SCHOOL OF EDUCATION

DUT
DURBAN UNIVERSITY OF TECHNOLOGY
INYUVESI YASETHEKWINI YEZOBUCHWEPHESHE

FACULTY OF ARTS & DESIGN

2023 HAND BOOK

ENVISION2030

transparency • honesty • integrity • respect • accountability
fairness • professionalism • commitment • compassion • excellence

CREATIVE. DISTINCTIVE. IMPACTFUL.

HANDBOOK FOR 2024

FACULTY of ARTS AND DESIGN

SCHOOL OF EDUCATION

which incorporates

the Adult and Community Education Unit

FACULTY OF ARTS AND DESIGN: Vision, Mission, and Values

VISION:

Leading Arts, Design and Education in Africa, and Beyond

MISSION:

"Empowering Creative Changemakers" through Critical Thinking, Innovation and Expression

CORE VALUES:

Curiosity

We value the process of discovery and inquiry and all that it leads us to. We keep open minds and are willing to explore

Creativity

We are willing to look at different perspectives, experiment and take risks. We imagine, collaborate and enjoy the creative process of collaboration

Care

We show empathy and compassion to one another. We treat others with kindness, respect and dignity

Commitment

We are dedicated, disciplined, willing and follow through on our promises and priorities. Giving of ourselves through involvement matters

Dare. Do. Disrupt

SCHOOL OF EDUCATION VISION AND MISSION

VISION

To be a School of Education of choice, providing distinctive and impactful Teacher Education experience, guided by research, and people centeredness

MISSION

Promoting excellence in teaching, learning, and research to produce inspired, adaptive leaders in education through:

- Empowering students with knowledge, skills, and values relevant to their careers.
- Innovation and entrepreneurship education.
- Promoting active and responsible citizenship

VALUES

Respect, accountability, integrity, excellence, empathy.

VISION AND MISSION OF THE ADULT AND COMMUNITY EDUCATION UNIT

The vision of DUT in establishing its Adult and Community Education Unit (A&CE) unit is to enhance the provision of adult education for ordinary people living in Pietermaritzburg and beyond. This accords with the White Paper for Post-School Education and Training, which stresses the need to cater for the educational needs of millions of South Africans who are poorly educated, not studying, and not employed.

The mission of the A&CE unit is expressed in the following objectives:

- to build this unit to become a recognised Southern African centre of specialisation in literacy, and adult and community education.
- to offer formal courses to adult educators and trainers in the public and private sector, thus addressing a long-standing gap in education and training opportunities open to adult educators in the country;
- to engage in and provide a base for research and debate in reading, literacy, adult education and community engagement;
- to run non-formal adult education courses in response to expressed community needs;
- to establish, maintain and promote cooperative working relationships with NGOs, the private sector and government departments, community colleges wherein our students teach.
- to support the proposed Community Colleges in offering a range of formal and non-formal adult basic education courses in line with international standards and best practices in order to redress past disadvantage;
- To provide curriculum that is responsive to socio-economic, and community needs of adult citizens in South Africa;
- To enhance the provision of adult education for people living in SA.

WHAT IS A UNIVERSITY OF TECHNOLOGY?

A university of technology is characterised 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 commercialised 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 of Technology's General Rules contained in the current General Handbook for Students.

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.

"The information contained in this handbook is reflective of the Department and Programme Rules and Procedures, as approved by the University Senate Rules Committee and must be read in conjunction with latest version of the General Handbook for Students of the Durban University of Technology. Whilst all efforts have been made to ensure the accuracy of the information contained within the handbook, please verify the information with the Department or Programme, as in the unlikely event that errors and omissions could have been committed.

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1. CONTACT DETAILS

All School queries to:	
Secretary:	Ms Upasna Rampersadh
Tel No:	033 8458927
Fax No:	033 8458936
Email:	upasnar@dut.ac.za
Location of Department:	Indumiso Campus, PMB

All Faculty queries to: **Faculty officer:**	**Mr Pragasen Reddy**
Tel No:	031 3736522
Fax No:	031 3736518
Email:	reddyp@dut.ac.za
Location of Faculty:	City Campus, Durban Office
Executive Dean:	**Prof. Runette Kruger**
Dean's Secretary	Dita Buthelezi
Tel No:	031 3736516/17
Email	ditab@dut.ac.za
Fax No:	031 3736518
Location of Executive Dean's Office:	City Campus, Durban

ADULT AND COMMUNITY EDUCATION UNIT

Administrative Assistant	Mr Mthobisi Lindokuhle Nyandeni
Tel No	031 373 6047
Email	MthobisiN4@dut.ac.za

2. STAFFING

STAFFING	Name and Qualification
Head of School	Dr. CCN Mthiyane, (Senior Lecturer) B.Pead - Science; B.Ed. -Hons (UniZulu); M Sc Education (State Univ. of New York College at Buffalo, USA); Ph.D.(UKZN) Advanced Diploma in Management Sciences: Business Administration (DUT).
Programme Coordinator	Dr. C Makwara, B Comm Hons: Education (Univ. of Zimbabwe); MBA; MA (Development Studies) (Midlands State University – Zim); BA Hons -Development Studies (UNISA) PGDipHE - Academic Development (Rhodes University) Higher Cert. in Project Management (DUT); PhD (UKZN)
Heads of Programmes	**Education & Postgraduate Programmes** Dr. JP Abraham, (Senior Lecturer) BSc (Univ. of Kerala); MSc (Sardar Patel Univ.); M Phil (Univ. of Kerala); PhD (Univ. of Kerala)
	Natural Sciences Dr. MA Thamae, (Senior Lecturer) BSc; PGCE (NUL); BSc -Hons; MSc Chemistry converted to PhD (Rhodes University); Advanced Diploma in Management Sciences: Business Administration (DUT)
	Technology Dr. MSA Maeko, (Senior Lecturer) ND Technical Education; B Tech; B Ed Hons in Educational Management and Policy (WSU); M Ed (TUT); D Ed (TUT); Advanced Diploma in Management Sciences: Business Administration (DUT)
	Economics & Management Sciences & Languages Dr KL Thaba-Nkadimene PhD (UL), Master of Development (University of Limpopo); Advanced Programme in Risk Management (UNISA); BCOM (UNISA); Secondary Teachers Diploma (STD) (Modjadji College of Education); Post-Graduate Diploma in Higher Education (PGDHE) (DUT)

Lecturers	Dr D Mzindle (Senior Lecturer), STD (Indumiso College), BA, (UniZulu), B.Ed.;(UNP) M. Ed (UKZN); D. Ed (UNIZULU)
	Dr GK Zulu, SPTD (Umbumbulu College), FDE (UNP), B Ed (Hons) & M Ed (UKZN), D Ed [UniZulu]
	Dr. A Hiralaal, BA Degree; ND in Business; HED; BEd (Hons); B Comm-Hons; M Ed (UKZN), PhD(UKZN)
	Dr. DTS Sotsaka, Dip Architectural Drawing [Intec College] STD (Indumiso); N6 Diploma: Civil (Soshanguve Tech); B Tech (TSA) BEd - Hons; MEd; PhD (UKZN); Advanced Diploma in Management Sciences: Business Administration (DUT).
	Dr. X.W Zulu BA in Education (Unitra), BEd(Hons) Educ Management and policies (TUT), Med Education Management and Policies (WSU). PhD Nelson Mandela University
	Dr. D. E Mkhize, STD (Esikhawini College), B. Paed B.Ed. Hons, M.Ed., PHD (UniZulu)
	Dr. Z.S. Gumede, N Dip in Language Practice (TUT), B Tech in Language Practice (TUT), PGCE (UNISA), M Tech in Languages (TUT), PhD (Unizulu)
	Mr K Naidoo, BEd; B.Sc. (UDW); NHD: Post SchEd (ML Sultan); M.Ed (UKZN).
	Mr E Conradie, HDE (TN); FDE (NCE); BEd (Hons (UNP); M Ed (UKZN)
	Mr. P Mosito, BA (Vista); BA HONS (Wits); MA (Unisa).
	Ms. S Zulu BEd (Wits), BSc with hons Science Education (Wits), MEd (Wits)
	Ms. ZP Sithole, BEd (DUT) and MEd (UOM- University of Mysore, India)
	Ms Coetzee M.Ed. (TESOL) (Avondale, NSW, Australia), B.Cur. (RAU), B.A. (English, Psychology) (UNISA), Adv. Dip - Nursing Science (Nursing Education) (UNISA)
	Mr K. Morudu,

	B-Ed in Technology Education, B-Ed Hons in Technology Education, M-Ed (WITS)
	Ms Z.P Tembe BEd (UNIZULU) ; BEd (Hons) -CURRICULUM STUDIES (UKZN) MEd: (CURRICULUM STUDIES) (UKZN)
	Ms V Jagesar BEd (Foundation and Intermediate); BEd Hons; MEd (Gender & Education, UKZN)
	Mr. SM Msimango, B-Ed in Technology Education, B-Ed Hons in Technology Education (TUT)
	Mr. S Mthethwa, B-Ed in Technology Education, B-Ed Hons in Technology Education (DUT)
Adjunct Professor	Prof. T G Mukeredzi Diploma in Education (GTC); BEd UZ- Zim; BEd Hons (UKZN); MA (Melbourne) PhD (UKZN) Post Doc (UKZN)
Science Lab Technician	Mr S.M Maphalala BSc; BSc Hons; MSc (UKZN)
Computer Technician	Mr. M J Ntuli, ND (Info Tech) (DUT); PC Technologies (A+ Certificate) (Damelin); NC (Info. Tech) (PC Training and Business College)
Secretary	Ms. U Rampersadh BTech Degree (Commercial Administration) (MLST)
Administrative Assistant	Ms. Sandra Khonyane BA Library and Information Science (Fort Hare); BA (Hons) Library Information Science (UCT).
	Ms M Xulu ND; PG Dip (Public Relations and Communication) DUT

ADULT AND COMMUNITY EDUCATION UNIT

STAFFING	Name and Qualification
Unit Co-ordinator	Ms Z Thusi-Sefatsa BA (NU), PG Dip (Ad Ed) (NU), PG Dip (Mngmt) (Monash-SA), PG Dip (Labour Law) (UJ), M Ed - Adult Education (UKZN)
Lecturers	Dr S Tawiah Teachers' Diploma (UCCC - Ghana), ACE (English), BEd Hons. (Adult Basic Ed) (UNISA), MEd (Adult Ed) (WSU), PhD (Adult Ed). (UNISA)
	Mrs T Gumbi PTD (Indumiso College), HDip Ed (CESA), BEd Hons (UKZN), H Cert in ABET (UNISA), Dip Project Mngt (Varsity College), M Ed - Adult Education (UKZN)
Administrative Assistant	Mr M L Nyandeni BEd; BEd Hons (UKZN)

PROGRAMMES OFFERED BY THE SCHOOL

A. Programmes offered in this School:

Qualifications	SAQA NLRD	Qualification Code
Bachelor of Education (SP & FET) Teaching, [BEd], (EMS, Lang, NS, TECH)	109294	BEDMS1 BEDLN1 BEDNS1 BEDTC1 BEDTE1 BEDTM1
Bachelor of Education (FET) [BEd], Phasing out (EMS 80246, NS 80247, TECH 80248)	73076	BEECM1 BENSC1 BETEC1
Bachelor of Education Honours [Technology Education]	99644	BEHTE1
Doctorate in Education [DEd]	96811	DEEDU1
Postgraduate Diploma in Higher Education	109961	PGDHE1
Advanced Diploma in Technical and Vocational Teaching	115867	ADTVT1

B. Programmes offered in Adult and Community Education Unit:

Qualifications	SAQA NLRD	Qualification Code
Advanced Diploma in Adult and Community Education and Training Teaching	104533	ADACE1
Postgraduate Diploma in Adult and Community Education and Training	109961	PGACE1
Master of Education in Adult and Community Education	101910	MEACE1

1. Advanced Diploma in Technical and Vocational Teaching SAQA (115867) Code (ADTVT1)

2-year part-time, NQF level 7 qualification, SAQA credits is 120

1.1 Purpose

The purpose of the Advanced Diploma in Technical and Vocational Teaching is a capping qualification that enables a graduate or diplomate who already possesses a general undergraduate bachelor's degree or diploma to become professionally qualified as a Technical and Vocational Education and Training college lecturer.

1.2 Programme structure

Modules titles	Pre-requisite / Co-requisite modules	Number of SAQA Credits allocated	NQF Level
Compulsory Modules			
Foundations of Education in Technical and Vocational Teaching		32	7
Professional Development		8	7
Learning to teach		8	7
Work Integrated Learning [WIL]		24	7
Workplace Learning		8	7
Subtotal		**80**	
Elective Modules			
Civil Engineering and Building Construction		40	7
Education and Development		40	7
Electrical Infrastructure Construction		40	7
Engineering and Related Design			7
Finance, Economics and Accounting		40	7
Subtotal		**40**	
Total credits for the qualification		**120**	
Additional Modules for Competency			

IsiZulu as language for Conversational Competence		8	5
Information and Communication Technologies for ICT competence		8	5

1.3 Admission Requirements

An appropriate 360-credit NQF Level 6 undergraduate diploma, a National N diploma or bachelor's degree, namely one that includes adequate disciplinary learning in cognate academic fields at the exit level. The qualification must be linked to teaching specialisations relevant to the Technical and Vocational Education and Training context. Previous educator experience in respect of teaching and professional practice in business and industry will be considered for admission

1.4 Qualification Rules: (Choice of modules and credits)

A minimum of 120 credits are required to obtain this qualification. Students will spend 8 consecutive weeks in a Technical and Vocational Education and Training institution completing their work integrated learning (WIL) which comprises 24 credits
In addition, students will spend 2 weeks in an industry setting just for observation which equals 8 credits
The credits for the time spend at Technical and Vocational Education and Training institutions and the time spend in industry equals 32 credits for WIL
Students will select ONE of the five broad organizing field as a specialisation which constitutes 40 credits
No provision has been made in the 120 credits of this qualification for Fundamental learning, which refers to learning to converse in a second language and the ability to use information and communication technologies (ICTs). If the student demonstrates competency in these areas, this will be endorsed on the diploma certificate. However, should it be established that students need learning in these two areas, students will have to register for additional modules, the credits of which will not form part of the 120 credits of this qualification nor contribute to the 120 credits but are indicated as 8 additional credits each in the programme structure and will be endorsed on the certificate.
Students are allowed to fail only ONE module in the first semester. However, no extra provision will be made in the timetable for the failed module in the second semester as first semester modules will not be offered in the second semester.
To qualify to write the examination, the student must get a year mark of 40%.
The following modules are examination modules: Foundations of Education in Technical and Vocational Teaching and All elective modules.
The rest of the modules will be continuous assessment modules.

2. Postgraduate Diploma in Higher Education SAQA ID (109961) CODE (PGDHE1)

2-year part-time, NQF level 8 qualification, SAQA credits is 120

2.1 Purpose

The purpose of the PGDipHE is to facilitate development of the lecturers through undertaking the advanced reflection and systematic survey of current thinking, practice and research methods in the area of Higher education as a field of study. The PGDipHE will also develop participants high levels of theoretical engagement, intellectual independence and the ability to relate knowledge to arrange of context in order to undertake specialist or highly skilled work. PGDip will also provide formal recognition and qualification for higher education practitioners.

2.2 Programme Structure of The Postgraduate Diploma in Higher Education

Year of study (1, etc.)	Study period (SP)	Module title	HESQF level of module (5-9)	Module code	SAQA Credit for the module	Compulsory Or Elective		
1	SP1	Higher Education Policy and Legislative Framework	8	HPLF701	16	C		
	SP1	Learning, Teaching and Assessment in Higher Education	8	LTAE701	28	C		
	SP2	Curriculum Development and Quality Assurance in Higher Education	8	CDOE702	20	C		
	SP2	Educational Technology in Higher Education	8	ETIE702	16	C		
		Electives: students to select two modules from below -						
2	SP3	Internationalisation of the Higher Education Curriculum	8	ITHE701	12	E		
		Management and Leadership In Higher Education	8	MLIH701	12	E		

		Postgraduate Supervision and Research Ethics	8	POSR701	12	E		
	SP4	Higher Education Research Project	8	HERE702	32	C		
TOTAL CREDITS FOR YEAR		**SAQA**		**HEMIS**				
		136		**1.000**				

2.3 Programme rules and information Postgraduate Diploma in Higher Education

Minimum Admission Requirements

All normal rules for postgraduate qualifications apply. See the General Handbook and the Postgraduate Student Guide for details

Applicant Selection

Meeting or exceeding the admission requirements above does not guarantee acceptance. Only a limited number of students can be accepted and final selection will be based on an interview and /or a selection task.

Minimum time of study required for completion of this degree is one year, and maximum time of study is three years.

Registration will be done within the faculty, at the School of Education offices at the start of each year.

Qualification Rules (Choice of Modules and credits)

A minimum of 120 credits is required to obtain this qualification. A student must obtain a minimum of 36 credits in the first semester to register for the second semester. The student will not be permitted to register for more than 84 credits per semester.

Minimum and maximum duration of programme

Postgraduate Diploma in Higher Education	**2 years**	**4 years**

3. Bachelor of Education (SP & FET) Teaching, [BEd], (EMS, Lang, NS, TECH) SAQA (109294) Codes (BEDMS1; BEDLN1; BEDNS1; BEDTE1; BEDTC1; BEDTM1)

4-year full-time, NQF level 7 qualification, SAQA credits is 508

3.1 Purpose

To prepare and empower future teachers for a career in teaching at the SP and FET bands and to develop them for further studies.

3.2 Programme structure

Bachelor of Education in SP and FET Teaching in Technology Education: First Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
CVTE101 ELTE101 METE101	Civil Technology 101 Electrical Technology 101 Mechanical Technology 101	*Mathematics Compulsory if Electrical Technology is chosen	Select 1 of 3	✓	Examinations Examinations Examinations	5 5 5	See Criteria for selection
EGAD101 MTSP101 MLIT101 PSCI101 TEMA101 TSCI101	Engineering Graphics and Design 101 Mathematics 101 Mathematical Literacy 101 Physical Sciences 101 Technical Mathematics 101 Technical Science 101		Select 2 of 5	✓	Examinations	5	
Bachelor of Education in SP and FET Teaching in Technology Education: First Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
CVTE102 ELTE102 METE102	Civil Technology 102 Electrical Technology 102 Mechanical Technology 102	*Mathematics Compulsory if Electrical Technology is chosen	Select 1 of 3 similar to S1	✓	Examinations Examinations Examinations	5 5 5	See Criteria for selection
EGAD102	Engineering Graphics and Design 102			✓	Examinations	5	See Criteria for selection
MTSP102 MLIT102 PSCI102 TEMA102 TSCI102	Mathematics 102 Mathematical Literacy 102 Physical Sciences 102 Technical Mathematics 102 Technical Science 102		Select 2 of 5 similar to S1	✓	Examinations	5	See Criteria for selection

Bachelor of Education in SP and FET Teaching in EMS Education: First Year (S1)							
Code	**Subjects:**	**Compulsory for SP**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
ACCN101ECMS101 BSST101 MLIT101 MTSP101	Accounting 101 Economics 101 Business Studies 101 Mathematical Literacy 101 or Mathematics 101	Accounting 101 Economics 101 Business Studies 101	Select 3 + 1	✓	Examinations	5	See Criteria for selection

Bachelor of Education in SP and FET Teaching in EMS Education: First Year (S2)

Code	Subjects:	Compulsory for SP		Semester	Assessment Method	NQF Level	Pre-requisite
ACCN102ECMS102 BSST102 MLIT102 MTSP102	Accounting 102 Economics 102 Business Studies 102 Mathematical Literacy 102 or Mathematics 102	Accounting 102 Economics 102 Business Studies 102	Select 3 + 1 similar to S1	✓	Examinations	5	See Criteria for selection

Bachelor of Education in SP and FET Teaching in Natural Sciences Education: First Year (S1)							
Code	**Subjects:**	**Compulsory for SP**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
MTSP101 PSCI101 LFSC101 ITEC101	Mathematics 101 Physical Sciences 101 Life Sciences 101 Information Technology 101	Physical Sciences 101 Life Sciences 101	Choose 3 of 5	✓	Examinations	5	See Criteria for selection

Bachelor of Education in SP and FET Teaching in Natural Sciences Education: First Year (S2)							
Code	**Subjects:**	**Compulsory for SP**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
MTSP102 PSCI102 LFSC102 ITEC102	Mathematics 102 Physical Sciences 102 Life Sciences102 Information Technology 102	Physical Sciences 102 Life Sciences 102	Choose 3 of 5 similar to S1	✓	Examinations	5	See Criteria for selection

Bachelor of Education in SP and FET Teaching in Languages Education: First Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
ENHL101 ZUHL101 ENFL101 ZUFL101	English Home Language 101 IsiZulu Home Language 101 English First Additional Language 101 IsiZulu First Additional Language 101		Select 3	✓	Examinations	5	See Criteria for selection

Bachelor of Education in SP and FET Teaching in Languages Education: First Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
ENHL102 ZUHL102 ENFL102 ZUFL102	English Home Language 102 IsiZulu Home Language 102 English First Additional Language 102 IsiZulu First Additional Language 102		Select 3 similar to S1	✓	Examinations	5	See Criteria for selection

