

ADVANCED CERTIFICATE IN EDUCATION (SPECIALISATION)

Qualification code: ACEZS0, ACEZS1, ACEZS2, ACEZS3, ACEZS4,
ACEZS5 - NQF Level 6

Campus where offered: Soshanguve North Campus (evening or block-mode classes)

Last year of new intake: 2019

Teach-out (phase-out) date: 31 December 2021

Students registered for this qualification should complete their studies according to the teach-out date prescribed for the qualification, subject to the stipulations of Regulation 3.1.11 and 3.1.13 in the Students' Rules and Regulations.

Information on phased-out programmes can be obtained from the TUT website, www.tut.ac.za.

Key to asterisks:

* Information does not correspond to information in Report 151.

(Deviations approved by the Senate in August 2005 and November 2009.)

CURRICULUM

Consult the 2019 Faculty Prospectus for the full contents of the qualification.

Any one of the following options:

OPTION 1: FET BAND* (ACEZS3)

YEAR SUBJECTS

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
EDU400T	Education IV	(0,250)	
RMD100M	Research Methodology	(0,150)	
SSD400T	Specific Subject Didactics	(0,200)	

plus two subjects from one of the following subject groups:

SUBJECT GROUP A: CONSUMER STUDIES

(Managed by the Department of Mathematics, Science and Business Education)

CSS100T	Consumer Studies I	(0,200)	
CSS200T	Consumer Studies II	(0,200)*	Consumer Studies I
CSS300T	Consumer Studies III	(0,200)*	Consumer Studies II
FNU110T	Food and Nutrition I	(0,200)	
FNU210T	Food and Nutrition II	(0,200)*	Food and Nutrition I
FNU310T	Food and Nutrition III	(0,200)*	Food and Nutrition II
HTK110T	Hotelkeeping and Catering I	(0,200)	
HTK210T	Hotelkeeping and Catering II	(0,200)*	Hotelkeeping and Catering I
HTK310T	Hotelkeeping and Catering III	(0,200)*	Hotelkeeping and Catering II

SUBJECT GROUP B: MATHEMATICS AND MATHEMATICAL LITERACY

(Managed by the Department of Mathematics, Science and Business Education)

MAE100T	Mathematics (Education) I	(0,200)	
MAE200T	Mathematics (Education) II	(0,200)*	Mathematics (Education) I
MAT150E	Mathematics I	(0,200)	
MAT260E	Mathematics II	(0,200)*	Mathematics I
MAT340E	Mathematics III	(0,200)*	Mathematics II
MLY100T	Mathematical Literacy I	(0,200)	
MLY200T	Mathematical Literacy II	(0,200)*	Mathematical Literacy I
MLY300T	Mathematical Literacy III	(0,200)*	Mathematical Literacy II



SUBJECT GROUP C: NATURAL SCIENCE**(Managed by the Department of Mathematics, Science and Business Education)**

BIE100T	Biology (Education) I	(0,200)	
BIE200T	Biology (Education) II	(0,200)*	Biology (Education) I
BIE300T	Biology (Education) III	(0,200)*	Biology (Education) II
CMS110T	Computer Science I	(0,200)	
CMS200T	Computer Science II	(0,200)*	Computer Science I
CMS310T	Computer Science III	(0,200)*	Computer Science II
CYE100T	Chemistry (Education) I	(0,200)	
CYE210T	Chemistry (Education) II	(0,200)*	Chemistry (Education) I
CYE300T	Chemistry (Education) III	(0,200)*	Chemistry (Education) II
FWS100T	Physical Science I	(0,200)	
FWS200T	Physical Science II	(0,200)*	Physical Science I
FWS310T	Physical Science III	(0,200)*	Physical Science II
MAT150E	Mathematics I	(0,200)	
MAT260E	Mathematics II	(0,200)*	Mathematics I
MAT340E	Mathematics III	(0,200)*	Mathematics II

SUBJECT GROUP D: TECHNOLOGY (FET)***(Managed by the Department of Technology and Vocational Education)**

CVY100T	Civil Technology I*	(0,200)	
CVY200T	Civil Technology II*	(0,200)*	Civil Technology I
CVY300T	Civil Technology III*	(0,200)*	Civil Technology II
EGD100T	Engineering Graphics and Design I*	(0,200)	
EGD200T	Engineering Graphics and Design II*	(0,200)*	Engineering Graphics and Design I
EGD300T	Engineering Graphics and Design III*	(0,200)*	Engineering Graphics and Design II
ELY100T	Electrical Technology I*	(0,200)	
ELY200T	Electrical Technology II*	(0,200)*	Electrical Technology I
ELY300T	Electrical Technology III*	(0,200)*	Electrical Technology II
MAT150E	Mathematics I	(0,200)	
MAT260E	Mathematics II	(0,200)*	Mathematics I
MAT340E	Mathematics III	(0,200)*	Mathematics II
MHY100T	Mechanical Technology I*	(0,200)	
MHY200T	Mechanical Technology II*	(0,200)*	Mechanical Technology I
MHY300T	Mechanical Technology III*	(0,200)*	Mechanical Technology II

SUBJECT GROUP E: GENERAL**(Managed by the Department of Technology and Vocational Education)**

MAT150E	Mathematics I	(0,200)	
MAT260E	Mathematics II	(0,200)*	Mathematics I
MAT340E	Mathematics III	(0,200)*	Mathematics II
TCD100T	Technological Design I	(0,200)	
TCD200T	Technological Design II	(0,200)*	Technological Design I
TCD300T	Technological Design III	(0,200)*	Technological Design II
THE110T	Technology I (not offered in 2019)	(0,200)	
THE210T	Technology II (not offered in 2019)	(0,200)*	Technology I
THE310T	Technology III (not offered in 2019)	(0,200)*	Technology II

TOTAL CREDITS FOR OPTION 1:

1,000

OPTION 2: GET: FOUNDATION PHASE (ACEZS0)
 (Managed by the Department of Primary Education)

