDISFI, NDINSI	Phased out
ITSK111	IT Skills 1 [mod 1]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
ITSK121	IT Skills 1 [mod 2]	C	S	5		NDISFI, NDINSI, NDINBI	Phased out
BSAN222	Business Analysis 2 [mod 2]	C	S	6	ISYS113, ISYS123	NDINBI	Phased out
ISYS314	Information Systems 3 [mod 1]	C	S	6	ISYS213, ISYS223	NDISFI, NDINSI, NDINBI	January 2019
BSAN312	Business Analysis 3 [mod 1]	C	S	6	BSAN212, BSAN222	NDINBI	Phased out
DSFW302	Development Software 3	C	A	6	DSFW212, DSFW222, ISYS213, ISYS223	NDISFI, NDINSI, NDINBI	January 2019
CMPG101	Commercial Programming 1	O	A	6	ISYS213, ISYS223, DSFW112, DSFW122	NDISFI, NDINSI	January 2019
IPRO201	Internet Programming 2	O	A	6	TPRG111, TPRG121	NDISFI, NDINSI	January 2019
ISYS324	Information Systems 3 [mod 2]	C	S	6	ISYS213, ISYS223	NDISFI, NDINSI, NDINBI	July 2019
BSAN322	Business Analysis 3 [mod 2]	C	S	6	BSAN322	NDINBI	Phased out

* Compulsory or Optional

** Semester module or Annual

*** Subject offering will be dependent on registration numbers - minimum class size of 15
Subjects may be offered part-time depending on class size and resources

ND: Financial Information Systems [NDFIS2]

The National Diploma Financial Information Systems is in the process of being phased out. The last new intake for this diploma was in January 2015.

The table below provides the modules for the diploma and the corresponding last date of offering.

Module Code	Module Name	* C/O	** S/A	NQF Level	Prerequisite	*** Last offering Date
BCAL101	Business Calculations I	C	S			Phased out
CMUN101	Communications I	C	S			Phased out
ENSK103	Entrepreneurial Skills	C	S			Phased out
FACCI13	Financial Accounting I [mod 1]	C	S			Phased out
FISY111	Financial Information Systems I [mod 1]	C	S			Phased out
IAUD118	Internal Auditing I [mod 1]	C	S			Phased out
CLAC101	Commercial Law for Accountants	C	S			Phased out
CTAC101	Cost Accounting I	C	S			Phased out
FACCI23	Financial Accounting I [mod 2]	C	S			Phased out
FISY121	Financial Information Systems I [mod 2]	C	S			Phased out
IAUD128	Internal Auditing I [mod 2]	C	S			Phased out
FACC213	Financial Accounting 2 [mod 1]	C	S	6	Financial Accounting I	Phased out
FISY211	Financial Information Systems 2 [mod 1]	C	S	6	Financial Info Systems I	Phased out
IAUD214	Internal Auditing 2 [mod 1]	C	S	6	Financial Accounting I Internal Auditing I	Phased out
CTAC211	Cost Accounting 2 [mod 1]	C	S	6	Cost Accounting I	Phased out
SWSK111	Software Skills [mod 1]	C	S	6		Phased out

Module Code	Module Name	* C/O	** S/A	NQ F Level I	Prerequisite	*** Last offering Date
FACC223	Financial Accounting 2 [mod 2]	C	S	6	Financial Accounting I	Phased out
FISY221	Financial Information Systems 2 [mod 2]	C	S	6	Financial Info Systems I	Phased out
IAUD224	Internal Auditing 2 [mod 2]	C	S	6	Financial Accounting I Internal Auditing I	Phased out
CTAC221	Cost Accounting 2 [mod 2]	C	S	6	Cost Accounting I	Phased out
SWSK121	Software Skills [mod 2]	C	S	6	Software Skills I [mod 1]	Phased out
FACC313	Financial Accounting 3 [mod 1]	C	S	6	Financial Accounting 2	January 2019
FISY321	Financial Information Systems 3 [mod 2]	C	S	6	Financial Information Systems 2	January 2019
IAUD314	Internal Auditing 3 [mod 1]	O	S	6	Internal Auditing 2 Financial Accounting 2	January 2019
MGTA312	Management Accounting 3 [mod 1]	O	S	6	Cost Accounting 2	January 2019
PROG113	Programming 1 [mod 1]	C	S	6	Software Skills 1	January 2019
FACC323	Financial Accounting 3 [mod 2]	C	S	6	Financial Accounting 2	July 2019
FISY311	Financial Information Systems 3 [mod 1]	C	S	6	Financial Information Systems 2	July 2019
IAUD324	Internal Auditing 3 [mod 2]	O	S	6	Internal Auditing 2 Financial Accounting 2	July 2019
MGTA322	Management Accounting 3 [mod 2]	O	S	6	Cost Accounting 2	July 2019
PROG123	Programming 1 [mod 2]	C	S	6	Software Skills 1	July 2019
TAXN102	Taxation I	C	S	5	Financial Accounting I	July 2019

* Compulsory or Optional

** Semester module or Annual

*** Subject offering will be dependent on registration numbers - minimum class size of 15
Subjects may be offered part-time depending on class size and resources

9.5 SUBJECT CONTENT ABRIDGED SYLLABI

Business Analysis 2 [Mod 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 I (607025 12) (Annual)

Commercial Programming I 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 I (Visual C#) (607023 12) Module 2 (DSFW 122)

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).

Business Analysis 3 [Mod 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 I (Visual C#) (607023 12) Module 1 (DSFW 112)

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

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 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.

Method of Evaluation:

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

Information Systems I (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

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).

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

Financial Accounting I (0401092120)

Mod I

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 I (0401092120) Mod 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%

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).

Information Systems 3 (60502203) Mod I

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).

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).

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

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).

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

IT Logic and Technology 2

Software Packages

Web 2 standards

HTML

Method of Evaluation:

NO EXAM, 100% Course Mark

Skills Development 1

Academic Literacy
Information Literacy
Numeracy
Language skills
Life skills

Method of Evaluation:

NO EXAM, 100% Course Mark

Systems Software 1 (60801212)

Module 1/ 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

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)

Skills Development 2

Accounting skills
Business Skills
Language Skills

Method of Evaluation:

NO EXAM, 100% Course Mark

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

Business Calculations (150805212)

Basic mathematics
Summarising and analysing data
Index numbers

Commercial Law for Accountants I (130309912) Module I

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

Cost Accounting I (040140412)

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%

Entrepreneurial Skills (40510912)

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 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 I

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%

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%

Financial Accounting I (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%

Financial Information Systems I (FISY101) Information Systems I (ISYS103)

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 I.

Method of Evaluation:

One 3-hour examination 50% and Year Mark 50% = 100%

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%

(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 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%

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 2 (FISY201) Information Systems 2 (ISYS203)

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)

Financial Information Systems 3 (FISY321) 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%

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

Financial Information Systems 3 (FISY311)

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)

Internal Auditing 1(040137312) Module 1

Basic introduction to Internal Auditing

The internal auditor

Control of the profession

Basic introduction to auditing

Internal Auditing 1(040137312) Module 2

Planning the audit

Audit working papers

Basic audit concepts internal control

Elementary systems of internal control

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

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)

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

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%

Programming I (PROG101)**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%

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)