Bachelor of Education in SP and FET Teaching in Technology Education: Second Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Civil Technology 201 Electrical Technology 201 Mechanical Technology 201	*Mathematics Compulsory if Electrical Technology is chosen	Continue with 1 of the 3 subject selected in First Year	✓	Examinations	6	1st year level
	Engineering Graphics and Design 201 Mathematics 201 Mathematical Literacy 201 Technical Mathematics 201 Technical Science 201		Continue with 2 of the subjects selected in First Year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in Technology Education: Second Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Civil Technology 202 Electrical Technology 202 Mechanical Technology 202	*Mathematics Compulsory if Electrical Technology is chosen	Continue with 1 of the 3 subject selected in First Year	✓	Examinations	6	1st year level
	Engineering Graphics and Design 202 Mathematics 202 Mathematical Literacy 202 Technical Mathematics 202 Technical Science 202		Continue with 2 of the subjects selected in First Year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in EMS Education: Second Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Accounting 201 Economics201 Business Studies 201 Mathematics 201 Mathematical Literacy 201		Continue with 3 of the 4 subjects selected in first year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in EMS Education: Second Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Accounting 202 Economics 202 Business Studies 202 Mathematics 202 Mathematical Literacy202		Continue with 3 of the 4 subjects selected in first year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in Natural Sciences Education: Second Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Mathematics 201 Physical Sciences 201 Life Sciences 201 Information Technology 201		Continue with 2 of the subjects selected in First Year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in Natural Sciences Education: Second Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Mathematics 202 Physical Sciences 202 Life Sciences 202 Information Technology 202		Continue with 2 of the subjects selected in First Year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in Languages Education : Second Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**

	English Home Language 201 IsiZulu Home Language 201 English First Additional Language 201 IsiZulu First Additional Language 201		Continue with 2 of the subjects selected in First Year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in Languages Education : Second Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	English Home Language 202 IsiZulu Home Language 202 English First Additional Language 202 IsiZulu First Additional Language 202		Continue with 2 of the subjects selected in First Year	✓	Examinations	6	1st year level

Bachelor of Education in SP and FET Teaching in Technology Education : Third Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Civil Technology 301 Electrical Technology 301 Mechanical Technology 301	*Mathematics compulsory if Electrical Technology is chosen	Continue with 1 subject selected in Second Year	✓	Examinations	7	2nd year level
	Engineering Graphics and Design 301 Mathematics 301 Mathematical Literacy 301 Technical Mathematics 301 Technical Science 301		Continue with 1 subject selected in Second Year	✓	Examinations	7	2nd year level

Bachelor of Education in SP and FET Teaching in Technology Education : Third Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Civil Technology 302 Electrical Technology 302 Mechanical Technology 302	*Mathematics compulsory if Electrical Technology is chosen	Continue with 1 subject selected in Second Year	✓	Examinations	7	2nd year level
	Engineering Graphics and Design 302 Mathematics 302 Mathematical Literacy 302 Technical Mathematics 302 Technical Science 302		Continue with 1 subject selected in Second Year	✓	Examinations	7	2nd year level

Bachelor of Education in SP and FET Teaching in EMS Education: Third Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Accounting 301 Economics 301 Business Studies 301 Mathematics 301 Mathematical Literacy 301		Continue with 3 of the 4 subjects selected in second year	✓	Examinations	7	2nd year level

Bachelor of Education in SP and FET Teaching in EMS Education: Third Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Accounting 302 Economics 302 Business Studies 302 Mathematics 302 Mathematical Literacy 302		Continue with 3 of the 4 subjects selected in second year	✓	Examinations	7	2nd year level

Bachelor of Education in SP and FET Teaching in Natural Sciences Education: Third Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Mathematics 301 Physical Sciences 301 Life Sciences 301 Information Technology 301		Continue with 2 of the subjects selected in Second Year	✓	Examinations	7	2nd year level

Bachelor of Education in SP and FET Teaching in Natural Sciences Education: Third Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	Mathematics 302 Physical Sciences 302 Life Sciences 302 Information Technology 302		Continue with 2 of the subjects selected in Second Year	✓	Examinations	7	2nd year level

Bachelor of Education in SP and FET Teaching in Languages Education : Third Year (S1)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	English Home Language 301 IsiZulu Home Language 301 English First Additional Language 301 IsiZulu First Additional Language 301		Continue with 2 of the subjects selected in Second Year	✓	Examinations	7	2ndyear level

Bachelor of Education in SP and FET Teaching in Languages Education : Third Year (S2)							
Code	**Subjects:**	**Compulsory**		**Semester**	**Assessment Method**	**NQF Level**	**Pre-requisite**
	English Home Language 302 IsiZulu Home Language 302 English First Additional Language 302		Continue with 2 of the	✓	Examinations	7	2nd year level

	IsiZulu First Additional Language 302		subjects selected in Second Year				

3.3 Programme rules and information Bachelor of Education Degree In FET/ SP & FET Teaching

- **Minimum Admission Requirements**

1. A National Senior Certificate (NSC) as certified by the Council for General and Further Education and Training (Umalusi) with endorsement for entry into Bachelor studies OR
2. A National Senior Certificate with Matriculation Exemption for students who matriculated before 2008 OR
3. recognized National Diplomas or certificates in education or relevant fields
4. A minimum of 28 points excluding Life Orientation
5. 2x approved languages one of which must be English. Students who matriculated before 2008 must have either an "E" symbol on the Higher Grade or a "C" symbol on the Standard Grade for English. Students who matriculated after 2008 must have a Level 4 pass in English

- **Criteria for Selection of Students into The B Ed Programme**

1. Students who matriculated before 2008 choosing the EMS area of specialisation must pass Accounting at NQF Level 4 (Matric) with either an "E" symbol on the Higher Grade or a "C" symbol on the Standard Grade. Students who matriculated after 2008 must have a "Level 4" pass in Accounting
2. Students who matriculated before 2008 choosing the Languages area of specialisation must pass Languages {any two of the following: English (HL, FAL) and IsiZulu (HL, FAL)} at NQF Level 4 (Matric) with either an "E" symbol on the Higher Grade or a "C" symbol on the Standard Grade. Students who matriculated after 2008 must have a "Level 4" pass in Languages {any two of the following: English (HL, FAL) and IsiZulu (HL, FAL)}
3.Students who matriculated before 2008 choosing the Natural Science area of specialisation must pass Mathematics and Physical Sciences or Life Sciences with an E" symbol on the Higher Grade or a "C" symbol on the standard grade. Students who matriculated after 2008 must have a "Level 4" pass in mathematics and Physical Sciences or Life Sciences
4. Students who matriculated before 2008 choosing the Technology Area must have:
Civil Technology or Mathematics or Physical Sciences with an "E" symbol on the Higher Grade or a "C" symbol on Standard Grade or "Level 4" or Mathematics Literacy level 5 for students taking Civil Technology.
For Mechanical Technology, students must have a Mechanical Technology or Mathematics with an "E" symbol on the Higher Grade or a "C" symbol on Standard Grade or "Level 4" or Mathematics Literacy level 5.
With Electrical Technology, students must have a "Level 4" or "E" symbol on the Higher Grade or a "C" symbol on Standard Grade pass in Mathematics or Electrical Technology
After 2014, for Civil Technology, students must have a "Level 4" pass in Mathematics/Technical Mathematics or Construction or Civil Services or Woodworking or Technical Sciences/Physical Science
For Mechanical Technology, Students must have a "Level 4" pass in Mathematics/Technical Mathematics or Physical Science/Technical Science or Automotive or Fitting and Machining or Welding and Metalwork.
For Electrical Technology, students must have a "Level 4" pass in Mathematics or Power Systems or Electronics or Digital Electronics.

5. A National Certificate (Vocational) NCV, Level 4 with the following minimum requirements:
   (i) at least 60% in three fundamental subjects including English and;
   (ii) at least 70% in four compulsory vocational subjects, chosen from the National Certificate (Vocational) NCV, Level 4 subjects
   1. An N6 certificate with relevant subject combinations. Students must have a 60% pass in all subjects. In addition, the student must have a NSC certificate with English Level 3 or an "E" symbol on the higher grade or a "C" symbol on the standard grade.

- **Admission Based Upon Work Experience, Age and Maturity**

a) A student may subject to such requirements as the Senate may determine, be admitted to the Bachelor of Education Degree, who is in possession of a National Senior Certificate, Senior Certificate or an equivalent certificate, but lacks minimum requirements for admission to the degree provided that:

i) The person shall have reached the age of 23 in the first year of registration and shall have at least:
   - 3 years' appropriate work experience or
   - capacity for the proposed instructional programme which shall be assessed by a Senate-approved admission test; and the person has obtained

ii) a conditional certificate of exemption from the Matriculation Board (when in possession of the Senior Certificate (SC); OR has met

iii) the requirements of the Senate discretionary admission (when in possession of the NSC or equivalent) where Senate is satisfied the applicant has shown sufficient academic ability to ensure success, and that the person's standard of communication skills and/or work experience are such that the person, in the opinion of the Senate, should be able to complete the proposed instructional programme successfully

iv) the person's application for admission in terms of Rule G7(3) is approved prior to registration

APPLICANTS MUST SUBMIT THEIR APPLICATION AT LEAST 4 MONTHS BEFORE THE COMMENCE OF THE ACADEMIC YEAR

- **Maximum and Minimum Duration of the programme**

Bachelor of Education in SP and FET Teaching	**4 years**	**6 years**

- **Progression Rules - Bachelor Of Education Degree In Fet/ Sp & Fet Teaching**

In addition to the requirements of Rule G17, the following rules shall apply:

(a) To pass a year of study, all subjects as prescribed in the Instructional Programme must be passed with the exception of conditions (b) and (c) below

(b) (i) The pass mark for continuous assessment (CA) modules at any level of study (eg. General Subject Didactics, Skills and Life Orientation/ Life Skills and Communication) is 50%.

(ii) However, a student who fails to comply with b(i) in any one or more of these subjects has to repeat and pass the subject/s by the third year of study with the exception of

Skills and Life Orientation/ Life Skills which may be carried into the fourth year of study, provided no other subjects have been failed

(iii) If after a supplementary examination a student still fails, it is the responsibility of the student to re-register for the failed subject and pass. No special arrangement for this will be made on the time-table.

(c) The elective which does not continue beyond the first year:

If a student fails the third major in the first year of study, he/she can still proceed to the next level of study provided no other subjects have been failed. The student is allowed to carry the failed major until third year notwithstanding the fact that if other subjects are failed, the student will not be allowed to proceed to the next year of study.

ALL subjects with the exception of Skills and Life Orientation/ Life Skills must be passed by the third year. If the student has an outstanding subject besides Skills and Life Orientation/ Life Skills, he/she cannot proceed to the fourth year of study. The student will have to repeat the year

(d) No student will be allowed to register for the next level of a subject without passing the previous level nor will the students be allowed to register for two levels of a subject simultaneously.

(e) In order for students to be promoted to the Second level of study, a student must pass the following subjects:

Education 101
WIL 102
4 semesters of 2 Majors (Teaching specialization subjects)

(f) In order to be promoted to the second, third and fourth year of study, a student must pass ALL Education modules for the respective year levels, and ALL Majors (Teaching Specialization subjects)

4. Bachelor of Education (FET) [BEd], Phasing out SAQA ID (EMS 80246, NS 80247, TECH 80248) CODE (BEECM1; BENSC1; BETEC1)

4-year full-time, NQF level 6 qualification, SAQA credits is 480

4.1 Purpose

To prepare and empower future teachers for a career in teaching at the FET band and to develop them for further studies.

4.2 Programme structure

Bachelor of Education in FET Teaching in Technology Education: First Year							
Code	**Subjects:**	**Compulsory**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
CVTC101 ELTC101 MCTC101 EGDS101 MTMC101	Select ONE: Civil Technology OR Electrical Technology OR Mechanical Technology Engineering Graphics and Design Mathematics Mathematical Literacy Technical Science Information – Technology Technical - Mathematics		Select 3	✓ ✓	Examinations	5	See Criteria for selection

Bachelor of Education in FET Teaching in EMS Education: First Year							
Code	**Subjects:**	**Compulsory**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
ACCT101 ECON101 CAPT101 BSMN101 MTHL101 MTMC101	Accounting Economics Computer Application Technology Business Management Mathematical Literacy or Mathematics		Select 3	✓	Examinations	5	See Criteria for selection

Bachelor of Education in FET Teaching in Natural Sciences Education: First Year							
Code	Subjects:	**Compulsory**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
MTMC101 PHSE101 CHED101 BIOE101	Mathematics Physics Chemistry Biology		Select 3	✓	Examinations	5	See Criteria for selection

Bachelor of Education in FET Teaching in Technology Education: Second Year							
Code	**Subjects:**	**Compulsory**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
CVTE101 ELTE101 METE101 EGAD201 MTSP201 MLIT201 TSCI101	Civil Technology Electrical Technology Mechanical Technology Engineering Graphics and Design Mathematics Mathematical Literacy Technical Science Information – Technology Technical -Mathematics Civil Technology OR Electrical Technology OR Mechanical Technology Engineering Graphics and Design Mathematics Mathematical Literacy	Civil Technology OR Electrical Technology OR Mechanical Technology	Continue with 1 of the subjects selected in First Year	✓	Examinations	6	1st year level

Bachelor of Education in FET Teaching in EMS Education: Second Year							
Code	**Subjects:**	**Compulsory**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
ACCT201 ECON201 CAPT201 BSMN201 MTMC201 MTHL201	Accounting Economics Computer Application Technology Business Management Mathematics Mathematical Literacy		Continue with 2 of the 3 subjects selected in first year	✓	Examinations	6	1st year level

Bachelor of Education in FET Teaching in Natural Sciences Education: Second Year					
Subjects:		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
Physics Chemistry Biology Mathematics	Continue with 2 of the 3 subjects selected in first year	✓	Examinations	6	1st year level

Bachelor of Education in FET Teaching in Technology Education : Third Year							
Code	**Subjects:**	**Compulsory**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requis**
CVTC301 ELTC301 MCTC301 EGDS201 MTMC201 MTHL201	Civil Technology Electrical Technology Mechanical Technology Engineering Graphics and Design Mathematics Mathematical Literacy		Continue with 2 of the 3 subject selected in second year	✓	Examinations	7	2nd year level

Bachelor of Education in FET Teaching in EMS Education: Third Year						
Code	**Subjects**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
ACCT301 ECON301 CAPT301 BSMN301 MTMC301 MTHL301	Accounting Economics Computer Application Technology Business Management Mathematics Mathematical Literacy	Continue with 2 subjects selected in second year	✓	Examinations	7	2nd year level

Bachelor of Education in FET Teaching in Natural Sciences Education: Third Year						
Code	**Subjects:**		**Annual**	**Assessment Method**	**NQF Level**	**Pre-requisite**
PHSE301 CHED301 BIOE301 MTMC301	Physics Chemistry Biology Mathematics	Continue with 2 subjects selected in second year	✓	Examinations	7	2nd year level

4.3 Programme rules and information

Maximum and Minimum Duration of the programme

Bachelor of Education in FET Teaching	**4 years**	**6 years**

5. Bachelor of Education Honours Degree in Technology Education SAQA ID (99644) Code (BEHTE1)

2-year full-time, NQF level 8 qualification, SAQA credits is 120

5.1 Purpose

The Bachelor of Education Honours Degree in Technology Education is a postgraduate degree in education that is intended to prepare students for research based postgraduate study in the field of Technology Education. This will serve to consolidate and deepen the educator's expertise in Technology Education and develop research capacity in the methodology and techniques in this area. This qualification will demand a high level of intellectual independence and theoretical engagement thus preparing the student for access to further study in the Masters and Doctoral programmes.

5.2 Programme structure

Bachelor of Education Honours in Technology Education

Name of subject	Subject Code	Study Level	NQF Level	Module Credits	C/E*	Pre-Req.	Co-Req	Exam**
Modern Technology and Communication in Technology Education	MTTE 701	1	8	12	C	Nil	Nil	No
International and national perspectives of Technology education	INPT 701	1	8	16	C	Nil	Nil	Yes
Understanding Research	UNRS 701	2	8	12	C	Nil	Nil	No
Select one Drawing in the context of Mechanical, Civil, and Electrical Technology	DMCE 701	2	8	24	E	Nil	Nil	Yes
Integrated Systems in Technology Education	ISTE 701	2	8	24	E	Nil	Nil	Yes
Independent Research Project Part One	IRJP 701	3	8	16	C	UNRS 701	Nil	No
Select One								
Computer-Aided Design in the context of Mechanical, Civil and Electrical Technology	CADT 701	3	8	24	E	Nil	Nil	No

Material and Structures in Technology Education	MSTE 701	3	8	24	E	Nil	Nil	Yes
Independent Research Project Part Two	IRJP 702	4	8	16	C	IRJP 701	Nil	No

5.3 Programme rules and information - Bachelor of Education Honours Degree In Technology Education

Minimum requirements

To be admitted to the Honours programme, a student must have an appropriate four- year professional teaching degree preferably with Technology or equivalent as a major or a related qualification OR an appropriate Bachelor's Degree and a recognized professional teaching qualification for example a Postgraduate Certificate in Education OR an Advanced Diploma in Education.

Suitable Candidate Selection

Candidates must apply for admission to this qualification directly to the department only for 2022. For all other subsequent years, admission must be made through CAO. Applicants may be recognized for the entry to the qualification provided that they have met the following criteria:
Proof of relevant academic competence, namely a mark of 65% average in the majors of a prior degree or in the case of a diploma, a 65% average for all the subjects/modules.

Minimum and maximum duration of Programme

Bachelor of Education in Technology Education	**2 years**	**4 years**

6. Postgraduate Certificate in Education

2-year part-time/ full-time, NQF level 7 qualification, SAQA credits is 120

6.1 Purpose of the Qualification

The PGCE is a postgraduate initial teacher training qualification that students can apply for once they have completed an undergraduate degree that is relevant for teaching purposes in schools.

6.2 Structure of the programme

Modules titles	Pre-requisite / Co-requisite modules	Number of SAQA Credits allocated	NQF Level
Compulsory Modules			

Education Studies		**32**	**7**
Professional Studies		**8**	**7**
Knowledge and study of practice		**16**	**7**
Work Integrated Learning (WIL)		**24**	**7**
Subtotal		80	
Elective Modules			
Students must choose one Senior Phase teaching subject based on a school subject passed up to first year level in undergraduate degree			
Creative Arts		20	7
Economic and Management Sciences		20	7
English Senior Phase		20	7
IsiZulu Senior Phase		20	7
Life Orientation Senior Phase		20	7
Mathematics Senior Phase		20	7
Natural Science		20	7
Technology		20	7
		20	7
Students must choose one FET teaching subject based on a school subject passed up to second year level in undergraduate degree			
Accounting		20	7
Business Studies		20	7
Civil Technology		20	7
Consumer Studies		20	7
Dramatic Arts		20	7
Economics		20	7
Electrical Technology		20	7
Engineering Graphics and Design		20	7
English FET Phase		20	7
Information Technology		20	7
IsiZulu FET Phase		20	7
Life Orientation FET Phase		20	7
Life Sciences		20	7
Mathematical Literacy		20	7

Mathematics FET Phase		20	7
Mechanical Technology		20	7
Physical Sciences		20	7
Tourism		20	7
Visual Arts		20	7
Sub-Total		**40**	
TOTAL		**120**	
Additional Modules to develop competence			
IsiZulu as language for Conversational Competence		8	5
Information and Communication Technologies for ICT Competence		8	5
TOTAL		**16**	

6.3 Programme rules and information PGCE

Minimum Admission Requirements

A completed recognised undergraduate degree approved by the University as suitable for teaching purposes with at least two approved university subjects aligned to school teaching subjects. The approval of the degree for teaching is dependent on the specific combination of modules successfully completed in the degree programme.

Recognition of Prior Learning (RPL)

Not more than 10% of the cohort of students for this programme will be admitted through an RPL process. No student will be exempted from more than 50% of the modules or courses required for this qualification. To access this qualification through RPL, students need to demonstrate that they are competent in terms of prior relevant learning through experience, and work skills. Applicants that may be practicing teachers or education and training development practitioners and/or have gained knowledge as a result of learning in the workplace and in other settings may apply for this qualification using the RPL route. Students are required to reflect on the prior learning and then do a self-assessment exercise before applying for the RPL. Students can do this by using the SAQA level descriptors and the outcomes for this qualification to establish the extent to which the prior learning meets the requirement/s. The prior learning must be appropriate to the academic context of the qualification, and must still be current, valid and applicable. Students are then required to compile a portfolio comprising the self-assessment activity and details of relevant learning through experience. Upon submission of this portfolio for internal and external assessment, the student will be informed to conduct an oral defense of the portfolio.