YEAR SUBJECTS

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
EDU400T	Education IV	(0,290)*	
LEA200T	Learning Areas II	(0,200)	
LIF110T	Life Skills I	(0,060)	
LRY100T	Literacy I	(0,080)	
NUM110T	Numeracy I	(0,080)	
PDF410T	Professional Studies	(0,140)	
RMD100M	Research Methodology	(0,150)	

TOTAL CREDITS FOR OPTION 2: **1,000**

OPTION 3: GET: INTERMEDIATE PHASE, TECHNOLOGY, ARTS AND CULTURE, VISUAL ART, BARRIERS TO LEARNING (ACEZS1)
 (Managed by the Department of Primary Education)

YEAR SUBJECTS

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
CMV400T	Creating and Managing Learning Environments IV	(0,100)	
CUL400T	Culture and Society IV	(0,100)	
HDV400T	Human Development IV	(0,100)	
RMD100M	Research Methodology	(0,150)	

plus one of the following subjects:

LAR400T	Learning Area Specialisation: Arts and Culture IV	(0,550)	
LIN400T	Learning Area Specialisation: Intermediate Phase	(0,550)	
LTY400T	Learning Area Specialisation: Technology IV	(0,550)	
LVI400T	Learning Area Specialisation: Visual Arts IV	(0,550)	

TOTAL CREDITS FOR OPTION 3: **1,000**

OPTION 4: GET SENIOR PHASE AND FET BAND (ACEZS4)

YEAR SUBJECTS

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
EDU400T	Education IV	(0,250)	
RMD100M	Research Methodology	(0,150)	
SSD400T	Specific Subject Didactics	(0,200)	

plus two subjects from one of the following subject groups:

SUBJECT GROUP A: ECONOMICS AND MANAGEMENT SCIENCES

(Managed by the Department of Mathematics, Science and Business Education as well as the Department of Technology and Vocational Education)

ACC120T	Accounting I	(0,200)	
ACC220T	Accounting II	(0,200)*	Accounting I
ACC320T	Accounting III	(0,200)*	Accounting II
BMN130T	Business Management I	(0,200)	
BMN240T	Business Management II	(0,200)*	Business Management I



BMN340T	Business Management III	(0,200)*	Business Management II
CAY100T	Computer Applications Technology I	(0,200)	
CAY200T	Computer Applications Technology II	(0,200)*	Computer Applications Technology I
CAY300T	Computer Applications Technology III	(0,200)*	Computer Applications Technology II
CMS110T	Computer Science I	(0,200)	
CMS200T	Computer Science II	(0,200)*	Computer Science I
CMS310T	Computer Science III	(0,200)*	Computer Science II
ECN130T	Economics I*	(0,200)	
ECN220T	Economics II*	(0,200)*	Economics I
ECN320T	Economics III*	(0,200)*	Economics II

SUBJECT GROUP B: HUMAN AND SOCIAL SCIENCES
(Managed by the Department of Primary Education)

GEG110B	Geography I	(0,200)	
GEG200T	Geography II	(0,200)*	Geography I
GEG300T	Geography III	(0,200)*	Geography II
HTS110T	History I	(0,200)	
HTS210T	History II	(0,200)*	History I
HTS310T	History III	(0,200)*	History II

SUBJECT GROUP C: LIFE ORIENTATION
(Managed by the Department of Educational Foundation)

LIO100T	Life Orientation I	(0,200)	
LIO200T	Life Orientation II	(0,200)*	Life Orientation I
LIO300T	Life Orientation III	(0,200)*	Life Orientation II
SGC100T	School Guidance and Counseling I	(0,200)	
SGC200T	School Guidance and Counselling II	(0,200)*	School Guidance and Counselling I
SGC300T	School Guidance and Counselling III	(0,200)*	School Guidance and Counselling II

TOTAL CREDITS FOR OPTION 4: **1,000**

OPTION 5: MULTI-GRADE/MULTI-AGE TEACHING (ACEZS2)
(Managed by the Department of Educational Foundation)

YEAR SUBJECTS

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
EDU400T	Education IV	(0,250)	
PDF410T	Professional Studies	(0,240)*	
RMD100M	Research Methodology	(0,240)*	
SUB400T	Subject Didactics IV	(0,270)	

TOTAL CREDITS FOR OPTION 5: **1,000**

OPTION 6: SENIOR PHASE: MATHEMATICS, SCIENCE AND TECHNOLOGY* (ACEZS5)
(Managed by the Department of Mathematics, Science and Business Education)

YEAR SUBJECTS

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
EDU400T	Education IV	(0,250)	
RMD100M	Research Methodology	(0,150)	
SSD400T	Specific Subject Didactics	(0,200)	



plus four of the following subjects:

FWS100T	Physical Science I	(0,100)*	
FWS200T	Physical Science II	(0,100)*	Physical Sciences I
MAE100T	Mathematics (Education) I	(0,100)*	
MAE200T	Mathematics (Education) II	(0,100)*	Mathematics (Education) I
NAS100B	Natural Sciences I*	(0,100)	
NAS200T	Natural Sciences II*	(0,100)	Natural Sciences I
THE110T	Technology I	(0,100)*	
THE210T	Technology II	(0,100)*	Technology I

TOTAL CREDITS FOR OPTION 6: **1,000**

SUBJECT INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular subject. At time of publication, the syllabus content was defined as follows:

A

ACCOUNTING I (ACC120T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

Introduction to accounting, accounting concepts and principles, the history of accounting, the accounting equation, adjustments, final accounts and financial statements of sole traders, interpretation of financial statements, stock control systems, bank reconciliation, salaries and wages journal, introduction to partnerships. Application of subject didactic principles to plan, develop and present a lesson on a topic pertaining to the FET curriculum. (Total tuition time: ± 100 hours)

ACCOUNTING II (ACC220T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

Introduction to Internal Auditing. Ethics in Accounting. Professional Bodies. Sector accounting. Advanced partnerships. Companies. Close Corporation. Non-profit organisations. Budgeting. (Total tuition time: ± 100 hours)