In addition, and subject to institutional policies, other education and training-related qualifications may be considered for credits where those credits reflect cognate fields of learning. However, it must be noted that this qualification cannot be acquired fully through the RPL route but RPL can be used for admission into the qualification or for exemption of certain modules. Therefore, a student who, on the basis of RPL, is granted exemption from doing some modules in this qualification programme, will complete the qualification with a total number of credits that is less than the normally required number of credits for this qualification. RPL creates such an exception, and the student concerned will not be compelled to do more modules or courses to make up for the difference in the total number of credits. The academic record of that student will reflect 'exempted' against the modules or courses that she or he was exempted from; while credits will be reflected against the courses or modules that she or he did, got assessed for and achieved the required scores

Qualification Rules: (Choice of modules and credits)

A minimum of 120 credits are required to obtain this qualification. Students will complete 5 compulsory modules equaling 80 credits. A total of 32 credits is allocated to practical learning. Of these, 24 credits is allocated to school-based WIL, including supervised and assessed teaching practice. The remainder (8 credits) is used for other kinds of practical learning activities, including the study of practice and is included in the module Knowledge and study of practice.
Students will select ONE of the seven broad organizing field as a specialisation in the Senior Phase which equals 20 credits and ONE of the 18 broad organizing fields as a specialization in the FET phase which equals to 20 credits. FET and Senior Phase courses are complementary and must be taken together as indicated below:

- Accounting/ Business Studies/ Economics with Economic and Management Sciences
- Dramatic Arts/ Visual Arts with Creative Arts
- English/IsiZulu (FET) with English/IsiZulu (Senior Phase)
- Life Orientation (FET) with Life Orientation (Senior Phase)
- Mathematics (FET) with Mathematics (Senior Phase)
- Physical Sciences/Life Sciences with Natural Sciences
- Civil Technology, Electrical Technology, Mechanical Technology, Engineering Graphics and Design with Technology (Senior Phase)
- Consumer Studies/Tourism, Information Technology/ Mathematical Literacy with Natural Science(Senior Phase) or Technology (Senior Phase)

No provision has been made in the 120 credits of this qualification for Fundamental learning, which refers to learning to converse in a second language and the ability to use information and communication technologies (ICTs). If the student demonstrates competency in these areas, this will be endorsed on the diploma certificate. However, should it be established that students need learning in these two areas, students will have to register for additional modules, the credits of which will not form part of the 120 credits of this qualification nor contribute to the 120 credits

ASSESSMENT

Education Studies	1 x online test 1x major written assignment 1 x case study 1 x 3 hour final examination
Professional Studies	1 x lesson presentation 1x group activity 1x self-assessment activity NO FINAL EXAMINATION
Knowledge and study of practice	2 x simulated lesson activities 1x group activity 1x peer assessment NO FINAL EXAMINATION
SENIOR PHASE SUBJECT SPECIALISATION	
Creative Arts Economics and Management Sciences English Senior Phase IsiZulu Senior Phase Life Orientation Senior Phase Mathematics Senior Phase Natural Sciences Technology	1 x written/online test 1x written/ assignment 1 X 3 HOUR WRITTEN FINAL EXAMINATION
FURTHER EDUCATION AND TRAINING PHASE SUBJECT SPECIALISATION	
Accounting Business Studies Civil Technology Consumer Studies Dramatic Arts Economics Electrical Technology English FET Phase Engineering Graphics and Design Information Technology IsiZulu FET Phase Life Sciences Life Orientation FET Phase Mathematical Literacy Mathematics FET Phase Mechanical Technology Physical Sciences	x written/online test 1x written/ assignment 1 X 3 HOUR WRITTEN EXAMINATION

Tourism Visual Arts English IsiZulu Additional Modules to develop competence IsiZulu as language for Conversational Competence Information and Communication Technologies for ICT Competence	1x Oral Presentation 50% 1x Dialogue 50% NO FINAL EXAMINATION
	2 x practical test 1 x practical assignment NO FINAL EXAMINATION

7. Master of Education in Adult and Community Education CODE (MEACE1)

2-year full-time, NQF level 9 qualification, SAQA credits is 180

7.1 Purpose

The purpose of this Master's degree is to prepare students to become researchers and possibly leaders in the academic field of Adult, Post School and Community Education. It will therefore equip students with research expertise and the post graduate academic development necessary to lecture in academic institutions, and to involve themselves in research initiatives in the various fields associated with adult, community and post school education.

7.2 Programme structure

Structure of Master of Education in Adult and Community Education

Code	Subjects	*C/O	Semester/ Annual	Assessment	NQF level	Pre-requisite	Credits
DISS511	DISSERTATION 1ST REGISTRATION	C	P0	Summative external	9		
DISS521	DISSERTATION 2ND REGISTRATION	C	P0	Summative external	9		
DISS531	DISSERTATION 3RD REGISTRATION	C	P0	Summative external	9		**180**

7.3 Programme rules and information for Masters in Adult and Community Education

Minimum requirements

This is a 180-credit HEQSF level 9 qualification that is run at the Indumiso Campus in Pietermaritzburg.

In order to be considered for admission into this programme, applicants must

a) hold a qualification (such as an Honours degree or Postgraduate Diploma) at HEQSF level 8, or its equivalent, in a field relevant in some way to Adult, Community or Post School Education. Alternatively,

b) have been granted Advanced Standing or Recognition via Prior Learning equivalent to the admission requirements described in a) above**.**

Applicant Selection

Meeting or exceeding the admission requirements above does not guarantee acceptance. Only a limited number of students can be accepted and final selection will be based on an interview and /or a selection task.

Minimum time of study required for completion of this degree is one year, and maximum time of study is three years.

Registration will be done within the faculty, at our offices at the start of each year.

Maximum minimum duration of the programme

Master of Education in Adult and Community Education	**1 year**	**3 years**

Rules of Progression

Since this degree consists of only one module (Development of Dissertation) there are no particular rules of progression between registration and the completion of the module.

Assessment Rules for Master Of Education in Adult And Community Education

Assessment is formative, through continual feedback from supervisor/s to students on successive drafts of work, first on the development of a proposal, and then of a dissertation. Feedback will be critical but aimed to clarify the criteria against which the student's work is assessed. It will also support the development of intellectual engagement, independence, confidence, and effective reflection. Dissertations are examined externally.

8. Advanced Diploma in Adult Community Education and Training teaching SAQA ID (101910) CODE (MEACE1)

2 years part-time, NQF level 7 qualification, SAQA credits is 128

8.1 Purpose

To enable students with degrees or diplomas relevant to adult, post school, or community education to become professionally qualified as adult and community educators or lecturers.

8.2 Programme structure

STRUCTURE OF THE ADVANCED DIPLOMA IN ADULT AND COMMUNITY EDUCATION AND TRAINING TEACHING

Code	Subjects	*C/E	Semester	Assessment	NQF level	Pre-requisite	Credits
HTAC101	History and Theories of Adult and Community Education	C	SP1	Continuous	7	Nil	16
ACDS101	Academic skills	C	SP1	Continuous	7	Nil	16
ACPS101	Adult, community and post school education in South Africa: Policy and Practice	C	SP1	Continuous	7	Nil	16
CIDA101	Curriculum, instructional design, and assessment in ACET	C	SP1	Continuous	7	Nil	16
TMCI101	Teaching methodologies for Communication and Language: African languages	E	SP2	Continuous	7	Nil	16
TMCE101	Teaching methodologies for Communication and Language: English	E	SP2	Continuous	7	Nil	16
TMML101	Teaching methodologies for Mathematics and Mathematical Literacy	E	SP2	Continuous	7	Nil	16
TMIT101	Teaching methodologies for ICT	E	SP2	Continuous	7	Nil	16
TMLO101	Teaching methodologies for Life Orientation	E	SP2	Continuous	7	Nil	16
TMNS101	Teaching methodologies for Natural Sciences	E	SP2	Continuous	7	Nil	16
TMHC101	Teaching methodologies for Ancillary Health Care	E	SP2	Continuous	7	Nil	16
TMSS101	Teaching methodologies for Social Studies	E	SP2	Continuous	7	Nil	16
TMEC101	Teaching methodologies for Early Childhood Educational Development	E	SP2	Continuous	7	Nil	16
TMEM101	Teaching methodologies for Economic and Management Sciences	E	SP2	Continuous	7	Nil	16
TMCM101	Teaching methodologies for Community Education	E	SP2	Continuous	7	Nil	16
PPFD101	Practicum portfolio development	E	SP2	Continuous	7	Nil	32

8.3 Programme rules and information

This is a 128-credit HEQSF level 7 qualification that is run at the Indumiso campus in Pietermaritzburg. It is semesterised and may be offered full time over one year, or part time over two years according to student needs. It allows specialisation in a particular vocational field or subject offered in Adult and Community Education and Training (ACET).

Minimum requirements

In order to be considered as students of this Advanced Diploma, applicants must hold a Bachelor's degree or a 360 credit Diploma at NQF level 6 in any field relevant to adult, post school, or community education
OR
have been granted Advanced Standing via Recognition of Prior Learning equivalent to the admission requirements described in a) above.

Applicant Selection

Meeting or exceeding the admission requirements above does not guarantee acceptance. Only a limited number of students can be accepted and final selection will be based on an interview and /or a selection task.

Registration will be done within the faculty, at our offices at the start of each semester.

Minimum maximum duration of the programme

Advanced Diploma in Adult and Community Education and Training Teaching	**1 year**	**2 years**

Pre-requisites and Co-requisites

All modules in this Advanced Diploma are on the same level, and there are no pre-requisites or co-requisites. Therefore, there are no restrictions on the order in which modules are completed.

Assessment Rule for Advanced Diploma in Adult and Community Education and Training Teaching ADACE1

Assessment is continuous, with no written exam at the end of semesters. In each of the four

16 credit compulsory modules and two 16 credit elective modules, assessment will be based on three coursework assignments. The first two assignments make up 50% of the final mark, and the third assignment will count for the remaining 50% of the final mark. The pass mark for all subjects is 50%. A student who does not perform to an acceptable level in an assessment is entitled to one (1) additional opportunity to improve his/her mark.
For the WIL component, students will receive formative assessment from assigned supervisors during the compilation of their practicum portfolios. Assessment of the completed portfolios will be summative and result in a final mark for this 32 credit module.

9. Doctorate in Education SAQA ID (96811) CODE (DEEDU1)

3-year full-time, NQF level 10 qualification, SAQA credits is 360

9.1 Purpose

To enable candidate to undertake research at the most advanced academic levels culminating in the submission, assessment and acceptance of a thesis and to present peer-reviewed academic articles and papers

9.2 Programme rules and information

Minimum requirements

Master's Degree in Education with a minimum of 60% pass mark OR
Master's degree (a minimum of 60%) with an Advanced Diploma / Certificate in Education OR Master's degree in a relevant and appropriate area (a minimum of 60% pass mark) AND a minimum of five years teaching experience may be considered through the RPL route.

Maximum and minimum duration of the programme

Doctorate in Education	**2years**	**4 years**

Progression rule

Since this degree consists of only one module (RESEARCH PROJECT AND DISSERTATION) there are no particular rules of progression.

INDICATIVE CONTENT

NB: Students to read this section in conjunction with the relevant student guides.

Core Modules Are Compulsory for all B Ed Students: SP and FET

EDUCATION101

The purpose of the module is to provide students with fundamental knowledge of sub-disciplines constituting the study of Education. It aims to develop basic knowledge of teaching and learning from a theoretical perspective informed by the various sub-disciplines that constitute the study of Education. This module has the following contents: Education and its Purpose, Introduction to Philosophy of Education, Early Discourse on Education (Plato/Dewy), Exploring Education within a Democratic Society (Paulo Friere), Introduction to Sociology of Education, Introduction to Curriculum and a focus on the CAPS Curriculum Framework for school education in South Africa.

EDUCATION201

The purpose of the module is to provide students with sound knowledge and understanding of learners' behavior in and outside the classroom. Students will be exposed to a number of Psychological theories that deal with developmental stages as well as the behavior patterns of different students. Students will be able to know and understand key concepts, facts, general principles, rules, and theories of psychology, such as human development, personality, and motivation.

EDUCATION301

This module aims to develop a well-rounded knowledge of educational research methodology to identify, evaluate, critically reflect on, and take full responsibility for engaging in minor research projects to improve communities. The module has the following contents: the concept of research, Research process, approaches to research, types of educational research, Hypothesis/research question, Literature review, Research designs, sampling technique, Measuring instruments, Data collection, organization, and presentation
and the measure of central tendency.

EDUCATION302

This module aims to develop a well-rounded knowledge of policies in education to evaluate and interpret for effective teaching and learning. This module develops a clear understanding of HIV/AIDS to communicate effectively with school communities. Students will be able to demonstrate a sound knowledge of policies in education and undertake the responsibility of managing the classroom and school independently, developing and communicating ideas and opinions about HIV/AIDS.

EDUCATION 402

The purpose of the module is to provide students with well-rounded knowledge, understanding, and application of theory and practice of teaching and learning, including that of education law, ethics, and the planning of the teaching and learning programme. The module further introduces students to educational research. The student will develop their foundational, practical, and reflective competencies as teachers through this module.
This module also develops research competence with a view to engaging in educational inquiry through scientific processes.

PROFESSIONAL STUDIES101

This module enables students to demonstrate a fundamental understanding of Pedagogy in relation to teacher knowledge, know and understand generic teaching methodologies to promote teaching and learning in the classroom and make appropriate selection of Subject Didactics to teaching across the diverse learning sites within the South African school context. The module has the following contents: Teaching Environment, Teaching Approaches, Teaching and Learning Strategies, and Teaching Media Application.

PROFESSIONAL STUDIES 201

This module enables students to analyze and interpret curriculum statements and write lesson plans, know and integrate Subject Didactics appropriate to teaching content within a lesson plan, know, select, and integrate appropriate teaching media within lesson plans and plans, and use different assessment strategies for learning. Micro-Teaching, Classroom Management, and Assessment are the module contents.

PROFESSIONAL STUDIES 301

This module enables the students to demonstrate an understanding of themselves as prospective educators and what is expected of them as educators, as well as an understanding and ability to implement a wide variety of appropriate teaching strategies and approaches. They also develop the ability to plan and utilize various and most appropriate assessment criteria/ strategies and understand diversity within South African classrooms. This module contains Micro-teaching, Assessment Approaches and Principles, and Balancing a Question Paper.

PROFESSIONAL STUDIES 402

The purpose of the module is to provide students with well-rounded knowledge, understanding, discipline in Education: Legislation around discipline in School, decentralised School Governance: School Governing Bodies and their role and Portfolio Development Project

Life Skills 101 (LSKL101)
Life Skills 101 is a compulsory eight-credit module running in the second semester of the Bachelor of Education Senior Phase and Further Education and Training Teaching Programme. The main aim of this module is to expose first year student teachers to the challenges and the professional ethics of teachers. This continuous assessment module provides first year student teachers with the necessary basic technological skills to cope in the higher education environment and the professional schooling context by introducing them to the theory of information and communication technology, basic features of Microsoft Word, PowerPoint and Excel, Moodle, e-mail and the internet, personal and career development tools as well as learning skills.

Life Skills 201 (LSKL201)
Life Skills 201 is a compulsory twelve-credit module running in the second semester of the Bachelor of Education in Senior Phase and Further Education and Training Teaching Programme. The pre-requisite for this module is the successful completion on Life Skills 101 (LSKL101). The main aim of this module is to expose student teachers to the challenges and professional ethics of teachers and to

provide them with necessary computer skills to cope and behave in their professional environment. In this continuous assessment module students will engage in theoretical and practical work covering topics such as classroom management and reporting, advanced features of Microsoft powerpoint, personal and career development, safety and security at schools, citizenship education.

Life Skills 301 (LSKL301)
Life Skills 301 is a compulsory twelve-credit module running in the first semester of the Bachelor of Education in Senior Phase and Further Education and Training Teaching Programme. The pre-requisite for this module is the successful completion on Life Skills 201 (LSKL201). The main aim of this module is to expose student teachers to the challenges and professional ethics of teachers and to provide them with necessary skills to cope and behave in their professional environment. In this continuous assessment module students will engage in theoretical knowledge and practical work covering topics such as what is life skills, professionalism, study skills, careers and career choices, democracy a development of self in the society, personal development and physical education and human rights.

WORK INTEGRATED LEARNING (WIL 102)
The students will be expected to observe as many lessons as possible in schools (Senior Phase) of their choices for four weeks so that they will get as much experience as they can. The mentors will evaluate students' performance throughout the practice teaching (WIL) period. This is done in a form of collaborative teaching with mentors as students are still at the formative stage of their training and not yet ready to deal with full lessons professionally. They will also be expected to develop a teaching file that will be assessed.
1. 4 weeks: Guided Observation.
2. Portfolio and Logbook.

WORK INTEGRATED LEARNING (WIL 202)
The students will be expected to observe as many lessons as possible in schools (Senior & FET Phases) of their choices for four weeks so that they will get as much experience as they can. The mentors will evaluate students' performance throughout the practice teaching (WIL) period. This is done in a form of collaborative teaching with mentors as students are still at the formative stage of their training and not yet ready to deal with full lessons professionally. They will be given a chance to teach on their own and be assessed by the mentors. They will also be expected to develop a teaching file that will be assessed.
1. 4 weeks: Guided Observation
2. Portfolio and Logbook.

WORK INTEGRATED LEARNING (WIL 302)
Students are expected to complete four weeks of practice teaching, this will be in a school of their choices, or where they will be placed by the School of Education. During this time, they will be expected to teach as many lessons as possible so that they get as much experience as possible. The allocated mentor, as well as their lecturer/s (WIL ASSESSOR) will evaluate their performance throughout this period. A detailed report will be written at the end of the WIL period, and this will contribute to the final evaluation of their performance. They will also be expected to develop a teaching file that will also be assessed. It is also crucial that students comply with SACE and SCHOOLS' REGULATIONS while doing practice teaching (WIL).
1. 4 weeks: Guided Observation and Collaborative Teaching
2. Portfolio and Logbook.

WORK INTEGRATED LEARNING (WIL 401)
Students are expected to complete 12 weeks (THREE MONTHS) of Work Integrated Learning (WIL)

in their fourth year of study. This will be in a school which will be endorsed by the School of Education, or where they will be placed by the School of Education. During this time, they will be expected to teach as many lessons as possible so that they will get as much experience as possible. At least 2 (TWO) lessons per week are compulsory, and the lesson plans must be filed in their journals. Your allocated mentor, as well as your lecturer/s will evaluate your performance throughout this period. A detailed report will be written at the end of the WIL period, and this will contribute to the final evaluation of your performance. They are expected to develop a journal (teaching file) that will be assessed. It is also crucial that students comply with SACE and SCHOOLS' REGULATIONS while doing practice teaching (WIL).

1st Semester

1. 3 months, full time teaching
2. Portfolio and Logbook.
3. An experienced senior educator to be appointed as a mentor.
4. Students must comply with rules and regulations of the institution in which they are placed and are required to comply with DoE and the SACE: Code of Conduct for Educators.

COMMUNICATION IN ISIZULU (LANGUAGE Y1)

Students will be given a background and historical information around IsiZulu as one of the indigenous languages in the African continent. The focus will be on the written and spoken means of communication in IsiZulu as a language. The module will also highlight the importance of using polite words in IsiZulu communication. It is also important to students to note and understand the significance of using idioms and proverbs to make IsiZulu language special and interesting.

General Education Modules are Compulsory for all B Ed Students

CORNERSTONE

2nd Semester

The concept of journeys across time, space, and human relationships will be developed taking the journey of the uMngeni River (which is close to all DUT campuses) as a metaphor.

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.

The final section of the module will identify and integrate learning from earlier sections, and examine implications for further learning. At each stage of the module, activities such as the weekly online journal and class discussion will involve reflection and build communicative practices. There will be a concluding section in which students will identify their learning and examine the implications for their roles as students and as citizens.

INTRODUCTION TO BASIC ISIZULU

2nd Semester

Pragmatic components: greeting, introduction, asking for directions, descriptions, stating preferences, beach, talking about the weather, garden, school, hospital, kitchen and cooking and events.

Linguistic components: Articles reading and translation, nouns, pronouns, class nouns, gender (e.g., girl/boy, wife/husband, etc.), plurality, conjugation, adjectives, interrogation, adverbs, negation, tenses,

numbers, diminutives, prepositions, relatives, exclamations description, augmentatives, vowel and consonant sounds, locatives, linking, verbs, accents, ideophones, etc.
Cultural components: Forms of address, recreational activities, cultural sites, family structure, food and eating habits, traditional utensils, arts and festivities, clothing, traditional attires and artefacts kingdom, surnames and praise names.

INTRODUCTION TO BASIC FRENCH

2nd Semester

Pragmatic components: greeting, introduction, asking for directions, descriptions, stating preferences, talking about the weather and events.

Linguistic components: Articles, gender, plurality, conjugation, interrogation, negation, numbers, description, vowel and consonant sounds, linking, accents.
Cultural components: Forms of address, recreational activities, cultural sites, family structure, food and eating habits, arts and festivities

INTRODUCTION TO BASIC MANDARIN

2nd Semester

Major communicative functions such as greetings, thanks, apologies and farewells. Body language or material objects to enhance every day. Communication situations.
Basic and simple ways of social interactions. Simple topics related to family and personal life, or hobbies. Simple topics related to everyday life, such as numbers, time, dates and currency.
Basic writing in characters.
Basic Chinese cultural elements, Commonalities and differences between Chinese culture and their own culture.

INTRODUCTION TO BASIC PORTUGUESE

2nd Semester

The content comprises four main components: sociocultural, sociolinguistic, pragmatic, and linguistic. The sociocultural aspect focuses on the cultural diversity in Lusophone countries, exploring aspects such as gastronomy, traditions, visual arts, music, dance, handcraft, celebrations, architecture, literature, fashion, and historical heritage. The sociolinguistic content delves into politeness forms for greetings, requests, apologies, and more in European and Brazilian Portuguese.

Pragmatic content includes conversational skills such as discussing time and weather, describing places and people, giving directions, stating preferences and opinions, suggesting, making appointments, and engaging in transactions. The linguistic dimension is multifaceted, covering phonetics, orthography, lexis, semantics, morphology, and syntax. This includes the alphabet and pronunciation in phonetics, accentuation and punctuation in orthography, and various aspects of vocabulary and grammar, such as articles, nouns, adjectives, pronouns, verb conjugation, contractions, and gender and number variations.

VALUES IN THE WORKPLACE

2nd Semester

The module will begin with a reflection on personal values and move to a discussion on how they intersect with values in the workplace. Small group discussions will be formed around how to build

positive values in the workplace and the vital themes of ethics, respect, interconnectedness, honesty, creativity and human diversity will form the basis for building "sacred spaces at work." This will set the tone to unpack issues around leadership values and ethics and ethical decision making. The final section of the module will integrate all these aspects and students will be required to identify the implications of what they have learnt to develop social responsibility and their roles as citizens.

EQUALITY AND DIVERSITY

2nd Semester

Concepts and terminology – e.g. diversity, equality, inclusion, power, oppression
Parameters of diversity as listed in section 9 of the SA Constitution
Prejudice, discrimination and inequality
The diversity competence continuum
Steps to develop competence/sensitivity in relation to diverse other selected topics.

ENTREPRENEURIAL EDGDE

1st Semester

Small Business and Entrepreneurship – the language, differences, need and statistics
Supporting organisations and policies
The entrepreneurial profile
Creativity, innovation, self-awareness and Technopreneurship
Introduction to business structures
Introduction to business functions (Marketing, Finance, HR & Operations).
Introduction to the Feasibility Study and Business Plan.

CRITICAL THINKING

1st Semester

Practical and Theoretical Work: What is Critical thinking, and problem solving, why is it important? Steps (processes and procedures) to becoming a critical thinker and a problem solver in any situation, types of tasks (that promote critical thinking and problem solving), credibility and Relevance, validity and Truth, argument- developing and assessing arguments and computer applications in executing some of critical thinking skills and abilities. e.g. creating, synthesizing; planning; designing etc.

Bachelor of Education in Senior Phase and Further Education and Training Teaching in Economic and Management Sciences

ACCOUNTING I (ACCT 101)

1st Semester

1. Introduction to Accounting and Nature of Accounting
2. Accounting Concepts Procedures and Principles according to GAAP
3. Users of Financial Information to make informed decisions.
4. Basic business calculations e.g. VAT, Cost Price, Discounts and Percentages.
5. Book-Keeping: CRJ, CPJ, DJ, DAJ, CJ, CAJ, PCT, GJ/posting to ledgers, preparing of trial balances, income statements and balance sheets.

2nd Semester

6. Year adjustments of a sole trading.

7. Perpetual and periodic inventory systems.
8. Bank Reconciliation procedures.
9. Analysing financial statements

SECOND YEAR

ACCT201

1. Partnerships: Formation, financial statements, liquidation, conversion to a company.
2. Departmental Accounting: Cost allocation departmental journals, departmental financial Statements, inter-departmental transfers.
3. Cash Budgets: Preparing cash budgets from given information
4. Asset Disposal

ACCT202

5. Non Profit Organisations
6. Specific Subject Didactics

THIRD YEAR

AACT301

1. Companies: Financial statements, disclosure of information by way of notes.
2. Cash flow: Use given information from previous years and additional information.
3. Partnerships: Dissolution of a partnership, retirement and insolvency of partners, sales as a going concern, conversion to a company.
4. Non Profit Organisations

ACCT302

5. Branch Accounting
6. Specific Subject Didactics

BUSINESS STUDIES

BSST101

1. Introduction to Business Management: as a science, principles, and management theories
2. Entrepreneurship (qualities) and the establishment of a business
3. Environmental Scanning and Business environment
4. The business ethics and legislations
5. Human resources, meeting human resource requirements and developing effectiveness in HR, mental health, stress, and crisis management

BSST102

1. Introduction to marketing function
2. Introduction to financial management function
3 Production and operations function
4. Public Relations
5. The purchasing and supply function
6. Risk and business information
6. Contemporary issues in business management (UNSDG)

SECOND YEAR

BSST201

1. The general management principles: managers and management, Managing in today's world

2. Planning: Nature, types, the basic elements of planning, foundations of planning, and decision making
3. Organizing: Authority and power, organizational structure, span of control, centralization and decentralization.
4. Leadership: leading people in the organization,
5. Controlling: nature and processes, the importance of control

BSST202

1. Introduction to organizational behaviour and human resources
2. Personality and disorders, stereotypes (panel discussion), values, culture and change
3. Behaviour of managers and leadership theories
4. Manager as a strategist: managerial and visionary leadership
5. Managers within African context: African leaders and Ubuntu leadership model

THIRD YEAR

BSST301

1. The context of marketing management
2. Marketing mix- instruments
4. Marketing research
5. Marketing strategies
6. Product or service branding
6. Shaping the market offering:

BSST302

1. Financial management context: scope, functions & theories
2. Sources of finance
3. Time value of money
4. Capital budgeting and costing, working capital and investment decisions
5. Risk and sustainability
6. Valuation and profit ratios

ECONOMICS I
FIRST YEAR
ECMS101

1. Numeracy and Graphical Skills
2. Introductory Concepts
3. Circular Flow of Economic Activity in a Two - Sector Model
4. The Goods Market
5. Elasticity
6. The Labour Market
7. Production and Costs
8. Market Structures: Perfect Competition
9. Market Structures: Monopoly
10. Numeracy and Graphical Skills
11. Introductory Concepts

2nd Semester

12. Circular Flow of Economic Activity in a Two - Sector Model
13. The Goods Market
14. Elasticity

15. The Labour Market
16. Production and Costs
17. Market Structures: Perfect Competition
18. Market Structures: Monopoly

ECONOMICS I

1st Semester

1. Consumer Behaviour
2. Production
3. Market structures and Economics Behaviour
4. Alternative theories of the firm

2nd Semester

MACRO-ECONOMICS

1. The Keynesian model
2. The IS-LM Model
3. The Foreign Sector
4. The Aggregate Demand (AD) and Aggregate Supply (AS) approach: AD model
5. Different Schools of Thought on Microeconomic Theory and Politics

ECONOMICS III

1st Semester

1. Economic Policy in South Africa
2. Cost Benefit Analysis
3. Welfare Economics
4. Elasticity (Advanced)
5. Production Economics – Isocosts & Isoquant

2nd Semester

1. Labour Economics
1. Public Economics
2. International trade
3. Balance of Payments and Exchange rates
4. Economic Growth

SUBJECT DIDACTICS: (SENIOR PHASE) EMS

1st Semester

- EMS curriculum: origin, changes and principles
- Approaches to teaching economic and management sciences
- Planning and preparation for teaching and assessment
- Use and development of resources
- Classroom management
- The digital world and internet in teaching

SUBJECT DIDACTICS: ACCOUNTING, BUSINESS STUDIES AND ECONOMICS
2nd Semester

- Accounting, Business studies and Economics teacher: A great teacher
- Models and approaches of teaching and assessment in Accounting, Business studies and Economics
- Teaching and assessing informed by Ubuntu and Constructivism Philosophy
- Planning for instruction: using Charlotte Danielson Model
- Assessment-Assessment for learning and of learning, constructing assessment activities-classwork, assignment, test & examination.
- Evaluation of Accounting, Business studies, and Economics teaching and assessment

Bachelor of Education in Senior Phase and Further Education and Training Teaching in Natural Sciences

Electives

Information Technology 101

The purpose of the module is to equip students with fundamental knowledge, understanding and skills & values and attitudes to communicate information in different technological formats as well as apply and integrate end-user computer applications in education, teaching and learning. This module contributes to the foundational subject content knowledge to support the development of the students' competence in a teaching specialization. This Information Technology. 101 thrives to prepare graduates to have knowledge and skills related to information technology that would enable them to identify, select, integrate and use in their planning, teaching and learning processes at their worksites

Information Technology 102

The purpose of this module is to equip students with extensive knowledge and skills about databases, operating systems and to apprehend internet and worldwide web technologies. This module contributes to the foundational subject content knowledge to support the development of the students' competence in a teaching specialization. Students should demonstrate fundament knowledge and understanding of operating systems, databases and web related technologies. In addition, students should be able to use databases and web technologies to identify, integrate, evaluate and solve problems relating to teaching and learning.

Information Technology 201

The purpose of this module is to develop in student sound knowledge and skills of Business Information Systems with a view to applying these within different business contexts and within an Information Technology framework. This module builds on the fundamental knowledge of Information Technology by incorporating IT knowledge, principles and techniques to Business Information Systems. This module, therefore, contributes to the content knowledge of Information Technology as part of the knowledge required of the BEd programme to support students in developing their competence in teaching Information Technology. Students should demonstrate sound knowledge and skills on the key areas in Business Information Systems, databases and networking including the ability to apply the key terms, concepts, facts, principles, rules and theories of Information Technology to unfamiliar but relevant contexts.

Information Technology 202

The purpose of this module is to develop in students a sound theoretical and process knowledge of computer systems with a view to develop competence in programming and developing algorithms for computer operations. This module contributes to the foundational content knowledge required of the BEd programme to support the IT teaching specialization. Students should demonstrate foundational knowledge of computer organization and architecture with a view to developing competence in computer programming. In addition, students should demonstrate the ability to select and apply appropriate methods, procedures or techniques of data structures and algorithms. To show an appreciation for computer systems and its possibilities for innovation.

Information Technology 301

The purpose of this module is to provide students with well-rounded knowledge, skills, values and attitudes to create, design and communicate information in different technological formats in education, teaching and learning. This module contributes to the foundational content knowledge required for the teaching specialization. Students should exhibit integrated knowledge of algorithms,

operating systems, databases and computer networks as it applies to Information technology. Furthermore, students should demonstrate their understanding of and ability to apply and evaluate the key terms and concepts associated with information technology within the context of teaching and learning.

Information Technology 302
The purpose of this module is to equip learners with well-rounded knowledge, skills, values and attitudes to create, design and communicate information in different technological formats in education, teaching and learning. This module contributes to the development of advanced content knowledge in IT required to support the development of competence in teaching IT. This module develops the graduate in having a well-rounded knowledge of IT with the competence of adapting the content learning to application situations within an informed and critical framework.

Life Sciences 101 (LFSC 101 and/or BIOE 101)
The aim of the module is to introduce you to Life Sciences (or biology), which is the scientific study of life. It takes you through the study of the cell, which is basic unit of life and its organelles. It further explores basic concepts of biology, such as the chemical context of life, biological molecules, cellular structure and function and genetic. It also focuses on practical work related to the content taught that will form an important base for Life Sciences teaching.

Life Sciences 102 (LFSC 102)
The aim of the module is to develop further understanding of biology concepts, processes, phenomena, mechanisms, principles, theories, laws, models, etc. It introduces the energy transformations that support life, namely, photosynthesis and respiration, life processes in plants and animals, as well as diversity, change and continuity of life on earth. The modules also involves Practical work related to it and to a lesser extent the instructional strategies for effective Life Sciences teaching.

Life Sciences 201 (LFSC 201 and/or BIOE 201)
The aim of the module is to develop basic knowledge and understanding of the diversity of organisms, their origin and their importance. It introduces you to the Principles of classification, Plant evolution and diversity, Evolutionary innovations and radiation of organisms (bacteria, fungi, plants and animals). The module also aims to expose you to field of doing Life Sciences through doing practical work and investigations that relates to the module content, this forms an important base for Life Sciences teaching.

Life Sciences 202 (LFSC 202)
The module develop intense understanding of life sciences concept by introducing you to animal diversity. It expose you to the diversity of invertebrates, this includes Origin of and evolutionary trends in invertebrates, Classification and diversity of major invertebrate groups. It also provide knowledge on vertebrate biology, ecology and their interactions with the environment, this includes its life histories and conservation. It also involved practical work which is necessary to prepare you for the teaching Life Sciences.

Life Sciences 301 (LFSC 301 and/or BIOE 301)
This module aims to equip you as the life sciences teacher to appreciate and understand the history, the importance and applications of Life Sciences in society. It introduces you to the study of Genetics as the basis of life, life processes and biological systems as they relate to human as well as on animal structure and function. The module focuses more on the Life Science Curriculum and Assessment Policy Statement (CAPS) and prepares you for teaching in the FET phase. It also focuses on practical work and oral presentation that is related to the content of the module.

Life Sciences 302 (LFSC 302)
The module aims to make you understand the processes of evolution, to develop an understanding of the evolutionary relationships and exposure to modern debates in evolutionary biology, and to conceptualize theories that govern human evolution. This is where you are also expected to demonstrate your ability to blend content and pedagogy. You will be given an opportunity to present Life Sciences lessons to your peer and receive feedback. As a Life Sciences teacher you have to stay abreast of the latest knowledge in your field, in order to confidently teach Life Sciences at FET level. This course will help you master key Biology content you will need as a Life Sciences teacher.

MTSP 101
This module has 12 credits (120 notional hours). Students will develop knowledge in mathematics to be proficient to teach at FET level in secondary schools. The aim is to train classroom practitioners that will work independently and with confidence.
Module topics include: Algebra: Quadratic Equations, Remainder and Factor Theorem Exponents and Surds and Logarithms
Students will be exposed to a variety of teaching methods; student centered strategies, traditional strategies and technology enhanced learning. Integration of ICT skills will include ability to use MOODLE, MS Teams and Microsoft 365 applications. Students will be expected to apply and demonstrate teaching strategies in mathematics.

MTSP 102
This module has 12 credits (120 notional hours). Students will develop knowledge in mathematics to be proficient to teach at FET level in secondary schools. The aim is to train classroom practitioners that will work independently and with confidence.
Module topics include: Trigonometry, Analytical Geometry and Circle Geometry
Students will be exposed to a variety of teaching methods; student centered strategies, traditional strategies and technology enhanced learning. Integration of ICT skills will include ability to use MOODLE, MS Teams and Microsoft 365 applications. Students will be expected to use their ICT skills for Tutorials, Assignments and Projects.

MTSP 201
This module has 12 credits (120 notional hours). Students will develop knowledge in mathematics to be proficient to teach at FET level in secondary schools. The aim is to train classroom practitioners that will work independently and with confidence.
Module topics include: Trigonometry, Calculus and Sequences
Students will be exposed to a variety of teaching methods; student centered strategies, traditional strategies and technology enhanced learning. Integration of ICT skills will include ability to use MOODLE, MS Teams and Microsoft 365 applications. Students will be expected to use their ICT skills for Tutorials, Assignments and Projects.

MTSP 202
This module has 12 credits (120 notional hours). Students will develop knowledge in mathematics to be proficient to teach at FET level in secondary schools. The aim is to train classroom practitioners that will work independently and with confidence.
Module topics include: Probability, Finance and Growth, Euclidean Geometry and Measurement
Students will be exposed to a variety of teaching methods; student centered strategies, traditional strategies and technology enhanced learning. Integration of ICT skills will include ability to use MOODLE, MS Teams and Microsoft 365 applications. Students will be expected to use their ICT skills for Tutorials, Assignments and Projects.

MTSP 301
This module has 12 credits (120 notional hours). Students will develop knowledge in mathematics to be proficient to teach at FET level in secondary schools. The aim is to train classroom practitioners that will work independently and with confidence.
Module topics include: Linear Algebra, Complex Numbers and Integration,
Students will be exposed to a variety of teaching methods; student centered strategies, traditional strategies and technology enhanced learning. Integration of ICT skills will include ability to use MOODLE, MS Teams and Microsoft 365 applications. Students will be expected to use their ICT skills for Tutorials, Assignments and Projects and Lesson Plans.

MTSP 302
This module has 12 credits (120 notional hours). Students will develop knowledge in mathematics to be proficient to teach at FET level in secondary schools. The aim is to train classroom practitioners that will work independently and with confidence.
Module topics include: Vectors, Calculus, Series, Hyperbolic Functions
Students will be exposed to a variety of teaching methods; student centered strategies, traditional strategies and technology enhanced learning. Integration of ICT skills will include ability to use MOODLE, MS Teams and Microsoft 365 applications. Students will be expected to use their ICT skills for Tutorials, Assignments and Projects and Lesson Plans.

MLIT 101
Welcome to MLIT 101, and I hope that you find it enjoyable and enriching. Think of this module as one in which you polish up your basic knowledge as you start the process of unpacking basic concepts for better understanding. In this module you will revisit Financial Mathematics, space, shape and measurements, and linear functions. The understanding of these basic concepts should equip you with necessary skills and knowledge to work through MLIT201 and MLIT301. Some of the skills you will acquire are, quantitative reasoning, drawing, and interpreting information on graphs and tables, and applying measurement skills on real life situations. More basic concepts are covered in MLIT102.

MLIT102
Welcome to MLIT102, the second part of revisiting basic concepts. I hope you will be able to connect some of the concepts that you learned in MLIT101 to the concepts you will learn here. In this module you will explore, numbers and calculations with numbers, Conversions, and basic Statistics and Probability concepts. Some of the skills you will acquire from working on these concepts are the ability to present the concepts, use scientific calculators correctly, being able to work with scientific notations, interpreting data, and more. The module is a prerequisite for MLIT202 and will also prepare you for MLIT302.

MLIT201
Welcome to MLIT 201, and I hope that this module will develop your content knowledge further as you will now draw from the 1st year basic presentations and prepare actual lessons on the different concepts. In this module you will work on squares, cubes, and their roots, quadratic equations and their graphs, and practical applications of rates in real life including exchange rates. Understanding these basic concepts should equip you with necessary skills and knowledge to work through MLIT301 for which this module is a prerequisite. This module will improve your quantitative reasoning skills and facilitate the development of your ability to explain and illustrate concepts with clear examples.

MLIT202
Welcome to MLIT202, the second part of linking the basic 1st year concepts and presentations to

actual lessons on the different concepts. Having worked on numbers and calculations with numbers, Conversions, and basic Statistics and Probability concepts in MLIT201, you will now explore these concepts further. You will work on understanding statistics and probability concepts at a higher level in preparation for MLIT302 where you will meet more complex problems on these concepts. You will also work on basic transformation geometry, symmetry, and tessellations which require good understanding of space, shape, and measurements, and working with the Cartesian plane which you did in MLIT101 and 201. After completing this module, you will be able to apply statistical knowledge to real life application problems and interpret data and graphs at a higher level.

MLIT301

Welcome to MLIT301, and I hope that you will find the module enriching. At this point you have covered all the basic concepts needed to effectively work through the content of this module and develop your pedagogical content knowledge further. You will now be learning and improving your ability to explain the different concepts in finance. You will also be required to demonstrate your ability to explain the concepts using the different technological tools you have been exposed to in MLIT101, 102, 201 and 202. After completing this module, you should be well equipped with the ability to self-manage, especially when faced with financial matters. This is a skill you will be expected to impart as a practising teacher of the subject.

MLIT302

Welcome to MLIT302, the second part of developing your content knowledge and pedagogical content knowledge. In this module, you will be learning and improving your ability to explain the different concepts in statistics and probability. You will explore these concepts at a much higher level to enrich your content knowledge and make you a knowledgeable teacher. You will also be required to demonstrate your ability to explain the concepts using the different technological tools you have been exposed to in MLIT101, 102, 201, 202 and 301. After completing this module, you should be well equipped with the ability to self-manage as a teacher and citizen, especially when faced with problems that require statistical knowledge. This is a skill you will be expected to impart as a practising teacher of the subject.

Physical Sciences 101 (PSCI101)

The purpose of this module is to develop a sound knowledge in Physical Sciences in order to analyse, evaluate, critically reflect on and work independently as classroom practitioners in Physical Sciences Education. The module discusses how research into chemical reactions has been aided by the scientific method. The organization of the periodic table, compound naming, bonding, the relationship between products and reactants, the behavior of substances in water, and the uses of organic compounds are all discussed. The module's topics are as follows:

- Electronic structure and the periodic table
- Periodic relationship among the elements
- Chemical bonding: Basic concepts
- Organic chemistry I: Functional groups and nomenclature.

Physical Sciences 102 (PSCI102)

The purpose of this module is to provide basic informed understanding and awareness in mechanics and to develop problem skills which will prepare them as future physical science teachers. The learning outcomes are that, students should be able to:

- Express a basic informed understanding and awareness of the terms, concepts, facts and principles in mechanics.
- Exhibit the ability to identify, evaluate and solve routine problems in the field of mechanics and hence utilise those skills to solve the new problems from the field.

This module is preparing the students as critical thinkers who has the ability to design, evaluate and implement the strategies to solve the problems. The topics covered at this level are:
MECHANICS

- Introduction and mathematical concepts
- Kinematics in one and two dimensions
- Forces and Newton's laws of motion
- Impulse and momentum
- Work, Energy and Power.

ELECTRICTY

- Electricity
- Electrostatics

Teaching is done through contact lectures that present the basic Physics theories, rules and principles of Physics. Learning is developed through lecturer student interaction and student self- study.
All the students have access to on-line learning material using Moodle to reinforce their lectures.

- Contact Session
- Lectures
- Tests & Exam
- Practical
- Non-Contact session
- Preparation for test
- Preparation for examination
- Self-study
- Tutorial
- e- learning
- Assignments

Physical Sciences 201 (PSCI201)
The purpose of this module is to provide an in-depth knowledge in the areas of optics and electrodynamics and to familiarise with the methods and procedures in implementing physics in daily life which empowers them as future physical science educators. Learning outcomes are that the students should be able to:

- Exhibit the detailed knowledge in physics by applying the facts, concepts, principles and theories in innovative areas of optics and electrodynamics.
- Show the potential to evaluate, select and apply the suitable methods and procedure of investigation to solve the problems in the field of optics and electrodynamics.

This module is preparing the students to have an in-depth knowledge in the field of optics and electrodynamics, which equips them with the ability to apply knowledge in practice. Topics covered at this level are:

Electrodynamics

- Magnetic effects of electric current
- Electromagnetic induction

Optics

- Reflection and refraction of light.
- Waves and Simple Harmonic motion
- Heat and Thermodynamics

- Teaching is done through contact lectures that present the basic Physics theories, rules and principles of Physics. Learning is developed through lecturer student interaction and student self- study.

All the students have access to on-line learning material using Moodle to reinforce their lectures

Contact Session

- Lectures
- Tests & Exam
- Practical

Non-Contact session

- Preparation for test
- Preparation for examination
- Self-study
- Tutorial
- e- learning
- Assignments

Physical Sciences 202 (PSCI202)

The purpose of this module is to develop a sound knowledge in Physical Sciences in order to analyse, evaluate, critically reflect on and work independently as classroom practitioners in Physical Sciences Education. The module discusses the state of balance; acid-base bonding and structure for identification and characterisation, and solutions. Two additional aspects of chemical reactions are covered in this module: chemical kinetics, which deals with how quickly reactions occur, and chemical equilibrium, which deals with how extensive reactions are. The module's topics are:

- Chemical equilibrium in gaseous system
- Acid Base equilibria in aqueous solutions
- Physical properties of colloids and solutions
- Chemical Thermodynamics

Physical Sciences 301 (PSCI301)

The purpose of this module is to develop a well-rounded knowledge in Physics in order to analyse, evaluate, critically reflect on and work independently as classroom practitioners in Physics. Outcomes are that the students will be able to:

- demonstrate a well-rounded knowledge and systematic understanding of and the ability to apply and evaluate the key terms, concepts, facts, principles, rules and theories in Physics
- identify, evaluate, critically reflect on and address complex problems, applying evidence-based solutions and theory-driven arguments.
- ability to explore existing issues and ideas in PHSICS comprehensively and to formulate an opinion or conclusion.
- ability to apply theories and principles in Physical Sciences teaching and learning.