ACCOUNTING III (ACC320T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

Presentation of Financial Statements (Application of IAS 1, GAAP AND IFRS); Provisions and contingent assets and liabilities; Acquisitions and mergers (take-overs); Amalgamations; Capital reconstruction; Contract accounts; Investments (cum div and ex div); Leases; Valuations and liquidations; Introduction to group statements; Deferred taxation; Events after the balance sheet date; Extra-ordinary items with tax implications. Application and integration of the national curriculum, FET Curriculum, Grade 10 -12 and the subject didactics. The development of the appropriate subject policy to demonstrate the organisational, administrative and practical implications on the management of the subject at all levels. (Total tuition time: ± 100 hours)

B

BIOLOGY (EDUCATION) I (BIE100T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

An introduction to the microscope and biochemistry, investigating the characteristics of cells and multicellular organisms. The emphasis then shifts to human population ecology/dynamics, ecological relationships, conservation and population. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grades 10-11. (Total tuition time: ± 125 hours)



BIOLOGY (EDUCATION) II (BIE200T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

The emphasis is on the physiology and ecology of plants and animals. Viruses, bacteria, fungi, algae, mosses, ferns and seed plants (gymnosperm and angiosperm) are also studied. The animals are divided into two subtypes, the invertebrates, which include the Protozoa (one-celled animals), Coelenterata, Platyhelminthes, Echinodermata, Annelida (earthworm), Molluscs and Arthropoda, and the Vertebrates, which include Pisces, Amphibia, Aves, Reptilia and Mammalia. Application of subject didactic principles pertaining to the national curriculum, FET curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 125 hours)

BIOLOGY (EDUCATION) III (BIE300T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

Study on the theories of the origin of the earth and evolution of landforms. Introduction to the concept of biodiversity, including taxonomy (classification), systematics of life forms and morphology and phylogeny of living things. (Total tuition time: ± 125 hours)

BUSINESS MANAGEMENT I (BMN130T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

Introduction to business management (30%), small business entrepreneurship (50%), administrative function (20%). Applications of subject didactics principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grade 10. (Total tuition time: ± 100 hours)

BUSINESS MANAGEMENT II (BMN240T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

Principles of management and management process (20%), operations management (30%), public relations management (10%), purchasing management (40%). Applications of subject didactic principles pertaining to the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 100 hours)

BUSINESS MANAGEMENT III (BMN340T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

Human Resources Management (30%), marketing management (30%), financial management (30%) and contemporary issues to be selected annually (10%). Application of subject didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of an appropriate subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 100 hours)

C**CHEMISTRY (EDUCATION) I (CYE100T) 1 X 3-HOUR PAPER**

(Subject custodian: Department of Mathematics, Science and Business Education)

The properties classification and a particle model of matter are investigated. The subject also focuses on the atomic structure, the periodic table and chemical bonding. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grades 10-11. (Total tuition time: ± 125 hours)

CHEMISTRY (EDUCATION) II (CYE210T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

A study of oxidation/reduction reaction, electrochemistry, stoichiometry and solutions, as well as the physical and chemical properties of water. Application of subject didactic principles pertaining to the national curriculum, FET curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 125 hours)

CHEMISTRY (EDUCATION) III (CYE300T) 1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

A study of inorganic and thermochemistry, as well as the properties of chemical reactions. Application of subject didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of a suitable subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 125 hours)



CIVIL TECHNOLOGY I (CVY100T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

The emphasis is on basic technical knowledge and skills in the civil field of specialisation. Theory and practical skills are integrated by way of Woodwork Theory (safety measures, hand tools, machine tools and attachments, woodworking joints, timber, design, finishing) and practical work (design, preparation, basic woodworking processes: scale-model examples of selected woodworking joints and manufacturing projects, using hand and machine tools). Civil Technology also focuses on organisation, communication and services (safety and professional services), planning and communication, design procedures (timber, roads and parking sections), installation of cold and hot water supply, heat, drainage and electricity), instruments (tools, bricklaying, plastering, carpeting and plumbing), materials and construction (concrete, brickwork, woodworking, steelwork, roof construction and quantity surveying) as well as applied mechanics. Projects in which the technological process is applied are undertaken to solve technological problems. (Total tuition time: ± 125 hours)

CIVIL TECHNOLOGY II (CVY200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

The emphasis is on basic technical knowledge and skills in the civil field of specialisation. Theory and practical skills are integrated by way of woodwork theory (safety measures, machine tools and attachments, design, making, evaluating and finishing), and practical work (preparation of material, design, manufacturing projects using machines). Civil Technology also focuses on organisation, communication and services, design procedures (CAD, bridges, dams and buildings), installation of solar heating systems, drainage), instruments (dumpy level, test apparatus, slump test, concrete compression test, tensile test for steel), materials and construction (reinforced concrete, glass, cement, aggregates), as well as applied mechanics. (Total tuition time: ± 125 hours)

CIVIL TECHNOLOGY III (CVY300T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

The emphasis is on basic technical knowledge and skills in the civil field of specialisation, with specific reference to the built environment. Theory and practical skills are integrated by means of hands-on practical application of theoretical work (pouring of concrete, bridge building, surveying, conducting practical tests on concrete samples, etc.), organisation, communication and services, design procedures, materials and construction, as well as applied mechanics. (Total tuition time: ± 125 hours)

COMPUTER APPLICATIONS TECHNOLOGY I (CAY100T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Technology and Vocational Education)**

To understand basic concepts and terminology of relevant computer hardware and software. The installation and configuration of input and output devices. To identify legal, ethical and security issues related to information technology. To integrate end user computer applications skills e.g. Microsoft Word and Microsoft Excel and to use Microsoft PowerPoint. Application of subject didactic principles pertaining to the national curriculum, FET curriculum, Grade 10. (Total tuition time: ± 125 hours)

COMPUTER APPLICATIONS TECHNOLOGY II (CAY200T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Technology and Vocational Education)**

Theory: getting more out of your software. Using the Internet. Managing files and folders. Mobile technology. Computers in the workplace: networks, connecting up a small LAN of your own. Word processing with Microsoft Word. Spreadsheets with Microsoft Excel. Databases with Microsoft Access. Presentations with Microsoft PowerPoint: information management. (Performance Application Task) research project. Specific subject didactics: official policy documents. Lesson designing and lesson presentation. Setting up question papers and memoranda. (Total tuition time: ± 125 hours)

COMPUTER APPLICATIONS TECHNOLOGY III (CAY300T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Technology and Vocational Education)**

Basic concepts of IT and interrelationships. Management and communication of information. Application of end-user computing skills and knowledge. Provision of solutions related to the processing and presentation of information. Application of subject didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of an appropriate subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 125 hours)



COMPUTER SCIENCE I (CMS110T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

Use basic information and communication technologies and relevant, fundamental terminology. Apply standard methods and techniques to communicate electronically. Identify social and ethical issues relating to the use of information and communication technologies. Design and use electronic tools to solve standard, routine problems. Apply the principles of the national curriculum and use prescribed Information Technology Grade 10 content to plan Grade 10 lessons. (Total tuition time: ± 125 hours)

COMPUTER SCIENCE II (CMS200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

Provide details of information and communication technologies, using applicable terminology. Provide details of the methods and techniques used to communicate electronically. Describe and evaluate the effect of the use of information and communication technologies on the society and environment. Design and use existing electronic tools to solve advanced problems implementing appropriate methods. Prepare assessment activities and tools applying the principles of the Subject Assessment Guidelines for Information Technology. Present a lesson incorporating relevant LTSM and applying professional presentation skills. (Total tuition time: ± 125 hours)

COMPUTER SCIENCE III (CMS310T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

Apply, evaluate and integrate knowledge of information and communication technologies. Evaluate the methods and techniques used to communicate electronically. Justify decisions made with regard to the ethical and professional use of information and communication technologies. Design and use existing electronic tools to solve complex problems implementing a range of methods. Use all official DoE documents to plan, present and perform administration of Information Technology. Create an environment conducive to learning. (Total tuition time: ± 125 hours)

CONSUMER STUDIES I (CSS100T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

Family resource management, community extension work, family cycle and development, socialisation and adaptation. Communication and stress management. Support system and primary health-care. Home management, including financial management, management of household work, decision making, food management, food evaluation and entrepreneurship. Clothing and soft furnishing products, including needlework, pattern and pricing. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum for Grades 10 to 12. (Total tuition time: ± 100 hours)

CONSUMER STUDIES II (CSS200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

Buying and planning a house: buying a house, architectural plans, interior decoration, elements and principles of design, colour, surface and finishes: wall treatment, floor treatment and window treatment. Household textiles. Interior styles, lighting, heating, ventilation and insulation. Fashion trends, choice of clothing, fiber to fabric and clothing outlets. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum for Grades 10 to 12. (Total tuition time: ± 100 hours)

CONSUMER STUDIES III (CSS300T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

An ecological approach to housing: housing choice, micro-environment and housing, housing provision and financial law, financial management: income concepts, management environment, management functions, purchasing transactions and financial management in small business. Consumerism: consumer rights and responsibilities, consumer behaviour and factors, family as consumer, marketing. Consumer protection: work study: introduction to work study, work/workplace. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum for Grades 10 to 12. (Total tuition time: ± 100 hours)

CREATING AND MANAGING LEARNING ENVIRONMENTS IV (CMV400T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

Curriculum: approaches to curriculum development, national curriculum statement, macro- and micro-planning. Assessment. The classroom: teaching and learning strategies, time and space, materials development. Arts and culture processes as learning mediums. Integration. Managing behaviour. Assessment strategies: research, workshops, classroom observation and portfolio. (Total tuition time: ± 35 hours)



CULTURE AND SOCIETY IV (CUL400T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

Children in society (cultural, socio-historical, local and global perspectives). Children, human rights and the law. Children and religion. Assessment strategies: assignments, seminars, presentations and tests. (Total tuition time: ± 35 hours)

E**ECONOMICS I (ECN130T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

The nature and scope of economics as a social science, the price theory, rational behaviour of consumers, production processes, fiscal policy, inflation and economic history. Application of subject didactic principles to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum. (Total tuition time: ± 100 hours)

ECONOMICS II (ECN220T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

Micro theory: demand and supply, elasticity, customer equilibrium, production, determining prices and output, perfect and imperfect completion. Macro theory: national accounts, macro-economic cycle. Monetary theory: demand for the supply of money. Specific Subject Didactics: curriculum: application of subject didactic principle pertaining national curriculum, FET curriculum (Grade 10-11), application of national curriculum, FET subject guidelines. (Total tuition time: ± 100 hours)

ECONOMICS III (ECN320T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

International trade: theory of absolute cost advantage and theory of comparative cost advantage, production possibilities, equilibrium in an open economy, factor movement in an international trade, international trade policy. Monetary economics: monetary policy, public (government) economics: the role of government in the economy, government intervention, fiscal policy, public expenditure, coordinating fiscal and monetary policy. Development economics: development and growth, the development gap, developing countries, development bodies, development policy (the role of agriculture), development planning. Current economic problems: Inflation, unemployment. Specific subject didactics: curriculum: application of subject didactics principles pertaining national curriculum, FET curriculum (Grade 11-12), the development of appropriate subject policy to demonstrate the organisational and administrative and practical implications of how the subject is managed at all grades. (Total tuition time: ± 100 hours)

ELECTRICAL TECHNOLOGY I (ELY100T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

Basic technical knowledge and skills in the electrical field of specialisation. Theory is integrated with practical work through basic experiments and processes conducted in workshops and laboratories. Projects and experiments in which the technological process is applied are undertaken to solve technological problems (e.g. project: electrical door buzzer). Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grades 10-11. (Total tuition time: ± 125 hours)

ELECTRICAL TECHNOLOGY II (ELY200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

Basic technical knowledge and skills in the electrical field of specialisation. Theory is integrated with practical work through basic experiments and processes carried out in workshops and laboratories. Projects and experiments in which the technological process is applied are conducted to solve technological problems (e.g. project: earth-leakage tester). Application of subject didactic principles pertaining to the national curriculum, FET curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 125 hours)