The topics done are:

- Wave Optics
- Dual Nature of Radiating and Matter
- Current Electricity
- Semiconductor Devices and Communication Systems

- Atomic Physics
- Molecular Physics
- Nuclear Physics

Teaching is done through contact lectures that present the basic Physics theories, rules and principles of Physics. Learning is developed through lecturer student interaction and student self- study.
All the students have access to on-line learning material using Moodle to reinforce their lectures.

- Contact Session
- Lectures
- Tests & Exam
- Practical

Non-Contact session

- Preparation for test
- Preparation for examination
- Self-study
- Tutorial
- e- learning
- Assignments

Physical Sciences 302 (PSCI302)

The purpose of this module is to develop a sound knowledge in Physical Sciences in order to analyse, evaluate, critically reflect on and work independently as classroom practitioners in Physical Sciences Education. The production of electricity and its storage are covered first, followed by a discussion of the rate of chemical reactions, to determine the value of a chemical reaction. The advantages of water's exceptional capacity to dissolve the majority of substances are shown. The discussion ends with complex molecules that support life and have industrial uses. The topics follow.

- Electrochemistry
- Chemical Kinetics.
- Solubility and Complex Ion Equilibria.
- The transition Metals.

SUBJECT DIDACTICS: (SENIOR PHASE) NATURAL SCIENCES

1st Semester

Broad introduction to the concept of energy; history of development of discussions energy; conserving energy as a resource; the various forms of energy, e.g. gravitational, internal, chemical, solar, thermal, mechanical, nuclear; energy conversion; relationship between energy, work and power; energy and change.

Classification of fauna; Reproduction in social context; Nutrition in flora and fauna; The circulatory system as a transport medium; Waste elimination and the role of water; Population studies; Biodiversity; Pollution; The cell. module.

Particle nature of matter; Chemical bonding & chemical reactions; Structure and uses of different types of materials (e.g. glass, plaster, oils, minerals, paints).

SUBJECT DIDACTICS: (FET) PHYSICAL SCIENCES, LIFE SCIENCES, INFORMATION TECHNOLOGY AND MATHEMATICS

2nd Semester

The nature of the learning area as defined in the National Curriculum Statement.
Teaching, learning and assessment in the learning area.
Common misconceptions in the learning area and strategies to overcome these.
Designing a comprehensive learning programme in the learning area, producing teaching material, and designing assessment tasks in line with the national curriculum statement.
Communication effectively towards the learning area.
Drawing up specific teaching techniques relevant to each learning area.
Reflecting on teaching experience, and on observation of present experienced teachers at work.

Bachelor of Education in Senior Phase and Further Education and Training Teaching in Technology

MATHEMATICAL LITERACY

1st Semester
1. Numbers, Operations and Finance
2. Functional Relationships
3. Graphs
4. Shape, Space, and Measurement

2nd Semester
5. Solids
6. Data Handling

MATHEMATICAL LITERACY
1st Semester
1. Numerical solution of rate
2. Parameter and surface area of 2 D-shape
3. Functional relationships
4. Scale drawing

2nd Semester
5. Interpretation of Data
6. Financial Mathematics

MATHEMATICAL LITERACY
1st Semester
1. Working with formulae
2. Taxation and inflation
3. Parameter, surface area and volume of 3D-shape
4. Interpretation of table and graph
5. Data interpretation
6. Statistical Methods

2nd Semester
7. Grids and Maps
8. Data Display
9. Budget and Banking

CIVIL TECHNOLOGY 101 (1st Semester)
1. Forces

2. Definition of ground bearing, dead load, imposed load.
3. Setting out right angle corners with 3, 4, 5 methods.
4. Checking for square: diagonal method.
5. Types of soil and soil conditions
6. Strip and step foundations, Foundation walls
7. Drainage-Terms and definitions
8. Drainage installations
9. Basic properties of materials
10. Doors and centering

Civil Technology 102 (2nd Semester)

1. Manholes
2. Sewage handling
3. Inspection chambers
4. Electric geysers
5. Solar geysers
6. Water meters
7. Water saving methods in the household
8. Fittings for waste and soil water pipes
9. Ceilings
10. Roofs
11. Mechanics

Civil Technology 201 (1st Semester)

1. Formwork
2. Quantities for construction materials (Substructure –bricks; Roof trusses; Tiles)
3. Stormwater
4. Cold water supply
5. Hot water supply (Working Principles of Geysers, Latest Technology on Solar Geysers)
6. Joining
7. Applied Mechanics (Centroids, Frames)
8. Quantities for materials associated with plumbing

Civil Technology 202 (2nd Semester)

1. Construction-General Safety
2. Shoring (Dead, Flying Shores, applications, sequence of operations
3. Quantities (Substructure bricks, tiles and Roof trusses)
4. Stormwater -Regulations
5. Cold water supply fittings
6. Hot water supply -faults in water systems
7. Centroids

Civil Technology 301 (1st Semester)

1. Safety (Woodworking Machinery)
2. Archs
3. Excavation
4. Foundation types
5. Brickwork
6. Method of extracting quantities for a one-bedroom dwelling
7. Cutting list

Civil Technology 302 (2nd Semester)

9. Reinforcement
10. Excavation (Safety factors and regulations before and after excavations; Timbering to keep excavations from collapsing; excavating basements -perimeter trench, raking struts, cofferdams and diaphragm walls)
11. Foundations
12. Plaster and Screed
13. Quantities
14. Communication (Various methods of cutting, joining and securing pipe; connections for joining of copper, galvanized and uPVC pipes, Explanation and application of soft solder and fixing agents)
15. Woodworking

MECHANICAL TECHNOLOGY I

1. Technological processes
2. Structures
3. Electrical Systems and Control
4. Mechanical Systems and Control
5. Processing
6. Indigenous Technology
7. Impact of Technology

MECHANICAL TECHNOLOGY II

1st Semester

1. Safety
2. Tools
3. Materials
4. Terminology
5. Joining Methods

2nd Semester

6. Mechanics
7. Maintenance
8. Systems
9. Heat Engines

MECHANICAL TECHNOLOGY III

1st Semester

1. Safety
2. Tools
3. Materials

4. Terminology
5. Joining Methods

2nd Semester

6. Mechanics
7. Maintenance
8. Systems and Control
9. Turbines

MATHEMATICS (SEE NATURAL SCIENCES ELECTIVES)

TECHNICAL MATHEMATICS I

1st Semester

1. Algebraic expressions
2. Exponents
3. Number patterns
4. Equations and
5. inequalities
6. Trigonometry
7. Functions
8. Trigonometric functions
9. Euclidean Geometry

TECHNICAL MATHEMATICS I

2nd Semester

1. Analytical Geometry
2. Finance and growth
3. Statistics
4. Trigonometry
5. Euclidean Geometry
6. Measurement
7. Probability.
8. Analytical Geometry

TECHNICAL MATHEMATICS II

1st Semester

1. Exponents and surds
2. Equations and
3. inequalities
4. Number patterns
5. Analytical Geometry
6. Functions
7. Trigonometry (reduction
8. formulae, graphs,
9. equations)

TECHNICAL MATHEMATICS II

2nd Semester

1. Measurement
2. Euclidean Geometry
3. Trigonometry (sine,
4. area,
5. cosine rules)
6. Probability
7. Finance,
8. Statistics

TECHNICAL MATHEMATICS III

1st Semester

1. Patterns, sequences and
2. series
3. Functions and inverse
4. functions
5. Exponential and
6. logarithmic functions
7. Finance, growth and
    a. decay
8. Trigonometry - compound
    a. Angles
9. Trigonometry 2D and 3D
10. Polynomial functions
11. Differential calculus

TECHNICAL MATHEMATICS III

2nd Semester

- Analytical Geometry
- Geometry
- Statistics (regression and
- correlation)
- Counting and Probability

TECHNICAL SCIENCE

TECHNICAL SCIENCE101

This module aims to provide a basic informed understanding and awareness of mechanics and develop problem skills that will prepare them as future technical science teachers. The module has the following content: Units and measurements, Scientific notations and dimensional analysis, Vectors and Scalars, Motion in one dimension, and Introduction to forces, Torque, and Simple machines.

TECHNICAL SCIENCE102

This module aims to provide a basic, informed understanding and awareness of Chemistry and develop problem skills that will prepare them as future technical science teachers. The module has the following content: Classification of matter, Metals, Metalloids, and Non-metals, Electrical conductors,

semiconductors and insulators, Thermal conductors and insulators, Magnetic and non-magnetic, Structure of the atom, Electronic Properties of Matter and Organic chemistry.

TECHNICAL SCIENCE201

This module aims to provide in-depth knowledge of optics mechanics and familiarise them with the methods and procedures for implementing physics in daily life, which empowers them as future technical science educators**.** The module has the following content: Work, energy, and Power, Frictional forces, Newton's laws of motion, Momentum, Elasticity, and Fluid Mechanics.

TECHNICAL SCIENCE202

The purpose of this module is to provide in-depth knowledge in the areas of Chemistry and to familiarise them with the methods and procedures for implementing physics in daily life, which empowers them as future technical science educators. The module has the following content: Heat and temperature, heat and thermodynamics, chemical change, oxidation and electrolysis, electrochemical cells, and alternating energies.

TECHNICAL SCIENCE301

The purpose of this module is to mould an accountable teacher with integrated knowledge in the areas of waves and thermal physics. The module has the following content: Longitudinal and transverse waves, Superposition of waves, Sound waves, Light, and Electromagnetic radiation.

TECHNICAL SCIENCE302

The purpose of this module is to mould an accountable technical science teacher with integrated knowledge in the areas of electricity and magnetism and excellent problem-solving skills. The module has the following content: Electrostatics, Magnetism, Electric Circuits and Electromagnetism.

ENGINEERING GRAPHICS AND DESIGN I

1st Semester

1. **Introduction to Technological Design**
   Discuss the scope, educational and career opportunities related I to EGD. Include human rights, gender, inclusivity and HIV/AIDS issues.

2. **Drawing principles as contained in the SANS code of practice as related to basic civil, electrical and mechanical drawing**.
   Practice line types according to the SANS Code of Practice (0111 & 0142 (elect) & 0143) and their application to: outline, construction, cutting plane line, line hatching, hidden detail and; line.
   Practice the general lettering requirements according to the SANS code of practice.

3. **Free-hand drawing**
   Practice the four basic hand movements need to reproduce proportional single, multi view and pictorial drawings using grid sheets and plain paper.

4. **Setting up a Drawing Sheet**
   Paper sizes
   Set up a drawing sheet showing all relevant information, e.g. Name and. title blocks, appropriate symbols etc.

5. Instrument Drawing

Discuss, research and present in an appropriate form the dangers of the irresponsible use of sharp instruments that could cause bleeding and the transfer of HIV/AIDS Geometrical Constructions (need to know basis). Bisecting an angle, line, line division, circle through three points, perpendiculars, angles, line tangents, arc tangents, inscribed and circumscribed circle, polygons) 3.4.5.6.8, circle and ellipse.
Scale drawings. (2:1, 1:1, 1:2, 1:5, 1:10, 1:20, 1:50, 1:100)

6. Orthographic

1st and 3rd angle orthographic projections as applied to simple castings from industry.

7. Projection (no sectional views)

Construction of polygons

8. Mechanical Drawings

Prisms, pyramid, cylinders and cones. The axis of the solids must include examples to be perpendicular, parallel and inclined to one principal plane.

9. Civil Drawings

Insert annotation, dimensioning and scale. Include floor plans and elevations that include: windows, doors and fixtures such as WC, bath, sink, shower, cupboard.
Apply colour coding according to building practice.
Show site plan and schedule of specifications. Include electrical, plumbing and drainage detail.

10 Descriptive geometry

Determine the orthographic views of points and line segments
Segments that are: perpendicular, inclined and oblique.
Determine the true length of a line segment and the true inclination of a line segment to the HP and VP using different methods, e.g. projection and construction methods.

11. Electrical Drawing

Use given electrical and electronic component symbols to draw simple circuit diagrams.
Draw parallel and series circuit diagrams that are relevant to; electrical appliances, house wiring etc. Include notes were appropriate and draw systems diagrams.
Draw wiring diagrams on floor plans of buildings.
Represent these as circuit diagrams and draw block diagrams.

12. Principles of Sectioning

Draw sectional views in 1st and 3rd angle of simple castings from Industry. Include the following: SANS code of practice, dimensioning techniques, title, notes and symbol of projection.

2nd Semester

13. Mechanical Drawing

Draw outside, sectional, half sectional and part sectional views of simple assemblies that include temporary fasteners. SANS code of practice, dimensioning techniques, title, notes and symbol of projection.
Draw outside, sectional, half sectional and part sectional multi-views of complex assemblies that include fasteners.
SANS code of practice, dimensioning techniques, title, notes and symbol of projection. Insert welding, machining and surface treatment symbols relevant to steel work.
Draw the sectional orthographic views of geometrical solids.

14. Solid Geometry

Prisms, pyramids, cylinders and cones. The axis of the solids must be perpendicular, parallel and inclined to one principal plane.
Combination of right regular geometrical solids.
True shapes

15. Civil Drawings

All applications only need to include single story dwellings
Draw elevations and sectional elevation showing foundation to slab.
Draw elevations and sectional elevation showing foundation to ceiling

Draw elevations and sectional elevation showing foundation to roof. includes roof trusses.

16. Principles of Pictorial Drawing

Draw simple oblique drawings. Include the circle in the front view only.
Draw simple to complex Isometric drawings including circles. (one point)
Produce 1-point perspective drawings of simple castings and single storey dwellings.
Produce 1-point perspective drawings of simple single story dwellings.
HL, PP and SP can be varied to provide among others a bird's eye and worms eye view.

17. Computer technology [CAD]

List the electronic and computer technologies that impact on graphical communication.
Evaluate the advantages and disadvantages of electronic and computer technologies that impact on graphical communication
Computer hardware, operating systems, software and file types and file management
CAD software
CAD drawing and printing templates (including layers) and modify functions
Computer peripherals

18. **The Design process:**

Apply the design process to the civil, electrical and mechanical
Problem identification and concept sketches
Analyze
Working drawings
Synthesizing
Model making where possible (optional)
Evaluation
Design a floor plan of a dwelling according to given specifications.
Design a simple mechanical product according to given specifications.

19. Visualization cognitive and perceptual exercises

Analyze drawings and answer questions based on single multi-view and pictorial drawings within the context of civil, electrical and mechanical.
Visualization of cognitive and perception exercises

ENGINEERING GRAPHICS AND DESIGN II

1st Semester

1. Introduction to Technological Design

Discuss the advantages/disadvantages of electronics/computer technologies that impact on graphical communication.
Discuss the challenges regarding human rights, gender, and HIV/AIDS in career opportunities in the engineering graphics and design field.

2. Drawing Principles

Application of line types according to the SANS Code of Practice (0111 & 0142 (elect) & 0143) and their application in pencil drawings and CAD.
Application of the general lettering requirements according to the SANS code of practice.

3. Free-hand drawing

Application of the four basic hand movements needed to reproduce proportional single, multi view and pictorial drawings without the use of grid sheets and plain paper.

4. Setting up a Drawing Sheet

Set up a drawing sheet showing all relevant information, e.g. name and. title blocks, appropriate symbols etc. in CAD

5. Instrument Drawing

Discuss and demonstrate the use and care of instruments used specifically for Loci and assembly drawing.

Application of scale drawings in civil and mechanical drawings.

6. Loci

Apply the principles of the Helix to relevant to civil and mechanical application. Helical applications such as spiral chutes, handrail for a spiral staircase, coil spring in a shock assembly, screw threads.

Apply the principals of the Cam to relevant civil and mechanical application.

Apply the principles of Cams relevant to civil and mechanical application.

Cams that impart movement on wedge and roller ended followers.

7. Orthographic Projection

1st and 3rd angle orthographic projections as applied to simple castings from Industry.

8. Mechanical Drawings

Determine the curve of interpenetration of two objects that penetrate or are joined.

Determine the surface development of the transition pieces and containers.

9. Civil Drawings

Insert annotation, dimensioning and scale. Include floor plans and elevations that include: windows, doors and fixtures such as WC, bath, sink, shower, and cupboard.

Apply colour coding according to building practice.

Show site plan and schedule of specifications. Include electrical, plumbing and drainage detail.

10. Descriptive geometry

Determine the true length and the true inclination of a line segment to solve authentic problems.

2nd Semester

11. Electrical Drawing

Draw parallel and series circuit diagrams that are relevant to; electrical appliances, house wiring etc. Include notes were appropriate and draw systems diagrams.

12. Solid Geometry

Draw the sectional orthographic views of geometrical solids.

Combination of right regular geometrical solids.

True shapes in auxiliary views

13. Civil Drawings

Draw elevations and sectional elevation showing foundation to roof.

Basic roof design

14. Principles of Pictorial Drawing

Produce 1 point and 2-point perspective drawings of complex castings and single and double storey dwellings

15. Computer technology [CAD]

Knowledge of computer hardware, operating systems, software and file types and file management

Advantages and uses of CAD software

Application of basic CAD draw, edit and modify functions.

CAD drawing in layers.
Development on questions, model answers and notes for the learner.
Application of all the sections of work in the drawing syllabus

16. The Design process:

Apply the design process to the civil, electrical and mechanical technologies

Apply the design process in the design a floor plan of a dwelling and a simple mechanical product according to given specifications.
Presentation of the design using various graphical methods.
Application of correct SANS Code of Practice (0111 & 0142 (elect) & 0143)
Application of the design process in the design of lesson plans, lesson notes, student notes and tests.

17. Visualization cognitive and perceptual exercises

Analyze drawings and answer questions based on single multi-view and pictorial drawings within the context of civil, electrical and mechanical.
Visualization of cognitive and perception of complex exercises.

ENGINEERING GRAPHICS AND DESIGN III (EGDS 301)

1st Semester

1. Introduction to Technological Design

Discuss the advantages/disadvantages of electronics/computer technologies that impact on graphical communication.
Discuss the challenges regarding human rights, gender, and HIV/AIDS in career opportunities in the engineering graphics and design field.

2. Drawing Principles

Application of line types according to the SANS Code of Practice (0111 & 0142 (elect) & 0143) and their application in pencil drawings and CAD.
Application of the general lettering requirements according to the SANS code of practice.

3. Free-hand drawing

Application of the four basic hand movements needed to reproduce proportional single, multi view and pictorial drawings without the use of grid sheets and plain paper.

4. Setting up a Drawing Sheet

Set up a drawing sheet showing all relevant information, e.g. name and. title blocks, appropriate symbols etc. in CAD

5. Instrument Drawing

Discuss and demonstrate the use and care of instruments used specifically for Loci and assembly drawing.
Application of scale drawings in civil and mechanical drawings.

6. Loci

Apply the principles of the Helix to relevant to civil and mechanical application. Helical applications such as spiral chutes, handrail for a spiral staircase, coil spring in a shock assembly, screw threads.
Apply the principals of the Cam to relevant civil and mechanical application.
Apply the principles of Cams relevant to civil and mechanical application.
Cams that impart movement on wedge and roller ended followers.

7. Orthographic Projection

1st and 3rd angle orthographic projections as applied to simple castings from Industry.

8. Mechanical Drawings

Determine the curve of interpenetration of two objects that penetrate or are joined.
Determine the surface development of the transition pieces and containers.

9. Civil Drawings

Insert annotation, dimensioning and scale. Include floor plans and elevations that include: windows, doors and fixtures such as WC, bath, sink, shower, and cupboard.
Apply colour coding according to building practice.
Show site plan and schedule of specifications. Include electrical, plumbing and drainage detail.

10. Descriptive geometry

Determine the true length and the true inclination of a line segment to solve authentic problems.

2nd Semester

11. Electrical Drawing

Draw parallel and series circuit diagrams that are relevant to; electrical appliances, house wiring etc. Include notes were appropriate and draw systems diagrams.

12. Solid Geometry

Draw the sectional orthographic views of geometrical solids.
Combination of right regular geometrical solids.
True shapes in auxiliary views

13. Civil Drawings

Draw elevations and sectional elevation showing foundation to roof.
Basic roof design

14. Principles of Pictorial Drawing

Produce 1 point and 2-point perspective drawings of complex castings and single and double storey dwellings

15. Computer technology [CAD]

Knowledge of computer hardware, operating systems, software and file types and file management
Advantages and uses of CAD software
Application of basic CAD draw, edit and modify functions.
CAD drawing in layers.
Development on questions, model answers and notes for the learner.
Application of all the sections of work in the drawing syllabus

16. The Design process:

Apply the design process to the civil, electrical and mechanical technologies

Apply the design process in the design a floor plan of a dwelling and a simple mechanical product according to given specifications.
Presentation of the design using various graphical methods.
Application of correct SANS Code of Practice (0111 & 0142 (elect) & 0143)
Application of the design process in the design of lesson plans, lesson notes, student notes and tests.

17. Visualization cognitive and perceptual exercises

Analyze drawings and answer questions based on single multi-view and pictorial drawings within the context of civil, electrical and mechanical.

Visualization of cognitive and perception of complex exercises.