ELECTRICAL TECHNOLOGY III (ELY300T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

Basic technical knowledge and skills in the electrical field of specialisation. Theory is integrated with practical work through basic experiments and processes carried out in workshops and laboratories. Projects and experiments in which the technological process is applied are conducted to solve technological problems (e.g. project: power supply or battery charger, complete construction: PCB, wiring, housing). Application of subject



didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of a suitable subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 125 hours)

EDUCATION IV (EDU400T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Educational Foundation)

Advanced views on the tasks and disciplines of educational management. Areas of educational management, leadership and administration, including human resources and law of education. Advanced views of the tasks and disciplines of the theory of education, including different philosophies, theories, historical perspectives, psychological perspectives and approaches to learning. (Total tuition time: ± 50 hours)

ENGINEERING GRAPHICS AND DESIGN I (EGD100T)

1 X 4-HOUR PAPER

(Subject custodian: Department of Technology and Vocational Education)

Graphic representation of ideas in the design and manufacturing processes covered in the practical skills workshops. Development of drawing skills using various techniques. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grades 10-11. (Total tuition time: ± 125 hours)

ENGINEERING GRAPHICS AND DESIGN II (EGD200T)

1 X 4-HOUR PAPER

(Subject custodian: Department of Technology and Vocational Education)

Graphic representation of design ideas as a basic condition for effective design and manufacturing processes in technology education subjects, including practical work. Application of subject didactic principles pertaining to the national curriculum, FET curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 125 hours)

ENGINEERING GRAPHICS AND DESIGN III (EGD300T) 1 X 3-HOUR PAPER AND 1 X 4-HOUR PAPER

(Subject custodian: Department of Technology and Vocational Education)

Graphic representation, using various techniques such as orthographic and isometric skills, as a basic condition for designing and manufacturing technology products and processes in the workshop or laboratory. Practical work. Application of subject didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of a suitable subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 125 hours)

F

FOOD AND NUTRITION I (FNU110T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

FOOD: basic cookery methods including measuring, recipe instructions and interpretations, food selection and basic preparation skills for baked products, cereals and starch products, herbs and spices, salad and salad dressings, soups, sauces and stocks, eggs, dairy products, legumes, nuts, vegetables and fruit. NUTRITION: basic nutrition concepts, food and nutrient guides, basic nutrients and their functions and nutrition and menu planning. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the current FET curriculum for Grades 10-11. (Total tuition time: ± 125 hours)

FOOD AND NUTRITION II (FNU210T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

FOOD: the banquet principles of cooking food in food groups, such as meat, fish, poultry, frozen desserts, sugar cookery and flour mixes, food preservation. NUTRITION: meal planning and food choices, nutrition throughout the life cycle. Application of subject didactic principles pertaining to the current FET curriculum for Grades 10-12, with emphasis on the application of the current FET Subject Assessment Guidelines. (Total tuition time: ± 125 hours)

FOOD AND NUTRITION III (FNU310T)

1 X 3-HOUR PAPER

(Subject custodian: Department of Mathematics, Science and Business Education)

FOOD: the banquet menu and advanced preparation techniques, providing food for different cultural needs. NUTRITION: factors influencing dietary patterns for different traditions of ethnic, religious and other groups in Southern Africa. Nutrition and food-related health conditions – causes and eating habits to prevent or manage health disorders. Application of subject didactic principles of the current FET curriculum Grades 10-12, as well as the development of an appropriate subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 125 hours)



G**GEOGRAPHY I (GEG110B)****1 X 3-HOUR PAPER****(Subject custodian: Department of Primary Education)**

Geographical skills and techniques (the development and use of these skills and techniques form an integral part of the process of knowledge construction in Geography). Using atlases, map skills, map orientation (map position, grid reference), Geographical Information Systems (GIS), data acquisition. Atmosphere: weather and climate. Biosphere: ecosystems (biotic and abiotic systems). People and their needs: economic activities, resource use and management, energy use and management. People and their organisations. (Total tuition time: ± 75 hours)

GEOGRAPHY II (GEG200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Primary Education)**

Geographical skills and techniques: using atlases and maps, map skills. Consolidation and further application of the map skills and techniques covered in the first year on topographical maps, aerial photos and orthophoto maps. Reading, analysis and interpretation of 1:50 000 topographical maps and orthophotos. Lithosphere: the structure and changing landforms of the earth. (Total tuition time: ± 50 hours)

GEOGRAPHY III (GEG300T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Primary Education)**

Geographical skills and techniques (the development and use of these skills and techniques form an integral part of the process of knowledge construction in Geography). Consolidation and further application of map skills and techniques covered in the first- and second years on topographical maps, orthophoto maps and aerial photos. Reading, analysis and interpretation of 1:50 000 topographical maps and orthophoto maps. Atmosphere: weather and climate. Development: people and place, settlement. (Total tuition time: ± 50 hours)

H**HISTORY I (HTS110T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Primary Education)**

Africa (socio-economic political studies) by 1500, transformation in West Africa, kingdoms and trade in Southern Africa, transformation in Southern Africa, transformation in America, an analysis of the nature of slave-owning societies, transformation in Europe. (Total tuition time: ± 50 hours)

HISTORY II (HTS210T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Primary Education)**

Industrialisation, technological dominance and the rise of Nationalism and Imperialism. South Africa's mineral and Industrial Revolution, and Colonial Conquest. Colonial transformation and African responses. Forms of resistance. The role of heritage institutions. Crisis of Capitalism I and II. The decline of Europe after World War II and the emergence of a bipolar world as well as new patterns of world dominance. (Total tuition time: ± 50 hours)

HISTORY III (HTS310T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Primary Education)**

Case study: analysing issues concerning the Middle East conflict. Challenges to Colonialism. Competing Nationalisms in South Africa. The end of apartheid, democracy and new identities in South Africa. The collapse of Communism in Europe; the information age and continuing genocide. Competing world views and conflict over the control of resources: the Gulf War, war against terror and anarchy. Emerging youth cultures. African renewal. (Total tuition time: ± 50 hours)