Electrical Technology 101

1st Semester

- **Occupational Health and Safety**
  - Personal protection equipment
  - Safety Practices in the work place
- **Basic Hand Tools**
  - Basic hand tools
  - Safety and tools
- **Electrical/Electronic Circuits**

  Atomic theory of electricity
  Ohm's law
  Theory of current law
  Series circuit as voltage divider
  Parallel circuit as a current divider
  Have electrical circuits with more than one output device in the circuit (series and parallel combinations)
  That shows how simple electronic circuits and devices are used to make an output respond to an input signal (e.g. resistors, light-emitting diodes, transistors, push or magnetic switches, thermistors, light dependent resistors).
  Temperature coefficient
  Identify and describe the characteristics of electronic components such as:
  - Resistors
  - Light dependent resistors
  - Capacitors
  - Inductors
  - PN-diodes
  - Light emitting diodes

  Transformers
  Earth leakage devices
  Distribution boards
  Energy and Power

2nd Semester

- **Digital Electronic systems**

  Shows how electrical circuits with more than one input or control device which will work based on different logic conditions ('AND', 'NOT' and 'OR' logic) and represents them using circuit diagrams, systems diagrams and truth tables.
  Convert binary numbers to decimals, hexadecimal, octal.
  Demonstrates knowledge and understanding of digital electronic systems:
  Identify and comprehend binary circuits and build binary circuits relating to electrical circuits

ELECTRICAL TECHNOLOGY 201

1st Semester

1. **Safety and instruments**

- Identify unsafe conditions and acts and apply
- Tools and instruments correctly.
- Identify unsafe conditions and acts when doing
- practical work and apply tools and instruments correctly to:
  Verify Kirchhoff's laws in AC-and DC circuits.
  Demonstrate the effect of single-phase AC on R, L and C components and investigate the effect of combinations of series circuits, including the effect of frequency changes
  Test insulation, continuity and earth continuity on equipment.
- Describe the Occupational Health and Safety (OHS) Act with reference to general unsafe actions, dangerous practices and unsafe conditions.
- Explain the Occupational Health and Safety (OHS) Act dealing with unsafe actions, dangerous practices and unsafe conditions.

2. Electrical applications

- Construct and comprehend single-phase circuits
- Construct and apply single-phase circuits.
- Describe the use and care of different types of tools and measuring instruments, such as pliers, screwdrivers, multimeters and continuity or insulation testers.
- Explain the use and care for instruments and their correct application and interpretation to ensure accurate measurements such as a multimeter, continuity or insulation tester, function generator and oscilloscope.
- Describe the principles of electricity with reference to:
  Atom theory
  Ohm's law and calculations
  Theory of current flow
  Series circuit as voltage divider
  Parallel circuit as a current divider
  Combination circuits
  Specific resistance
  Temperature coefficient
- Describe the principles of electrostatics with reference to capacitance and electrostatic charge.
- Identify and describe the characteristics of electronic components such as:
  Resistors
  Light dependent resistors
  Capacitors
  Inductors
  PN-diodes
  Light emitting diodes and transformers
- Explain the principles and effect of AC on resistor, inductor and capacitor components with reference to:
  Series combination circuits containing one resistor, one capacitor and one inductor
  Frequency changes
  Phasor and wave representation
  Resonance
  Calculations

2nd Semester

3. Electronics

- Construct and comprehend electronic circuits.
- Construct and apply electronic circuits.
- Describe the principles of electro-magnetism with reference to Faraday's law and Lenz's law and its application in a relay and DC motor.
- Describe the principles of operation and use of power sources like batteries and solar cells like internal resistance, capacity and VA rating.
- Describe the following logic concepts:
  Binary number systems
  Logic symbols
  Logic functions: AND, OR and NOT
- Describe and compare a variety of protective devices and applications such as fuses, miniature circuit breakers and earth leakage devices.
- Explain the principles of AC generation of a single-phase supply by a rotating conductor loop in a two-pole magnetic field.
- Explain the operating principles, characteristics curves and use of semi-conductor devices such as:
  PN diodes
  Bipolar transistors
  Thermistors

4. Digital electronics

Construct, comprehend and apply digital circuits.

Electrical Technology 301

1st Semester

- **Occupational Health and Safety**
  The consequences of the OHS act, risk assessment, human rights in the workplace, work ethics and emergencies

- **Three Phase Transformers**
  Principles of operation, calculations and application.

- **Three Phase Motors & Starters**
  Principle of operation, Testing and commissioning and starters

2nd Semester

- **RLC**
  The effect of AC on Series and parallel RLC Circuits

- **Amplifiers**
  Principle of operation and application of operational amplifiers

- **Communications**
  - Radio communications, antennas, modes of modulation, transmit

SUBJECT DIDACTICS: (SENIOR PHASE) TECHNOLOGY

1st Semester

Design / Communication in technology.
Structures.

Processing.
Systems and control.
Electrical Systems and Control.

SUBJECT DIDACTICS: (FET) PHYSICAL SCIENCES, MATHEMATICAL LITERACY, TECHNICAL SCIENCE, CIVIL TECHNOLOGY AND MATHEMATICS, TECHNICAL MATHEMATICS, ELECTRICAL TECHNOLOGY AND MECHANICAL TECHNOLOGY

2nd Semester

The nature of the learning area as defined in the National Curriculum Statement.
Teaching, learning and assessment in the learning area.
Common misconceptions in the learning area and strategies to overcome these.
Designing a comprehensive learning programme in the learning area, producing teaching material, and designing assessment tasks in line with the national curriculum statement.
Communication effectively towards the learning area.
Drawing up specific teaching techniques relevant to each learning area.
Reflecting on teaching experience, and on observation of present experienced teachers at work.

Bachelor of Education in Senior Phase and Further Education and Training Teaching in Languages

ENGLISH HOME LANGUAGE I

1st Semester

Introduction to English Studies 101 – substantial reading of literature to develop reading, writing and expression skills.

2nd Semester

ENGLISH HOME LANGUAGE I

Introduction to English Studies 102 – substantial reading of literature to be able to interpret English literary and cultural material using appropriate vocabulary and academic methods of presentation.

ENGLISH HOME LANGUAGE II

1st Semester

Substantial reading of literature to get familiar with the ideas and practices of literary period study and genre analysis, leading to the development of creative and academic writing: an introduction.

ENGLISH HOME LANGUAGE II

2nd Semester

Substantial reading of literature to be equipped with literary period study skills and genre analysis leading to the development of creative and academic writing.

ENGLISH HOME LANGUAGE III

1st Semester

Focus on the skills and concepts of the relevant literary period study.
Formation of South African literatures i.e. drama, poetry and novels
Investigating the representation of colonial, postcolonial and/or post-apartheid identities in

the work of selected authors.

ENGLISH HOME LANGUAGE III

2nd Semester

Rigorous creative and reading will take place to test the grasp of generic and styles of established writers.

ISIZULU HOME LANGUAGE I

1st Semester

Aspects of isiZulu grammar, culture and language awareness.

ISIZULU HOME LANGUAGE I

2nd Semester

Introduction to isiZulu morphology; introduction to isiZulu oral literature.

ISIZULU HOME LANGUAGE II

1st Semester

Introduction to morphology, phonology, syntax, phonetics and selected traditional and modern poetry.

2nd Semester

ISIZULU HOME LANGUAGE II

Advanced grammar, comparative Kintu, selected traditional and modern prose.

ISIZULU HOME LANGUAGE III

1st Semester

Creoles, pidgins, slang, vernaculars, isoglosses, dialects, hlonipha, Fanakalo, registers, national language, standard and nonstandard languages, modernization of the isiZulu language, language contact, borrowings and adoptive, challenges facing South African vernacular languages.

ISIZULU HOME LANGUAGE III

2nd Semester

Names and words will be studied from sociolinguistics, morphological and semantic points of view.

SUBJECT DIDACTICS: (SENIOR PHASE) LANGUAGES

1st Semester

The nature of the learning area as defined in the National Curriculum Statement.
Teaching, learning and assessment in the learning area.
Common misconceptions in the learning area and strategies to overcome these.
Designing a coherent learning programme in the learning area, producing teaching resources, and designing assessment tasks in line with the national curriculum statement.
Communication in the learning area. Specialized teaching techniques relevant to each learning area.

SUBJECT DIDACTICS: (FET) LANGUAGES

2nd Semester

The nature of the learning area as defined in the National Curriculum Statement.
Teaching, learning and assessment in the learning area.
Common misconceptions in the learning area and strategies to overcome these.
Designing a comprehensive learning programme in the learning area, producing teaching material,

and designing assessment tasks in line with the national curriculum

Core Modules Are Compulsory for all B Ed Students: FET

ents EDUCATION I (EDUC 101)

1. Education and Its Purpose
2. Basic Educational Concepts (Formal, Non-Formal and Informal Education)
3. Introduction to:
   - Philosophy of Education
   - Psychology of Education (theories of Human Development)
   - History and Comparative Education
   - Sociology of Education
4. Curriculum Design (OBE: NCS)

EDUCATION II (EDUC 201)

1. **Issues in Education [Gender, Equity and Inclusive Education]**

   What is Inclusive Education?

   An overview of the conceptual and operational framework that informs the strategy of inclusive education.

   Discussions on inclusive education will include:

   - The shift from categories of disability to levels of support
   - The description and role of full-service schools
   - The description and role of resource centres and their role in the implementation of inclusive education

   Multicultural Education

   Gender Issues in Education

   Quality Education

2. **Theories of Human Development II: Piaget —Cognitive Development**
   - Kohlberg's Theory —Moral Development
   - Vygotsky —The Zone of proximal development
   - Maslow —Hierarchy of needs

3. **Information Processing Approach: Perkins (a self-study)**

EDUCATION III (EDUC 301)

1. **Concept of Research**
2. **Research Processes** Defining a research problem
   Problem Identification Delimiting a research problem
3. **Approaches to research** Qualitative Research Quantitative Research
4. **Types of Research**
5. **Hypothesis/Research question**
6. **Literature Review**
7. **Research Designs**
8. **Sampling Techniques**
9. **Measuring Instruments**
10. **Data collection, organization and presentation**
11. **Measure of Central Tendency**
12. **Leadership and Management** What is classroom management Effective classroom management Planning a classroom management task Managing change in Education
    Parent involvement and classroom management
    Collegiality (teaching, mentoring and support)
13. **Education Policies** General Legislation Bill of Rights
    Labour Relations Act Employment Equity Act
14. **National Education Policy Act (84/1996)**
    National Policy on HIV/AIDs for learners and educator in public schools and students and educators in FET Institutions. Norms and standards for Educators
15. **South African Schools Act (84/1996)**
    Learners representative Councils
    The formation and the role of School Governing Bodies (SGBs). Guidelines for consideration of Governing Bodies
    In adopting a code of conduct for learners. National Norms and standards for School funding
    Exemption of parents from paying fees
    Employment of Educators Act
    South African Council of Educators Act (SACE)

EDUCATION IV (EDUC 401)

1. Partnerships in Education:
   - Role of Industry in Education
   - Role of Parents/Community in Education
   - Role of Government in Education
   - Role of SACE
2. Education and Law

3. Leadership and Management
4. Ethical issues in Education
   - Ethics of Justice
   - Ethics of Care
   - Ethics in the Workplace
   - Ethics and the South African Code of Conduct for Educators
5. Submission of research projects

GENERAL SUBJECT DIDACTICS I (GSDI 101)

1. Introduction to Didactics
2. What is teaching?
3. Teaching environment
4. Teaching approaches
   - Traditional approaches
   - OBE as an approach to teaching and learning
5. Introduction to Teaching and Learning Strategies
6. Teaching Methods
7. General Teaching Skills
8. Introduction to Media Applications

GENERAL SUBJECT DIDACTICS II (GSDI 201)

1. Micro-Teaching
   Introduction to Outcomes
   Designing Lesson Plans
   Teaching and Learning Media Applications
   Collaborative Teaching
2. Classroom Management
3. Outcomes Based Assessment (OBA)
4. Teaching Large Groups

GENERAL SUBJECT DIDACTICS III GSDI 301)

1. Micro-Teaching
   * Teaching and Learning Strategies
   * Questioning Techniques
   * Development of Media and production of teaching materials
2. Curriculum Development: Planning Work Programmes for different learning areas
3. Assessment Approaches and Principles
4. Balancing a Question Paper
5. Quality Assurance in Education

PLANNING A LEARNING PROGRAMME

New Curriculum Framework
Levels of Planning

GENERAL SUBJECT DIDATICS IV (GSDI 401)

1. Discipline in Education: Legislation around discipline in School
2. Decentralised School Governance: School Governing Bodies and their role
3. Portfolio Development Project

WORK INTEGRATED LEARNING (WIL) (EXBE 101)

1. 4 weeks: Academic Literacy and Micro-Teaching.
2. Portfolio and Logbook.

WORK INTEGRATED LEARNING (WIL) (EXBE 201)

1. 4 weeks: Guided Observation
2. Portfolio and Logbook.

WORK INTEGRATED LEARNING (WIL) (EXBE 301)

1. 4 weeks: Guided Observation and Collaborative Teaching
2. Portfolio and Logbook.

WORK INTEGRATED LEARNING (WIL) (EXBE 401)

1. 6 months, full time teaching
2. Portfolio and Logbook.
3. An experienced senior educator to be appointed as a mentor.
4. Students must comply with rules and regulations of the institution in which they are placed and are required to comply with DoE and the SACE: Code of Conduct for Educators.

Fundamental Subjects are Compulsory for all students

COMMUNICATION IN ENGLISH I (LANGUAGE X) (COEN 101)

1. The Communication types, processes and barriers
2. Academic and reflecting writing
3. Approaches to reading
4. Listening and feedback
5. Oral communication
6. Referencing methods

COMMUNICATION IN ENGLISH II (LANGUAGE X) (CO EN 201)

1. Organisational Communication
2. Intercultural communication
3. Report writing
4. Non-verbal communication
5. Speaking in groups and meetings
5. How we read/improving your reading skills
6. Text analysis

COMMUNICATION IN ENGLISH III (LANGUAGE X) (COEN 301)

1. Organisational Correspondence: Application of writing skills
2. Linguistic issues and topics
3. Aspects Regarding Language Usage In The Context of The Teaching and Learning situation
4. Legislation and Professional issues pertaining to teaching and learning
5. Scientific investigations into linguistic issues

SKILLS AND LIFE ORIENTATION/ LIFE SKILLS I (SKLO 101)

1 Religion
2 Basic Study Methods
3 Community Involvement
4. Role of the Individual in the Economy
5. Entrepreneurship

6. Computer Literacy I
    - Basic Concepts: Theory
    - The Operating System: Windows XP
    - Managing diskettes, drives and files
    - Impact of Computer Technology on socio-economic, environmental, political and ethical issues.
    - Word Processing: Microsoft Word 2003
    - Use of the Internet and Email

SKILLS AND LIFE ORIENTATION/ LIFE SKILLS II (SKLO 201)

1. Comparative Religion Views
2. Self-Management Skills
3. Meeting Procedures
4. Computer Literacy
5. Loss Control
6. Computer Literacy
    - Word Processing: Microsoft Word 2003
    - Spreadsheet: Microsoft Excel 2003
    - Education Documents and lesson plans: Tables, Documents of meetings, Job
    - Application, Legal Documents
    - Guide to the Internet and Email

SKILLS AND LIFE ORIENTATION/ LIFE SKILLS III (SKLO 301)

1. Personal Development and Well-Being
2. Citizenship Education
3. Career and Career Choices
4. Recreation and Physical Well-being
5. School Sports
    - Athletics
    - Soccer/Netball
    - Volleyball
    - Tennis (lawn/table)
    - Basketball
    - Indigenous Games
6. Outdoor Sport

<u>Additional optional language subjects</u>

COMMUNICATION IN ISIZULU I (LANGUAGEY1) (COZU 101)

1. IsiZulu njengolunye lwezilimi zabantu abamnyama eAfrika eseNingizimu
2. Ukubhala
3. Ukukhuluma
4. Ukulalela

COMMUNICATION IN ISIZULU II (LANGUAGE Y1) (COZU 201)

1. Ukubhala
    - Ukukhombisa inhlonipho lapho ubhala noma ukhuluma
    - Ulimi lwesimo
    - Amagama anembayo
2. Ukukhuluma
    - Inkulumo eyongayo neyonga amagama

- Imiyalezo ethunyelwa yisitho zomzimba lapho ukhuluma
- Ukuqikelela ukuthi kuzwakale kahle okushoyo
- Ulimi nozwelomagama
- IsiZulu soqobo

3. Ukufunda
   - Izinhlobo zezindlela zokufunda
   - Ukufunda okufanelene nohlobo lombhalo
   - Izinhlobo zemibhalo yesiZulu
   - Ukufingqa inkulumo
4. Ukwenza ucwaningo

COMMUNICATION IN AFRIKAANS I (LANGUAGE Y2) (CMAF 101)

1. Speaking
   - Using appropriate words
   - Using the everyday expressions correctly
   - Using good idiomatic expressions
   - Making a distinction between "borrowed' words and genuine [suiwer] Afrikaans words
   - Getting to the point
2. Reading
   - Reading and pronouncing words properly
   - Observing punctuation marks
   - Showing understanding of what is being read
3. Writing
   - Writing words and sentences properly
   - Letter —writing
   - Writing passages to observe punctuation marks
4. Research to discover new words and expressions and their meaning

COMMUNICATION IN AFRIKAANS II (LANGUAGE Y2) (CMAF 201)

1. Advanced Oral Skills
2. Advanced Reading Skills
3. Advanced Listening Skills
4. Advanced Writing Skills

B Ed (FET): Specialisation Economics and Management Sciences
ACCOUNTING (EDUCATION) I (ACCT 101)

1. Introduction to Accounting and Nature of Accounting
2. Accounting Concepts Procedures and Principles according to GAAP
3. Users of Financial Information to make informed decisions.
4. Basic business calculations eg. VAT, Cost Price , Discounts and Percentages.
5. Book-Keeping: CRJ, CPJ, DJ, DAJ, CJ, CAJ, PCT, GJ/posting to ledgers, preparing of trial balances, income statements and balance sheets.
6. Year adjustments of a sole trading.
7. Perpetual and periodic inventory systems.
8. Bank Reconciliation procedures.
9. Analyzing financial statements

ACCOUNTING (EDUCATION) II (ACCT 201)

1. VAT
2. Partnerships: Formation, financial statements, dissolution, liquidation
3. Departmental Accounting: Cost allocation departmental journals, departmental financial Statements, inter-departmental transfers.
4. Cash Budgets: Preparing cash budgets from given information
5. Asset Disposal
6. Non Profit Organisations

ACCOUNTING (EDUCATION) III (ACCT 301)

1. Companies: Statutory Reporting, Financial statements, disclosure of information by way of notes.
2. Cash flow: Use given information from previous years and additional information.
3. Interpretation and Ratio Analysis
4. Manufacturing Accounting
5. Branch Accounting

BUSINESS MANAGEMENT (EDUCATION) I (BSMN 101)

Semester One

1. **Introduction to Business Management as a Science**
   The business world and business management
   Needs and needs satisfaction
   The main economic systems
   Needs satisfying institutions of the free market

2. **Entrepreneurship**
   What is entrepreneurship?
   What entrepreneurs do and why they do it?
   The role of entrepreneurs in society
   The small business
   The entrepreneurial process
   Skills required for entrepreneurship

3. **The establishment of a business**
   Legal forms of ownership and their formation in South Africa

4. **The business environment**
   The organization and environment change
   The three sub-environments [micro, market and macro environments]

5. **The general management principles**
   The role of management
   Different levels and types of management in businesses
   Skills at different managerial levels
   The role of managers

6. **The basic elements of planning**
7. **Organizing management**
8. **Leadership —leading people in the organization**
9. **Meeting human resource requirements and developing effectiveness in HR**
10. **The legal environment and human resources**

11. **Controlling the management process-the importance of control**
    The control process
    The focus of control
    The characteristics of an effective control system

Second Semester

1. **The marketing process**
   Evolution of marketing thought
   Defining marketing
   The components of the marketing process
   Marketing research
2. **The marketing instruments**
   The key to the market; product decisions, brand decisions
   Price decisions, distribution decisions, marketing communication decisions
3. **The integrated marketing strategy**
   The marketing concept
   Marketing strategy during the product life cycle Marketing planning and control
4. **Public Relations**
   The nature of public relations
   Public relations management
   The communication programme
5. **The financial function and financial management**
   Concepts in financial management
   The objective and fundamental principles of financial management
6. **Asset management: the investment decision**
   The management of current assets
   Long-term investment decisions and capital budgeting
7. **The operations management function**
8. **The purchasing and supply function**
9. **Contemporary issues in business management**

BUSINESS MANAGEMENT (EDUCATION) II (BSMN 201)

1. **Managers and management, Managing in today's world**
   Functions of management
   Levels of managers and their essential roles
   Skills necessary for becoming successful managers
2. **Foundations of planning, foundations of decision making**
   Benefits and drawbacks of planning
   Types of plans and the steps of the strategic management process Steps in the decision making process
   Approaches to decision making
3. **Technology and operations, basic organizational design**
   Formula for calculating productivity
   Technology versus work obsolescence
   Elements of organizational structure
   Ways organizations may departmentalize
   Types of organizational structures

4. **Leadership and trust, Communication and interpersonal skills**
   Theories on leadership
   Communication process
   Communication barriers
   Delegation and conflict

Second Semester

1. **Competing with operations, Process Management**
   Operations as a function
   The role of operations strategy as a source of competitive strength in a global market place
   Main process decisions and how they must relate to volume Meaning of automation and economies of scope

2. **Managing processes and managing technology**
   Major activities associated with successful project processes
   Network of interrelated activities in a project
   The sequence of critical activities that determine the duration of a project Probability of completing a project on time
   Meaning of technology
   Fundamental role of the computer and information technology
   Factors that managers must consider when making technological choices

3. **Quality, capacity and location as well as layout**
   The principle of TQM
   Control charts
   Measuring capacity
   Capacity gaps
   Economies and diseconomies of scale
   Basic layout types
   Factors affecting choice of location

4. **Supply chain-management and forecasting**
   Nature of supply-chain management for both manufacturers and service providers Supply chain dynamics
   Demand patterns that combine to produce a demand line series
   Forecasting techniques

BUSINESS MANAGEMENT (EDUCATION) III (BSMN 301)

1. **The goal of financial management**
   Forms of business organizations,
   Functions of financial manager, Analysis of financial statements,
   Determining the influence of risk on the required rate of return, The role of time value for money and
   Capital budgeting techniques

2. **Understanding marketing management**
   Defining marketing in the 21st century,
   Developing marketing strategies and plans,
   Capturing marketing insights,
   Gathering information and scanning and environment