HOTELKEEPING AND CATERING I (HTK110T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

The hotel and catering industry, including history and associations, types of hotels, hotel organisation in all departments, front-office management, tourism, hotel management. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grades 10-11. (Total tuition time: ± 100 hours)

HOTELKEEPING AND CATERING II (HTK210T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

The role of food service institutions in the community, food service systems, facility layout in hotels, equipment, sanitation, safety. Application of subject didactic principles pertaining to the national curriculum, FET curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 100 hours)



HOTELKEEPING AND CATERING III (HTK310T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

Quantity catering: quantity catering, including menus, restaurant interior, table laying, styles of service, types of functions, work schedules, waiter service, serving of alcoholic beverages and tobacco. Administration: Large-scale food preparation administration, including purchasing, receiving, storing, issuing, production planning, waste control, recipes. Food service budget. Cost control. Application of subject didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of a suitable subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 100 hours)

HUMAN DEVELOPMENT IV (HDV400T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

Lifespan development. Middle childhood: ordered and disordered. Intelligence, self-esteem and mastery. Personality. Language and thought, creative and critical thinking. Assessment strategies: assignments, seminars, presentations, tests. (Total tuition time: ± 30 hours)

L**LEARNING AREAS II (LEA200T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Primary Education)**

Arts and Culture: developing an understanding of art, music and human movement in the foundation phase. Life Orientation: developing an understanding of life orientation and religion in the foundation phase. Technology: developing an understanding of technology in the foundation phase. Economic and Management Science: role-players, economic systems, productivity, curriculum and planning, assessment. Environmental Education: developing an understanding of natural sciences and human and social sciences in the foundation phase. (Total tuition time: ± 50 hours)

LEARNING AREAS SPECIALISATION: ARTS AND CULTURE IV (LAR400T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Educational Foundation)**

Specific didactics for drama, music, dance and visual arts. Practical application of each subject. (Total tuition time: ± 30 hours)

LEARNING AREAS SPECIALISATION: INTERMEDIATE PHASE (LIN400T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Educational Foundation)**

This subject covers Literacy (20 credits on Level 6), and one of the following: Mathematics (education) (10 credits on Level 5 and 10 credits on Level 6) Technology (10 credits on Level 5 and 10 credits on Level 6) Natural Science (10 credits on Level 5 and 10 credits on Level 6), plus one of the following: Human and Social Sciences, Economics and Management Sciences. (Total tuition time: ± 30 hours)

LEARNING AREAS SPECIALISATION: TECHNOLOGY IV (LTY400T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Technology and Vocational Education)**

Structures, systems, curriculum and planning, assessment. Computer literacy: hardware, software, computer facility design and management, computers in education. (Total tuition time: ± 30 hours)

LEARNING AREAS SPECIALISATION: VISUAL ARTS IV (LVI400T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Educational Foundation)**

Specific didactics for Visual Art. Practical application of Visual Art. Two-dimensional design. Three-dimensional design. (Total tuition time: ± 30 hours)

LIFE ORIENTATION I (LIO100T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

Overview of theoretical approaches to career counselling and a critical evaluation of some approaches. A theoretical framework for life skills in guidance and counselling and the application of emotional and cognitive regulation in their own life. Identification, application and evaluation of multiple intelligences in career and life skills. Identification of life skills in a multicultural society. Life Orientation as a survival kit for the 21st century and the application of knowledge and skills as a survival kit. HIV/AIDS and trauma among learners and educators as well as ways to mitigate the consequences of HIV/AIDS. Study and learning skills and the application of the skills in their learning process; and Application of subject didactic principles to plan, develop and present a topic in the national curriculum, curriculum for Grade 10. (Total tuition time: ± 100 hours)



LIFE ORIENTATION II (LIO200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

Application of facilitation skills in the Life Orientation classroom. Different approaches to career assessment skills. Integration of narrative therapy in career counselling. Application of career management skills. Application of career skills as a life skills. The psychodynamic perspective on work and mental health. Application of job finding skills. Application of entrepreneurial skills. Application of teaching and management skills in the Life skills classroom. Application of subject didactic principles to plan, develop and present a topic in the national curriculum for Grade 11. Compilation of a subject file for Life Orientation. (Total tuition time: ± 100 hours)

LIFE ORIENTATION III (LIO300T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

A model for establishing responsible social behaviour. Relationship choices. Communication choices. Choices for sexual behaviour. Choices to avoid gender-based and sexual abuse. Choices for persons infected or affected by HIV and AIDS. Media choices. Dangers of alcohol and substance abuse and apply smart choices. Application of didactic principles and knowledge regarding the teaching of Life Orientation. (Total tuition time: ± 100 hours)

LIFE SKILLS I (LIF110T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Educational Foundation)**

Learning programmes (educational foundation of life skills in the practical sphere, environmental education, curriculum development). A critical analysis of learning materials, design of learning programmes, applied competence and assessment. (Total tuition time: ± 30 hours)

LITERACY I (LRY100T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Primary Education)**

Language I (60%): listening, speaking, reading, writing, integrated language approach, assessment, children's literature, applied competence. Language II (40%): multilingualism, innovative approaches, design and critical evaluation of materials, assessment, applied competence. (Total tuition time: ± 30 hours)

M**MATHEMATICAL LITERACY I (MLY100T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

NUMBERS AND THEIR RELATIONSHIPS: fractions, decimals and percentages. Distributive, Commutative and Associative laws. Ratio and proportion. Income, expenditure, cost price, commission, discount, profit and selling price. Simple interest and compound interest. **FUNCTIONAL RELATIONSHIPS:** cartesian coordinate system. Solutions to linear equations. Simple linear and quadratic functions. **SPACE, SHAPE AND MEASUREMENT:** Measurement of length, distance, volume, area and perimeter of polygons and circles, and estimate error in measurement. Use and interpret scale drawings. Define and use the trigonometric ratios and interpret situations and problems about heights, distance and positions. **DATA HANDLING:** collect and organise data. Tally and frequency table. Simple and compound bar graphs. Line and broken-line graphs. Ogives of accumulative frequencies. Pie chart and histograms; Measures of central tendencies: mean, mode, median and range. (Total tuition time: ± 100 hours)