Conducting marketing research and
Forecasting demand

3. **Building strong brands:**
   Creating brand equity, [what is brand equity?, building brand equity, measuring brand eq- uity, devising a branding strategy and customer equity].
   Crafting the brand positions
   Developing and communication a positioning strategy
   Product life-cycle marketing strategies, and
   Dealing with competition

4. **Shaping the market offering:**
   Setting product strategy
   Product characteristics and classifications, differentiation, product and brand relationships, packaging, labeling, warranties and guarantees,
   designing and managing services, the nature of services, marketing
   strategies for service firms,
   managing service quality,
   managing service brands,
   managing product-support services, developing
   pricing strategies and program, understanding
   pricing,
   setting the price, adapting
   the price,
   initiating and responding to price changes

5. **Delivering Value:**
   Designing and managing value networks and channels,
   Marketing channels and value networks,
   The role of marketing channels,
   Channel-design decisions,
   Channel-management decisions,
   Channel integration and systems,
   Conflict, co-operation and competition E
   Commerce marketing practices
   Managing retailing,
   Wholesaling and market logistics

6. **Creating successful long-term growth:**
   Introducing new market offerings, New
   product options,
   Challenges in new-product development, Organizational
   arrangements,
   Managing the development process and
   Tapping into global markets

COMPUTER APPLICATIONS TECHNOLOGY (EDUCATION) I (CAPT 101)

1. Open and close one or more documents

Create a new document with or without using a template
Save a document under a different name or in a different location or as a different type Use the help function and on-line help
Change view types
Enter and edit data
Select data using a keyboard and/or a mouse
Copy, move and delete selected information using copy and paste tools and methods Apply the basic font styles of bold, italics and underlining
Change the font type, colour, size, and effects (including subscript and superscript)
Align to left, right and centre
Find and replace
Use a spell and grammar check
Copy information or objects between applications (including OLE techniques)
Input data from different formats
Use the undo and re-do functions
Change document orientation (portrait and landscape), margins and paper size
Add headers and footers including page numbers, date, path and file name
Proofread in terms of layout, presentation and accuracy
Preview a selection to print
Choose print output options such as range of pages, number of copies, odd or even pages, print quality and any other applicable printer options
Using templates and wizards
Using the drawing tools
Importing / Exporting data

2 Specific word processing skills

Use a word processing programme to an advanced level to manipulate text and graphics
Input data using various input devices, methods and procedures
Enter, edit and format text and graphics
Create visual and printed matter.
Design and layout documents
Use and manipulate columns
Apply and copy styles and formats
Insert special characters or symbols
Use automatic hyphenation
Show non-printing characters
Insert, remove and manipulate line breaks, page breaks and section break Indent paragraphs (left, right, first line, hanging)
Apply spacing within and between lines and paragraphs Use tabs (left, centre, right, decimal, leader, bar)
Use bullets and styles of bullets in a multilevel list Add borders and shading
Create, manipulate and format a table with cells, rows and columns Use table properties
Convert text to table and vice versa
Perform a mail merge by creating a form letter and using an internal or external data

source such as a spreadsheet or table Use
track changes
Insert reference
Insert table of contents
Insert auto text, fields, and comments
Create, use and manipulate forms
Compare and merge documents

3 **Specific spreadsheets skills:**

Process basic numerical data using a spreadsheet programme
Insert, copy, delete and format rows and columns
Work with cells and ranges
Format cells and worksheets
Use basic formulas
Use basic functions
Apply mathematical functions such as sum, round, sqrt, power, sumif
Apply statistical functions such as average, min, max, count, large, small, mode, median, countif
Date and time functions such as date, day, now, today
Text functions such as left, right, mid, len, value, text Logical
functions such as If
Create and edit charts
Use relative and absolute cell reference
Insert, delete and change the format of rows, columns and cells
Select adjacent and non-adjacent ranges
Sort
Insert, copy, delete and rename worksheets
Work with and between worksheets
Use the auto fill tool
Use the basic mathematical operators (addition, subtraction, multiplication, div sion) in formulas
Interpret standard error values associated with using formulas Format
and round of numbers
Format date and text data
Split and merge cells
Manipulate text with wrapping and cell content orientation
Add borders, colours and other effects to a cell range

Create different types of charts and graphs (column chart, bar chart, line) Change colours, labels, legends, titles and axes in a graph
Display gridlines, row and column headings and title rows for printing purposes

4 Specific database skills:
Create single table data sources to generate forms, queries and reports using a database programme
Create a single table data source
Understand database organisation including records, tables, fields, data types, indexes and primary keys
Manipulate tables, records and fields
Work with field properties including default values, validation rules, input mask Construct databases and basic table relationships
Filter, group and sort records
Create and design forms, queries and reports
Specify criteria in a query using the relational operators
Add extra fields with calculations in forms, queries and reports

5 End-user computer application programme of own choice:
Presentations or web authoring tools or desktop publishing software or any other application software of own choice
Enter, edit and format text, numbers and graphics
Application of good design principles

6 Integration
Integration of end-user computer application programmes
Work between spreadsheet, database and word processor

7 Email
Create, open, delete, send, forward, reply, flag
Open attachments
Save attachments
Attach documents to mail
Send carbon copies
Sort
Set up and use an address book Message rules

8 Internet:
Find a web site by using an URL
Follow hyperlinks
Use search engine to find information
Keywords
Evaluation of web sites
Download files
Save information to a disk

COMPUTER APPLICATIONS TECHNOLOGY (EDUCATION) II (CAPT 201)

1 Computers in all walks of life

General concepts of information technology including hardware, software environments
Types of computer systems
Typical components and characteristics of a computer
Input and output devices
Types of system software and application software. Computer ethics, security, and viruses.
Impact of computers on the environment and society. Safety and health issues.
File management and trouble-shooting simple end-user computer-related hardware and software problems.
Utilising the features of a typical operating system.

2 **Graphics at an advanced level, using a word processing programme:**
Proficiency in the input of data.
Entering, editing and formatting text, numbers and graphics.
Creation of visual and printed matter.
Design and layout of documents;
Use of templates.

3 **Basic processing of numerical data, using a spreadsheet programme:**
Working with cells and ranges.
Formatting cells and worksheets.
Basic functions and formulae, including sum, average, count, if, countif, min, max;
Creating and editing charts.

4 **Creation of single-table data sources to generate forms, queries and reports, using a database programme:**
Creation of a single-table data source.
Manipulation of records and fields.
Generation of forms, queries, and reports.

5 **Presentations or web authoring tools or desktop publishing software or any other application software of own choice:**
Entering, editing and formatting text, numbers and graphics.
Application of good design principles.

6 **Integration of end-user computer application programmes:**
Working between applications.
Linking and exchanging (importing/exporting) data with other applications.

7 **Effective communication of information:**
Different types of communication tools.
Different modes of communication.
Use different modes and tools of communication.
Select appropriate communication modes and tools.

8 **Task definition:**
Recognising information needs.
Defining problems.
Identifying the type and amount of information needed to solve problems

9 **Information-finding strategies:**
Considering possible information sources (e.g. Various types of electronic resources for data gathering including databases, CD-ROM resources, commercial and internet online resources,

electronic reference works, community and government information electronic resources) as well as primary resources including interviews, surveys, experiments and documents that are accessible through electronic means;

Developing a plan/strategy for searching.

Identifying and applying specific criteria for evaluating resources.

Identifying and applying specific criteria for constructing meaningful data gathering tools.

Using a computer to generate modifiable flow charts, timelines, organisational charts and calendars which will help the student to plan and organise complex or

Group information problem-solving tasks.

Using a computer or other devices to manage the process (e.g. Track contacts and create to-do lists and schedules).

10. **Access information:**

Locating information from a variety of resources using appropriate computer resources and available technologies.

Accessing specific information found within individual sources by using organisational systems

Tools specific to electronic information sources that assist in finding specific and general information.

11 **Use of information:**

Engaging with information to determine its relevance.

Extracting relevant information through, for example, citations, note taking and summaries.

Processing and analysing statistical data.

Saving and backing up data gathered.

12 **Synthesis:**

Organising results of information gathering and processing.

Presenting results by selectively creating or generating printed reports, computer- generated graphics, charts, tables and graphs, original databases, electronic slide shows, overhead transparencies, web pages, etc.

13 **Evaluation of the effectiveness and efficiency of information management:**

Content, format and design.

Spell and grammar checking capabilities.

Legal principles and ethical conduct related to information technology with special attention to copyright and plagiarism.

Netiquette when using internet, e-mail, etc.

Information problem-solving process (efficiency)

COMPUTER APPLICATIONS TECHNOLOGY (EDUCATION) III (CAPT 3001)

Advanced word processing and formatting skills. Advanced desktop publishing skills

Multimedia presentations using text, sound, video, animation, and graphics are designed created.

Single table data source, simple forms, queries, and reports are created, and generating database program.

Proof-readers signs, i.e. manuscript signs are interpreted and applied.

Written and electronic layout and editing instructions are interpreted to produce accurate output in a competent fashion.

Advanced integration techniques are demonstrated using multi-and appropriate programs.

Various forms of data are located, collected, analysed, and critically evaluated using technologies and relevant methods.

Information is organised, recorded, and summarised in appropriate electronic formats.

Information is presented and communicated in a professional fashion.
Paragraphs —numbered main-, sub, sub-sub paragraphs and bullets.
Correspondence —Business letters, circulars and official letters J o b
Application —Letters of application/Appointment/Rejection Testimonial and Curriculum Vitae
Programs Portrait, A5 Landscape, A4 landscape divided into three columns Tables — created in Microsoft Word
Documents for meetings —Notice of meeting with an agenda, Minutes
Templates and Wizards
Microsoft Excel —Formulas, Charts, integration
Microsoft Access —Create table and edit, queries, forms and reports
Microsoft Publisher —Create posters, invitation cards
Microsoft PowerPoint —slideshows application skills
Theory and Basic Concepts —Computer hardware, software, networks, computer ethics, viruses and Social issues.
Speed and accuracy — (40 wpm)
Research Project —integrating all software packages (Research process and Presentation)

ECONOMICS (EDUCATION) I (ECON 101)

1. Numeracy and Graphical Skills
2. Introductory Concepts
3. Circular Flow of Economic Activity in a Two - Sector Model
4. The Goods Market
5. Elasticity
6. The Labour Market
7. Production and Costs
8. Market Structures: Perfect Competition
9. Market Structures: Monopoly
10. Numeracy and Graphical Skills
11. Introductory Concepts
12. Circular Flow of Economic Activity in a Two - Sector Model
13. The Goods Market
14. Elasticity
15. The Labour Market
16. Production and Costs
17. Market Structures: Perfect Competition
18. Market Structures: Monopoly

ECONOMICS (EDUCATION) I (ECON 201)1. Consumer Behaviour

2. Production
3. Market structures and Economics Behaviour
4. Alternative theories of the firm

MACRO-ECONOMICS

1. The Keynesian model
2. The IS-LM Model
3. The Foreign Sector
4. The Aggregate Deman (AD) and Aggregate Supply (AS) approach: AD model
5. Different Schools of Thought on Microeconomic Theory and Polic

ECONOMICS (EDUCATION) III (ECON 301)

1. Economic Policy in South Africa
2. Labour Economics
3. Economic Development Subject Didactics

MATHEMATICS (EDUCATION) I (MTMC 101)

1. General Algebra — 1st, 2nd and 3rd degree/inequalities equations, remainder/factor theorem
2. Function graphs and Transformation – Exploration
3. Algebraic and graphical solutions to equations and simultaneous intersections
4. Polynomial and rational functions/equations
5. Algebraic and Graphical representation of exponential and logarithmic functions
6. Trigonometric Functions, identities, equations, graphs and simple harmonics
7. Analytical Geometry Lines

MATHEMATICS (EDUCATION) II (MTMC 201)

1. Differential Calculus
2. Sequences, series and progressions
3. Analytical Trigonometry
4. Circle Geometry
5. Analytical Geometry Lines and Circles
6. Permutations, Combinations and Probability
7. Application of didactic principles to school grades 10 and 11 content

MATHEMATICS (EDUCATION) III (MTMC 301)

1. Further Differential Calculus
2. Linear Algebra
3. Vectors Algebra
4. Complex Numbers
5. Implicit differentiation and first order equations
6. Introduction to Integral Calculus
7. Further series —infinite, power, binomial expansion
8. Didactic principles applied to school grade 12 NCS content

B Ed (FET): Specialisation Natural Sciences

Electives

BIOLOGY (EDUCATION) I (BIOE 101)

2.. Introduction to Microscope and Laboratory equipment

a. Investigating phenomenon in Biological Sciences
   Identify parts of a microscope
   Prepare slides/wet mouths
   Use microscope
   Identify structures under microscope
   Identify various laboratory equipment

b. Constructing of knowledge in Biological Sciences
   Parts of microscope and their functions
   Use of various laboratory equipment

c. Application of Biological Sciences
   History of microscope development and applications
   The electron microscope and its value and applications

2. General Ecology

2.1 Investigating phenomenon in Biological Sciences

Use of field guides for identifying species
Investigate community structure within a habitat and changes that take place within the habitat
Use of sampling methods:

- quadrats
- transects
- traps
- direct observation

Importance of random sampling
Identification and investigation of primary and secondary succession
Investigate soil properties

2.2. Constructing of knowledge in Biological Sciences

Ecological terms
Biotic and abiotic factors
Interaction in ecosystem
Energy transfer
Special relationships
Succession
Soil Study

2.3. Application of Biological Sciences in Society

Human influence on community structure:

- Iron age settlement
- Industrialisation
- Urbanisation
- Farming practices
- Role of culling of animals

Parasitic infections; incidences in South Africa and relationship to sanitation, play habits.

3. Aquatic EcoSystems

3.1 Investigating phenomenon in Biological Sciences

Identify water plants and animals

Investigate water pollution and its effects on plant and animal life

3.2 Constructing of knowledge in Biological Sciences

Differences between terrestrial and aquatic systems

Abiotic factors that have an effect on aquatic systems and their effect; Succession in aquatic systems;

Marine ecosystems, definition and types: Dunes formation and salt spray effect on plants

3.3. Application of Biological Sciences

Management of water pollution;

Effect of uncontrolled sand mining;

Dune mining

Ecotourism

4. Population and Community Ecology

4.1. Investigating phenomenon in Biological Sciences

Experiments in investigating population size and movements;

Graphical representations

Investigate distribution patterns

4.2 Constructing of knowledge in Biological Sciences

Population dynamics and population parameters;

Population growth patterns and factors affecting population size;

Estimation of population size;

Survival strategies;

Competition

4.3 Application of Biological Sciences

Human population:

- Reasons for exponential growth in a natural system
- Interpret age and gender structure
- Human demands versus conversation needs [conservation of natural environment, hunting industry, sustainable harvesting of natural resources, creation and management of game reserves]
- Value systems with reference to biodiversity

Wild Life management

5. Pollution and Conservation

5.1 Investigating phenomenon in Biological Sciences

Conservation bodies and their roles;

Conservation need in the local area and on a national level.

Investigating pollution in local area and at national level.

5.2 Constructing of knowledge in Biological Sciences

Definition and causative factor of pollution;

Identification of pollution

Causes of water pollution:

- Household wastes and sewage
- Industrial pollution

- Oil pollution
- Chemical pollution
- Farming and soil erosion

Preventive measures
Conservation and preservation of soil, air, water and natural resources, wilderness, etc

5.3 Application of Biological Sciences
Preventing pollution
Joining of conversation body
Active lobbying against pollution

6. Plant Water Relationship
6.1. Investigating phenomenon in Biological Sciences
Experiments to demonstrate diffusion and osmosis
Demonstration:
- Water movement through xylem,
- Transpiration of water through leaves,
- Factors that bring about movement of water in plants
- Factors affecting transpiration in plant

6.2 Constructing of knowledge in Biological Sciences
Definition of diffusion and osmosis;
Uptake of water and mineral salts into a root and their transport to the leaves; Transpiration
Definition and comparison with other types
Effect of variation in temperature, humidity and light intensity Wilting

6.3 Application of Biological Sciences in Society
Applications in agriculture

BIOLOGY (EDUCATION) II (BIOE 201)
1. Bioversity and Classification
1.1 Investigating phenomenon in Biological Sciences
Demonstrate principles of classification;
Classify organisms into groups
Understanding distribution maps of species in South Africa

1.2 Constructing of knowledge in Biological Sciences
Extent of biodiversity and endemism in South Africa;
Classification schemes;
Introduction to the main groups of animals and plants;

1.3 Application in Society
History of classification;
Some examples of classification systems
Naming things in science
Linnaeus and his classification system
Threats to biodiversity in South Africa
Value of retaining biodiversity

2. Plant Diversity

2.1. Investigating phenomenon in Biological Sciences

Examine examples for the different groups of plants;
Compare morphology
Compare monocotyledon and dicotyledon plants and their flowers
Interpret phylogenetic tree representing evolutionary history

2.2. Constructing of knowledge in Biological Sciences

Structural plan and modifications
Habitat, external structure, nutrition and life cycle in examples of:

- Viruses
- Bacteria
- Mycophyta: Yeast cell and Bread mould
- Phycophyta: ***Chorella*** and ***Spirogyra***
- Bryophta: Moss —***Funaria sp***
- Pteridophyta: Ferns —***Dryopteris sp***
- Cycadophyta: Cycad
- Spermatophyta:
  Gymospermae —***Pinus sp***
  Angiospermae —a Monocot and a Dicot plant

2.3. Application in Society

Ancient and unique plant groups in Southern Africa, theft of plants and ecotourism;
Agricultural plants;
Medicinal plants;
Ecological importance;
Economic importance

3. Animal Diversity

3.1. Investigating phenomenon

Intrepret phylogenetic tree;
Identify South African examples of the different phyla;
Examine external features of examples
Illustrate biodiversity of the phyla and classes

3.2. Constructing of knowledge

Body plans and symmetry in different phyla; modifications. Habitat of different examples;
External structure, nutrition;
Reproduction/Life Cycle

- Protozoa: ***Amoeba sp.,***
- ***Trypanosama sp., Paramecium sp***
- Coelenterata: ***Hydra*** *and* ***Aurelia***
- Platyhelminthes: ***Planaria*** and ***Taenia sp.***
- Nematoda: ***Ascaris sp.***
- Annelida: Earthworm and leeches
- Arthropoda: Characteristic features and examples of different classes; locust
- Molusca: Snail
- Echinodermata: Star fish
- Chordata: Cartilagenous fish, bony fish, frog, lizard, bird, rat/rabbit

3.3 Application in Society

Parasites: distribution, prevalence, effects on hosts, treatment, reducing spread
Arthropods as parasites and vectors of pathogens
Role of invertebrates in agriculture and the ecosystem
Animal farming and sustainable use, economic and employment opportunities
Poaching
Evolutionary implications

4. BioGeography

4.1. Investigating phenomenon in Biological Sciences

Worldwide distribution of animals [ostrich, emu, rhea, moa, kangaroo Worldwide distribution of some plants

4.2 Constructing of knowledge

Diversity within continents
Specific animals and plants on land masses and islands

4.3 Application in Society

Nature of science
Charles Darwin's explanation
Speciation

BIOLOGY (EDUCATION) III (BIOE 301)

1. Organic and Inorganic Compounds

1.1 Investigating phenomenon in Biological Sciences

Construct simple and complex molecules;
Experiments on enzyme action;
Food tests

1.2 Constructing of knowledge in Biological Sciences

Inorganic compounds: Water, Macro and Micronutrients;
Carbohydrates
Proteins
Fats
Nucleic acids Enzymes
and Vitamins

1.3 Applying in Biological Sciences in Society

Diseases in respect of micronutrients
Fertilizers in agricultural farms and related problems
Difficiency diseases in respect of carbohydrates, proteins and fats; Saturated and unsaturated fats- heart diseases and cholesterol

2. Genetics and Hereditary

2.1. Investigating phenomenon

Models of RNA and DNA;
Examine extractions of DNA using simple processes;
Cell division —practical investigation
Investigations of human genome, genetic disease and genetic engineering
Investigation of the causes, prevalence and treatment of cancer

2.2. Constructing of knowledge

Structure of DNA and RNA;
DNA replication;
Transcription;
Translation;
Mutations
Cell division

Hereditary and inheritance including sex chromosomes, sex-linked diseases and solving simple genetic problems

2.3. Application in Society

Historical developments: DNA structure and Mendel's experiments;
DNA fingerprinting;
Importance of DNA sequencing;
Abnormalities in meiosis and consequences and attitudes;
Polyploidy and its importance in agriculture;
Discovery of the principles of hereditary and genes; Medicinal and agricultural applications of genetic engineering; Genetics diseases, beliefs, attitudes and values;
Genetic counseling;
Ethics and legislation in genetic testing and engineering

3. Cytology

3.1 Investigating phenomenon in Biological Sciences

Investigations of plant and animal cells;
Microscopic/models/micrographs

3.2 Constructing of knowledge in Biological Sciences

Characteristics of cells and cell components;
Molecular make up of cells;
Cell structure, adaptations and functions

3.3 Application in Society

The cell theory
In-vitro experimentations
Cell tissue culture

4. Plant and Animal Tissue

4.1 Investigating phenomenon in Biological Sciences

Examine and identify plant and animal tissues Draw observed cells to show specialized structure
Investigate fields in biotechnology related to plant and animal tissues [cloning, stem cell research]

4.2 Constructing of knowledge

Concept of tissues;
Location and relationship between structure and function of:

- Plant tissues: epidermis, parenchyma, chlorenchyma, collenchymas, Sclerenchyma, xylem and phloem
- Animal tissues: epithelial, connective, muscle and nerve

4.3 Application in Society

IKS and Technology
Traditional technology —traditional medicine and healers
Medical Technology —immunity, antibiotics and blood transfusion
Research in cloning, tissue and stem cell cultures
Current trends in tissue research

5. Plant and Animal Organs

1.1 Investigating phenomenon in Biological Sciences

Observation, interpretation and drawing of plant and animal organs

1.2 Constructing of knowledge in Biological Sciences

Concept of organs
External and internal structure in relation to function, of the following organs:
- Plant: Leaf, root or stem
- Animal: Lungs, Kidney or brain