MATHEMATICAL LITERACY II (MLY200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Mathematics, Science and Business Education)**

NUMBERS AND THEIR RELATIONSHIPS: positive exponents. Solving quadratic equations: factorisation and application of quadratic formula. Solving simple simultaneous equations. Annuities and mortgages. Taxation (Personal Tax, company tax and VAT). Imports/exports. Levies and rebates. **FUNCTIONAL RELATIONSHIPS:** Simple and linear inequalities. Simple, exponential and logarithmic functions. **SPACE, SHAPE AND MEASUREMENT:** estimate, measure and calculate perimeters and areas of polygons. Surface area and volumes of right prism and right circular cylinders. Trigonometric ratios: *sinx*, *cosx*, *tanx*. **DATA HANDLING:** Frequency tables. Ogives of cumulative frequencies; Measures of dispersion. Elementary probability. Probability of events. Venn diagrams. (Total tuition time: ± 100 hours)



- MATHEMATICAL LITERACY III (MLY300T)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)
 NUMBERS AND THEIR RELATIONSHIPS: matrices. Solving systems of equations using Cramer's rule. Exchange rate, Interest offerings and bank charges. Different retirement options. Index changes (CPI, BCI). Functional relationships: Linear programming with two variables. Rational functions. SPACE, SHAPE AND MEASUREMENT: area rule, sine rule and cosine rule. Geometry of a circle. Circle with the center at the origin. Circle with the centre not at the origin. DATA HANDLING: the normal distribution. Area under a normal curve. Using tables under the normal curve; Computation of proportions. The central limit theorem. Correlation. Scatter diagrams. The spearman product-moment correlation coefficient. The spearman rank correlation coefficient. Interpretation of the correlation coefficient. (Total tuition time: ± 100 hours)
- MATHEMATICS I (MAT150E)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)
 Basic principles. Complex numbers and theory of polynomials. Functions. Exponential and logarithmic functions. Trigonometry. Coordinate geometry. Circle. Matrices. Partial fractions. (Total tuition time: ± 100 hours)
- MATHEMATICS II (MAT260E)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)
 Linear programming. Binomial theorem. Series and progressions. Vectors. Conic section. Limits and continuity. Differentiation. Integration. Data handling. (Total tuition time: ± 100 hours)
- MATHEMATICS III (MAT340E)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)
 Systems of linear equations: Matrices. Infinite series. Vector spaces. First-order differential equations. Second-order differential equations. Statistics and probability. (Total tuition time: ± 100 hours)
- MATHEMATICS (EDUCATION) I (MAE100T)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)
 Introduction to basic principles, functions, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions of real numbers. (Total tuition time: ± 50 hours)
- MATHEMATICS (EDUCATION) II (MAE200T)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)
 Introduction to trigonometric functions of angles, analytical trigonometry, systems of equations and inequalities, analytical geometry, series and progressions. (Total tuition time: ± 50 hours)
- MECHANICAL TECHNOLOGY I (MHY100T)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Technology and Vocational Education)
 Basic technical knowledge and skills in the mechanical field of specialisation. Theory and practical skills are integrated through basic experiments and metalwork processes conducted in workshops. Projects in which the technological process is applied are undertaken to solve technological problems. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grades 10-11. (Total tuition time: ± 125 hours)
- MECHANICAL TECHNOLOGY II (MHY200T)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Technology and Vocational Education)
 Basic technical knowledge and skills in the mechanical field of specialisation. Theory and practical skills are integrated through basic experiments and metalwork processes conducted in workshops. Projects in which the technological process is applied are undertaken to solve technological problems. Application of subject didactic principles pertaining to the national curriculum, FET curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 125 hours)
- MECHANICAL TECHNOLOGY III (MHY300T)** **1 X 3-HOUR PAPER**
(Subject custodian: Department of Technology and Vocational Education)
 Basic technical knowledge and skills in the mechanical field of specialisation. Theory and practical skills are integrated through basic experiments and metalwork processes (fitting and turning processes) conducted in workshops. Projects in which the technological process is applied are undertaken to solve technological problems. Application of subject didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of a suitable subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 125 hours)



N

NATURAL SCIENCES I (NAS100B) **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)

Life and living I. Energy and change I. Planet earth and beyond I. Matter and materials I. Computers in Natural Sciences I (applicable CD and internet). (Total tuition time: ± 75 hours)

NATURAL SCIENCES II (NAS200T) **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)

Life and living II. Energy and change II. Planet earth and beyond II. Matter and materials II. Computers in Natural Sciences II (applicable CD and Internet). (Total tuition time: ± 75 hours)

NUMERACY I (NUM110T) **1 X 3-HOUR PAPER**
(Subject custodian: Department of Primary Education)

Introduction to number concept development, communicating mathematics, learning strategies, introducing measurement, introducing shapes and patterns, using media and other resources, policy and applied competence. Teaching and learning of mathematical concepts and skills, teaching approaches in mathematics, promoting problem-solving skills, remedial mathematics. (Total tuition time: ± 30 hours)

P

PHYSICAL SCIENCE I (FWS100T) **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)

Importance of physical measurement and introduction to chemistry. The structure of the atom, the quantum theory, chemical periodicity, chemical formulas and composition stoichiometry, chemical equations, reaction stoichiometry and some chemical reactions. Ionic and covalent bonds. Metallurgy of the main-group elements and the chemistry of the non-metals. Vectors, kinematics in one and two dimensions, momentum, forces and Newton's laws of motion, work and energy, electrostatics, electric potential, electricity. (Total tuition time: ± 125 hours)

PHYSICAL SCIENCE II (FWS200T) **1 X 3-HOUR PAPER**
(Subject custodian: Department of Mathematics, Science and Business Education)

Acids, bases and salts, Arrhenius, Bronsted-Lowry and Lewis concepts, oxidation-reduction reactions, the dissolution process, colligative properties of solutions and colloid formation, properties of solutions. State of matter: gases, liquids and solids. Gases and the kinetic-molecular theory. Chemical equilibrium, the equilibrium constant and Le Chatelier's principle, self-ionisation of water and pH. Circular motion, simple harmonic motion, vibrations and waves, magnetism, electromagnetic induction. Temperature and heat. (Total tuition time: ± 50 hours)

PHYSICAL SCIENCE III (FWS310T) **1 X 3-HOUR PAPER**
(Subject custodians: Departments of Mathematics, Science and Business Education and Physics)

Acid-base equilibria, solutions of weak acids and weak bases. Thermo-chemistry, understanding heats of reactions and using heats of reaction, including Hess's Law. Chemical kinetics, reaction rates and reaction mechanisms. Solubility and complex ion equilibria. Thermodynamics and equilibria. Electrochemistry. Organic chemistry. Heat and temperature of solids and liquids. Electromagnetic waves, geometric optics, particles and waves, alternating current, capacitors, electronics, thermodynamics. (Total tuition time: ± 125 hours)

PROFESSIONAL STUDIES (PDF410T) **CONTINUOUS ASSESSMENT**
(Subject custodian: Department of Educational Foundation)

Teaching and learning theories: teaching models, microteaching and professional development, school library materials and material development. (Total tuition time: ± 30 hours)

R

RESEARCH METHODOLOGY (RMD100M) **1 X 3-HOUR PAPER**
(Subject custodian: Department of Educational Foundation)

Research concepts, tools of research, the difference between qualitative and quantitative research, reference techniques, bibliography and application, (see Education IV), such as a literature study. (Total tuition time: ± three hours)



S**SCHOOL GUIDANCE AND COUNSELLING I (SGC100T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

Orientation to the aims and nature of school guidance, study guidance, school readiness, subject and school type of guidance, personal guidance, parent guidance. Aspects of life orientation (intermediate phase), practical work, such as interviewing and diagnostic. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET: LO curriculum Grades 10-11. (Total tuition time: ± 100 hours)

SCHOOL GUIDANCE AND COUNSELLING II (SGC200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

School guidance: general principles, individualisation and differentiation, personal guidance, parent guidance, group dynamics and group guidance. Aspects of life orientation (senior phase). Practical work: interviewing and group work, diagnostic and recording, school guidance practice in schools, case study conferences, professional associations (career ethics). Application of subject didactic principles pertaining to the national curriculum, FET: LO curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 100 hours)

SCHOOL GUIDANCE AND COUNSELLING III (SGC300T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Educational Foundation)**

School guidance: schools of thought in guidance and their influence on school guidance, career choice guidance, study guidance, personal guidance, parent guidance, group dynamics and group guidance. Aspects of life orientation (NQF Levels 2, 3 and 4). Practical work: interviewing and group work, diagnostic and recording, organisation of school guidance practice in schools, case studies, professional associations (career ethics). Application of subject didactic principles of the national curriculum, FET: LO curriculum Grades 10-12, as well as the development of an appropriate subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 100 hours)

SPECIFIC SUBJECT DIDACTICS (SSD400T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Educational Foundation)**

Subject didactics terminology, teaching strategies (OBE), curriculum development, assessment, micro-teaching and subject policy of major school subjects in the national curriculum, FET Schools interpretation and application. (Total tuition time: ± 50 hours)

SUBJECT DIDACTICS IV (SUB400T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Educational Foundation)**

Reading, writing and numeracy. (Total tuition time: ± 50 hours)

T**TECHNOLOGICAL DESIGN I (TCD100T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

The communication process and design principles and apply them in a technological context. Drawing practices are applied to present technological ideas and designs accurately and effectively. Appropriate information to present ideas graphically are observed and selected. Computer graphics are used and drawings interpreted. Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the national curriculum, FET curriculum Grades 10-11. (Total tuition time: ± 100 hours)

TECHNOLOGICAL DESIGN II (TCD200T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Technology and Vocational Education)**

Advanced design principles and apply them in a technological context. Advanced drawing practices are applied to present technological ideas and designs accurately and effectively. Current forces, systems and processes are presented graphically. Computer-aided drawings are applied at an introductory level and complex drawings are interpreted. Design models/projects are designed and scale models are produced from working drawings. Application of subject didactic principles pertaining to the national curriculum, FET curriculum Grades 10-12, with the emphasis on the application of the national curriculum, FET Subject Assessment Guidelines. (Total tuition time: ± 100 hours)



TECHNOLOGICAL DESIGN III (TCD300T)**1 X 3-HOUR PAPER*****(Subject custodian: Department of Technology and Vocational Education)***

The application of design practice, drawing practice and computer-aided drawing in a technological environment. Multimedia applications are introduced, using the computer as a communication tool. The application of subject didactic principles of the national curriculum, FET curriculum Grades 10-12, as well as the development of a suitable subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 100 hours)

TECHNOLOGY I (THE110T)**1 X 3-HOUR PAPER*****(Subject custodian: Department of Technology and Vocational Education)***

Introduction to technology (20%), materials (20%), products and systems (40%) and graphic communication (20%). Application of subject didactic principles: to plan, develop and present a lesson on a topic pertaining to the RNCS GET curriculum Grades 7-9. (Total tuition time: ± 125 hours)

TECHNOLOGY II (THE210T)**1 X 3-HOUR PAPER*****(Subject custodian: Department of Technology and Vocational Education)***

Hydraulics and pneumatic systems (20%), communication systems (20%), electrical systems (30%), water and structures (30%). Application of subject didactic principles pertaining to the RNCS GET curriculum, as well as appropriate assessment instruments to assess the achievement of specified outcomes. (Total tuition time: ± 125 hours)

TECHNOLOGY III (THE310T)**1 X 3-HOUR PAPER*****(Subject custodian: Department of Technology and Vocational Education)***

Biotechnology systems (20%), food technology (30%), textile technology (25%) and production (25%). Application of subject didactic principles of the RNCS GET curriculum Grades 7-9, as well as the development of a suitable subject policy to demonstrate the organisational, administrative and practical implications of how the subject is managed at all levels. (Total tuition time: ± 125 hours)