5.3. Application in Society

Organ transplants
Plant grafting

6.1 Manmalian Body Systems

Skeletal (Supporting) system

6.1.1 Investigating phenomena

Study of skeletons of vertebrates
Analysis of X-rays of human bones
Study of long bone structure
Experiments —minerals and organic fibres in bones
Structure of skeletal muscles
Models; Antagonistic muscles

6.1.2 Constructing knowledge

Identify bones of axial and appendicular skeleton
Functions of different parts
Structure of a long bone
Joints
Antagonistic muscles and functioning

6.1.3 Application in Society

Diseases of the muscle-skeletal
Injuries
Importance of exercise

6.2 Human circulatory system

6.2.1 Investigating phenomena

Dissection of mammalian heart
Measuring pulse rate and the effects of exercise
Identifying different blood vessels

6.2.2 Constructing of knowledge in Biological Sciences

Closed and open blood systems
Different blood circuits
Structure and protection of the heart
Structure of blood vessels and differences
The cardiac cycle
Control of heart beat and rate

6.2.3 Application in Society

Cardiovascular diseases

Blood transfusions and blood types

Heart transplants

6.3 The Lymphatic System

6.3.1 Investigating phenomenon in Biological Sciences

Identifying lymph nodes in the human body

6.3.2 Constructing of knowledge in Biological Sciences

Blood and lymph as tissues

Relationship between lymphatic system and blood system

Structure of lymph glands and function of glands

General functions of the lymphatic system

6.4 Respiratory System in Man

6.4.1 Investigating phenomenon in Biological Sciences

Measurement and comparison of breathing depth and interpretation

Structure of lung —dissection

Experiments on:

- inspiration and expiration
- expired air contains carbon dioxide

Effect of altitude and air pollution health and activities

6.4.2 Constructing of knowledge in Biological Sciences

Distinction between cellular respiration, breathing

Requirements for efficient gaseous exchange

Parts of and structure of the respiratory system in mamm

Mechanism of breathing

Gaseous exchange and the transport of gases

6.4.3 Application in Society

Respiratory disorders and diseases

Effects of smoking

Artificial respiration

CHEMISTRY (EDUCATION) I (CHED 101)

1. Elementary statistics, precision and accuracy significant figures
2. Technical report writing
3. Laboratory practice and safety
4. Introduction to analytical chemistry
5. Sampling and sample handling
6. Introduction to volumetric and gravimetric analysis.
7. Matter and energy
8. Solutions
9. Acids and Bases
10. Redox, Electrochemistry
11. Chemical reaction reates and equilibrium
12. Introduction to inorganic chemistry
13. Introduction to organic chemistry

CHEMISTRY (EDUCATION) II (CHED 201)

1. Chemical Bonding
2. Properties of Gases
3. Physical Properties of Colloids and Solutions
4. Chemical Thermodynamics

5. Chemical Equilibra
6. Acids and Bases
7. Solubility
8. Nomeclature of Alkyl Substituents

CHEMISTRY (EDUCATION) III (CHED 301)

1. Electrochemistry
2. Chemical Kinetics
3. Solubility and Complexion Equilibria
4. The transition metals
5. Hydrogen, oxygen, nitrogen, phosphorous, sulphur and halogens
6. Organic Chemistry

PHYSICS (EDUCATION) I (PHSE 101)

1. Introduction and Mathematical Concepts
2. Kinematics in one dimension and two dimensions
3. Forces and Newton's Laws of motion
4. Impulse and momentum
5. Work Energy and Power

PHYSICS (EDUCATION) II (PHSE 201)

1. Magnetic forces
2. Electromagnetic induction
3. Simple Harmonics Motion and Elasticity
4. Fluids
5. Waves and Sound
6. Particles and Waves

PHYSICS (EDUCATION) III (PHSE 301)

1. Electric circuits
2. Alternating current circuits
3. Electronics
4. Electromagnetic Waves
5. Interference and Wave Nature of light
6. Nature of the Atoms
7. Nuclear Physics and Radioactivity

MATHEMATICS (EDUCATION) I (MTMC 101)

1. General Algebra —1st, 2nd and 3rd degree/inequalities equations, remainder/factor theorem
2. Function graphs and Transformation – Exploration
3. Algebraic and graphical solutions to equations and simultaneous intersections
4. Polynomial and rational functions/equations
5. Algebraic and Graphical representation of exponential and logarithmic functions
6. Trigonometric Functions, identities, equations, graphs and simple harmonics
7. Analytical Geometry Lines

MATHEMATICS (EDUCATION) II (MTMC 201)

1. Differential Calculus
2. Sequences, series and progressions
3. Analytical Trigonometry
4. Circle Geometry
5. Analytical Geometry Lines and Circles

6. Permutations, Combinations and Probability
7. Application of didactic principles to school grades 10 and 11 content

MATHEMATICS (EDUCATION) III (MTMC 301)

1. Further Differential Calculus
2. Linear Algebra
3. Vectors Algebra
4. Complex Numbers
5. Implicit differentiation and first order equations
6. Introduction to Integral Calculus
7. Further series —infinite, power, binomial expansion
8. Didactic principles applied to school grade 12 NCS content

B Ed (FET): Specialisation Technology

Civil Technology 101 (CVTC 101)

1. General Safety
- Clothing
- Workshop and hand tools
- Preventing disease transmission in the workshop
- Machines
- Safe storage and housekeeping
- Fire

2. Foundations
- Definition of: ground bearing, dead load, imposed load.
- Setting out right angle corners
- Purpose and functions, Types of soil and soil conditions, Strip and step foundations, Foundation walls
- Description, sketches and location of: Pad foundations, Wide strip foundations, and short bored (auger) pile foundations.
- Reasons to compact soil

3. Concrete and Brickwork
- Site preparation, Mix proportions, purpose of admixtures to concrete, Slump test, Levelling and compacting of concrete, Placing, curing, testing and Classification of concrete.
- Alternate plan courses.

4. Civil services and Installation
- Drainage terms and definitions (Waste water, Waste water pipe, Waste fixture, Soil water, Soil water pipe, Soil fixture, Sewage, Drain).

- Drainage installation: Pipe arrangements: Explanation of pipe arrangements (Single stack and stub stack systems of plumbing. Sanitary fitments -Waste fixture, Sink, Shower, Bath, Wash trough).
- Hot water supply : Introduction to hot and cold water supply

5. Materials
6. Applied mechanics-Forces

- Graphical representation of a force, Resultant, Equilibrant ,Triangle of forces, Parallelogram of forces ,Polygon of forces, Moments

7. Woodworking

- Doors, centering ,roofs

8. Quantities

- Introduction to Quantities

Civil Technology 210 (CVTC 201)

1. Safety practices and regulations

- Tools (Construction), Excavations, Scaffolding

2. Formwork and Shoring
    - Drawing of formwork (Square, round and rectangular columns) and methods of erecting and supporting: Beams, Floor slab, Straight flight of stairs.
    - Shoring-Single line diagrams showing the components of dead and flying shores.
3. Reinforcement
    - Reinforcing in concrete for: floors, beams, cantilever beams and columns.
    - Requirements for materials used for reinforcing
4. CIVIL SERVICES
    - Storm water management and regulations.
    - Cold and hot water supply
    - Basic plumbing in a house
    - Drainage
5. Woodworking
6. Applied mechanics-Calculations of reactions of beams with a maximum of three point loads without an overhang (including spread loads)

Civil Technology 301 (CVTC 301)

1. Safety(Machinery and power tools)
2. Construction
    - Excavating basements (Perimeter trench ,raking struts, cofferdams and diaphragm walls)
    - Brick work (Cavity walls, Waterproofing for floors, roofs and walls)
3. Woodworking **(**Timber,joints,doors,windows,cutting list)
4. Civil Services (Private sewers**,** drainage joints, pipe connections, testing of pipes)
5. Instruments and materials

6. Applied mechanics**:** Centroids of irregular shapes consisting of a combination of squares, rectangles and triangles
7. Forces**:** link polygon
8. Quantities**:** Method of extracting quantities for a one - bedroom dwelling

MATHEMATICS (EDUCATION) I (MTMC 101)

1. General Algebra —1st, 2nd and 3rd degree/inequalities equations, remainder/factor theorem
2. Function graphs and Transformation – Exploration
3. Algebraic and graphical solutions to equations and simultaneous intersections
4. Polynomial and rational functions/equations
5. Algebraic and Graphical representation of exponential and logarithmic functions
6. Trigonometric Functions, identities, equations, graphs and simple harmonics
7. Analytical Geometry Lines

MATHEMATICS (EDUCATION) II (MTMC 201)

1. Differential Calculus
2. Sequences, series and progressions
3. Analytical Trigonometry
4. Circle Geometry
5. Analytical Geometry Lines and Circles
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MATHEMATICS (EDUCATION) III (MTMC 301)

1. Further Differential Calculus
2. Linear Algebra
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4. Complex Numbers
5. Implicit differentiation and first order equations
6. Introduction to Integral Calculus
7. Further series —infinite, power, binomial expansion
8. Didactic principles applied to school grade 12 NCS content

MATHEMATICAL LITERACY (EDUCATION) I (MTHL101)

1. Numbers, Operations and Finance
2. Functional Relationships
3. Graphs
4. Shape, Space, and Measurement
5. Solids
6. Data Handling

MATHEMATICAL LITERACY (EDUCATION) II (MTHL 201)

1. Numerical solution of rate
2. Parameter and surface area of 2 D-shape
3. Functional relationships
4. Scale drawing
5. Interpretation of Data
6. Financial Mathematics

MATHEMATICAL LITERACY (EDUCATION) II (MTHL 301)

1. Working with formulae
2. Taxation and inflation
3. Parameter, surface area and volume of 3D-shape
4. Interpretation of table and graph
5. Data interpretation
6. Statistical Methods
7. Grids and Maps
8. Data Display
9. Budget and Banking

MECHANICAL TECHNOLOGY I (MCTC 101)

1. Technological processes
2. Structures
3. Electrical Systems and Control
4. Mechanical Systems and Control
5. Processing
6. Indigenous Technology
7. Impact of Technology

MECHANICAL TECHNOLOGY II (MCTC 201)

1. Safety
2. Tools
3. Materials
4. Terminology
5. Joining Methods
6. Mechanics
7. Maintenance
8. Systems
9. Heat Engines

MECHANICAL TECHNOLOGY III (MCTC 301)

1. Safety
2. Tools
3. Materials
4. Terminology
5. Joining Methods
6. Mechanics
7. Maintenance
8. Systems and Control
9. Turbines

ENGINEERING GRAPHICS AND DESIGN I (EGDS 101)

1. **Introduction to Technological Design**
   Discuss the scope, educational and career opportunities related I to EGD. Include human rights, gender, inclusivity and HIV/AIDS issues.

2. **Drawing principles as contained in the SANS code of practice as related to basic civil, electrical and mechanical drawing**.
   Practice line types according to the SANS Code of Practice (0111 & 0142 (elect) & 0143) and their application to: outline, construction, cutting plane line, line hatching, hidden detail and; centre line.
   Practice the general lettering requirements according to the SANS code of practice.

3. **Free-hand drawing**
   Practice the four basic hand movements need to reproduce proportional single, multi view and pictorial drawings using grid sheets and plain paper.

4. **Setting up a Drawing Sheet**
   Paper sizes
   Set up a drawing sheet showing all relevant information, eg. Name and. title blocks, appropriate symbols etc.

5. **Instrument Drawing**
   Discuss, research and present in an appropriate form the dangers of the irresponsible use of sharp instruments that could cause bleeding and the transfer of HIV/AIDS Geometrical Constructions (need to know basis). Bisecting an angle, line, line division, circle through three points, perpendiculars, angles, line tangents, arc tangents, inscribed and circumscribed circle, polygons) 3. 4. 5. 6. 8, circle and ellipse.
   Scale drawings. (2:1, 1:1, 1:2, 1:5, 1:10, 1:20, 1:50, 1:100)

6. **Orthographic**
   1st and 3rd angle orthographic projections as applied to simple castings from industry

7. **Projection (no sectional views)**
   Construction of polygons

8. **Mechanical Drawings**
   Prisms, pyramid, cylinders and cones. The axis of the solids must include examples to be perpendicular, parallel and inclined to one principal plane.

9. **Civil Drawings**
   Insert annotation, dimensioning and scale. Include floor plans and elevations that include: windows, doors and fixtures such as WC, bath, sink, shower, cupboard.
   Apply colour coding according to building practice.
   Show site plan and schedule of specifications. Include electrical, plumbing and drainage detail.

10 **Descriptive geometry**
   Determine the orthographic views of points and line segments Segments that are: perpendicular, inclined and oblique.
   Determine the true length of a line segment and the true inclination of a line segment to the HP and VP using different methods, e.g. projection and construction methods.

11. **Electrical Drawing**
   Use given electrical and electronic component symbols to draw simple circuit diagrams. Draw parallel and series circuit diagrams that are relevant to; electrical appliances, house wiring etc. Include notes were appropriate and draw systems diagram

Draw wiring diagrams on floor plans of buildings.
Represent these as circuit diagrams and draw block diagrams.

12. Principles of Sectioning

Draw sectional views in 1st and 3rd angle of simple castings from Industry. Include the following: SANS code of practice, dimensioning techniques, title, notes and symbol of projection.

13. Mechanical Drawing

Draw outside, sectional, half sectional and part sectional views of simple assemblies that include temporary fasteners. SANS code of practice, dimensioning techniques, title, notes and symbol of projection.

Draw outside, sectional, half sectional and part sectional multi-views of complex assemblies that include fasteners.

SANS code of practice, dimensioning techniques, title, notes and symbol of projection. In- sert welding, machining and surface treatment symbols relevant to steel work.

Draw the sectional orthographic views of geometrical solids.

14. Solid Geometry

Prisms, pyramids and cylinders. The axis of the solids must be perpendicular, parallel and inclined to one principal plane.

True shapes and development.

15. Civil Drawings

All applications only need to include single story dwellings

Draw elevations and sectional elevation showing foundation to slab.

16. Principles of Pictorial Drawing

Draw simple to complex Isometric drawings including circles. (one point)

17. Visualisation cognitive and perceptual exercises

Analyze drawings and answer questions based on single multi-view and pictorial drawings within the context of civil, electrical and mechanical.

Visualization of cognitive and perception exercises

ENGINEERING GRAPHICS AND DESIGN II (EGDS 201)

1. **Loci**
   a. Helix
   b. Cams
   c. Cycloidal curves
   d. Link mechanisms
2. **Solid Geometry**
   a. Sectional views
   b. Auxiliary views
   c. True shapes
   d. Interpenetrations
   e. Developments
3. **Pictorial Drawing**
   a. Perspective
4. **Engineering Graphics & Design Didactics**
   a. Lesson planning
   b. Lesson presentation

ENGINEERING GRAPHICS AND DESIGN III (EGDS 301)

1. **Mechanical drawing**
   a. Development of transition pieces
   b. Dimensioning and annotation
   c. Auxiliary views
   d. Assembly drawings
2. **Civil drawing**
   a. Plan and elevations of dwellings
   b. Sectioned elevations
   c. Detailed drawings
3. **Pictorial drawing**
   a. Isometric drawings
   b. Sectioned isometric drawings
4. **Computer aided drawing**
   a. Mechanical drawing
   b. Civil drawing
   c. Isometric drawing
   d. Application in didactics
5. **Engineering Graphics & Design Didactics**
   a. Lesson plans preparation
   b. Lesson presentation

ELECTRICAL TECHNOLOGY 101

- **Occupational Health and Safety**
  - Personal protection equipment
  - Safety Practices in the work place
- **Basic Hand Tools**
  - Basic hand tools
  - Safety and tools
- **Electrical/Electronic Circuits**
  - Atomic theory of electricity
  - Ohm's law
  - Theory of current law
  - Series circuit as voltage divider
  - Parallel circuit as a current divider
  - Have electrical circuits with more than one output device in the circuit (series and parallel combinations)
  - That shows how simple electronic circuits and devices are used to make an output respond to an input signal (e.g. resistors, light-emitting diodes, transistors, push or magnetic switches, thermistors, light dependent resistors).
  - Temperature coefficient
  - Identify and describe the characteristics of electronic components such as:
    - Resistors
    - Light dependent resistors
    - Capacitors
    - Inductors
    - PN-diodes
    - Light emitting diodes
  - Transformers
  - Earth leakage devices
  - Distribution boards
  - Energy and Power
- **Digital Electronic systems**

Shows how electrical circuits with more than one input or control device which will work based on different logic conditions ('AND', 'NOT' and 'OR' logic) and represents them using circuit diagrams, systems diagrams and truth tables.
Convert binary numbers to decimals, hexadecimal, octal.
Demonstrates knowledge and understanding of digital electronic systems:
Identify and comprehend binary circuits and build binary circuits relating to electrical circuits

ELECTRICAL TECHNOLOGY 201

1. **Safety and instruments**
   - Identify unsafe conditions and acts and apply
   - Tools and instruments correctly.
   - Identify unsafe conditions and acts when doing
   - practical work and apply tools and instruments correctly to:

   Verify Kirchhoff's laws in AC-and DC circuits.
   Demonstrate the effect of single-phase AC on R, L and C components and investigate the effect of combinations of series circuits, including the effect of frequency changes
   Test insulation, continuity and earth continuity on equipment.

- Describe the Occupational Health and Safety (OHS) Act with reference to general unsafe actions, dangerous practices and unsafe conditions.
- Explain the Occupational Health and Safety (OHS) Act dealing with unsafe actions, dangerous practices and unsafe conditions.

2. Electrical applications

Construct and comprehend single-phase circuits
Construct and apply single-phase circuits.
Describe the use and care of different types of tools and measuring instruments, such as pliers, screwdrivers, multimeters and continuity or insulation testers.
Explain the use and care for instruments and their correct application and interpretation to ensure accurate measurements such as a multimeter, continuity or insulation tester, function generator and oscilloscope.

Describe the principles of electricity with reference to:
Atom theory
Ohm's law and calculations
Theory of current flow
Series circuit as voltage divider
Parallel circuit as a current divider
Combination circuits
Specific resistance
Temperature coefficient

- Describe the principles of electrostatics with reference to capacitance and electrostatic charge.
- Identify and describe the characteristics of electronic components such as
  Resistors
  Light dependent resistors
  Capacitors
  Inductors
  PN-diodes
  Light emitting diodes and transformers
- Explain the principles and effect of AC on resistor, inductor and capacitor components with reference to:
  Series combination circuits containing one resistor, one capacitor and one inductor
  Frequency changes
  Phasor and wave representation
  Resonance
  Calculations

3. Electronics

- Construct and comprehend electronic circuits.
- Construct and apply electronic circuits.
- Describe the principles of electro-magnetism with reference to Faraday's law and Lenz's law and its application in a relay and DC motor.
- Describe the principles of operation and use of power sources like batteries and solar cells like internal resistance, capacity and VA rating.
- Describe the following logic concepts:
  Binary number systems
  Logic symbols
  Logic functions: AND, OR and NOT

- Describe and compare a variety of protective devices and applications such as fuses, miniature circuit breakers and earth leakage devices.
- Explain the principles of AC generation of a single-phase supply by a rotating
- conductor loop in a two-pole magnetic field.
- Explain the operating principles, characteristics curves and use of semi-conductor
- devices such as:
  PN diodes
  Bipolar transistors
  Thyristors

4. **Digital electronics**
   Construct, comprehend and apply digital circuits.

ELECTRICAL TECHNOLOGY 301

- **Occupational Health and Safety**
  The consequences of the OHS act, risk assessment, human rights in the workplace, work ethics and emergencies

- **Three Phase Transformers**
  Principles of operation, calculations and application.

- **Three Phase Motors & Starters**
  Principle of operation, Testing and commissioning and starters

- **RLC**
  The effect of AC on Series and parallel RLC Circuits

- **Amplifiers**
  Principle of operation and application of operational amplifiers

- **Communications**
  Radio communications, a99ntennas, modes of modulation, transmitters and receivers

INDICATIVE CONTENT FOR:

ADVANCED DIPLOMA IN ADULT AND COMMUNITY EDUCATION AND TRAINING TEACHING ADACE1

This qualification consists of four compulsory 16 credit modules, two elective 16 credit modules and a compulsory 32 credit practicum portfolio, making a total of 128 credits.

The four compulsory modules will be run in the first semester. Their purpose is to enable students to gain:

1. An understanding of the history and theories of adult and community education;
2. A sound grasp of the skills that are vital in academic practice, and a good understanding of how to foster these skills amongst adult learners;
3. Insight into the constitutional and policy framework of adult and post school education in South Africa, and how this relates to contexts of learners, and current models of practice and contemporary research;
4. The ability to translate curriculum into plans for learning and educational events that are appropriate to the content, context and purpose, and to suit assessment to the desired purpose.

In the second semester, the elective modules will be run. These will enable students to gain mastery of the two teaching methodologies they have selected. Also in the second semester, students must complete two weeks' observation and 8 week's practical teaching in contexts appropriate to ACET. They must use this observation and practical teaching as the basis for developing a portfolio of practice in which they integrate what they have learnt in the modules they have completed, and start to reflect on and learn from practice.

INDICATIVE CONTENT FOR:

MASTER OF EDUCATION IN ADULT AND COMMUNITY EDUCATION MEACE1

This is a research only degree, and therefore consists of only one module, called "Development of Dissertation". Its purpose is to ensure that students can critically engage with literature, develop intellectual independence, analyse data logically, and report adequately on their findings. In this module, students will receive individual and group guidance in:

- conceptualising a research study
- developing a proposal
- reviewing literature
- designing and implementing a research plan
- data analysis and interpretation
- overall conclusions and reporting

The emphasis is on enabling students to become independent learners and researchers. Teaching is facilitative, sometimes involving group sessions, particularly in relation to the technical and academic aspects of Master's level study such as referencing, proposal formulation, use of theoretical frameworks, conducting literature searches.