Course Descriptions

AD N225 - COMMAND LEADERSHIP AND MANAGEMENT
CREDITS: 3.00

AD N226 - AIR AND SPACE POWER
Covers Air Forces Organisation and Weapons, Types and Methods of Air Attack, Air Superiority and Counter Air Operations, Strategic Attack, Close Air Support, Air Interdiction, Air Mobility, Intelligence Surveillance and Reconnaissance, Air Operations Management, C2 Principles, Air Space Control, Electronic Warfare, Discussions, Airbase Visit and Air Operations Centre visit.
CREDITS: 3.00

AD N228 - STAFF SKILLS AND COMBAT SERVICE SUPPORT
Staff Skills include: Staff Duties/Military Writing, Staff Duties/Military Correspondence, Correspondence Ex. Training Planning, Organisation supervision, Military Symbols and Transparencies, Combat Training in Platoon, Company and Battalion, Exercises, Training Ex., Topography, Military Symbols and Transparencies Ex. Topography Ex. The course includes also: Inspection and Efficiency of Platoon/Company/Battalion, Military Law, Military Security, Admin and Logistics Platoon/Company/Battalion level, signals, Radar Types, Meteorology, Staff Skills and Combat Service Test.
CREDITS: 3.00

AD N229 - UAE AIR DEFENCE WEAPONS
Designed to provide cadets with the basic concepts, features, operations, tactics, command and control of the UAE Air Defence Weapons. The course includes Hawk Rockets: launcher, rocket carrier and rocket platform; Thermal Rockets: guidance system and navigation system of the thermal rockets, characteristics of IGLA rockets, Mistral System, main principles of Air Defence Tactics; Crotale 4000 Rockets: Crotale Systems general characteristics and safety precautions, Vehicles operation, jamming and counter jamming procedures.
CREDITS: 3.00

AD N230 - AIR DEFENCE PROJECTS
Includes a set of related activities to expose students to practical aspects of air defence initiatives in the UAE. This course will entail some scientific activities, on-the-job-training activities and field trips to key air defence centres. By the end of this course, students will have a better understanding about the challenges ahead and the state-of-the art air defence systems used in the UAE.
CREDITS: 2.00

AES 1013 - ARABIC COMMUNICATIONS I
This is an integrated skills course that aimed at improving Arabic proficiency for students: listening, reading, writing and speaking in a practical way with emphasis on grammar and dictation, research and translation skills from English into Arabic using modern standard teaching materials and integrated topics that will enhance students’ beliefs, culture and tradition.
CREDITS: 3.00

AES 1023 - INTERNET SAFETY ON SOCIAL MEDIA
Designed to help students identify and avoid harmful, on-line behaviours and situations regarding Social Media and Networks. The content will be delivered in Arabic. Students will increase their understandings of how to use current Social Media platforms effectively, while maintaining characteristics of good digital citizenship. Topics such as ethical on-line behaviour, on-line identity and on-line personal branding will be discussed in relation to the Emirati culture and beliefs.
CREDITS: 3.00

AES 1033 - CONTEMPORARY EMIRATI SOCIAL ISSUES
Provides students with the opportunity to investigate a wide range of every day issues in UAE society with a...
view to determining the causes and possible solutions through a series of activities involving a wide range of skills sets. This will be carried out by a series of student driven Learning by Doing (LBD) activities.

CREDITS: 3.00

AES 1043 - ISLAMIC STUDIES
This course addresses the fundamentals of Islamic Culture and its various aspects in such a way that it will be reflected in the students’ present and future life of these fundamentals and to assist the student in reflecting these principles in all aspects of their life and continue pride of their culture, traditional and faith.

CREDITS: 3.00

AES 2013 - ARABIC COMMUNICATIONS II
The is the second and advanced Arabic Communications course aims to develop a solid Knowledge level of competence in both productive (speaking/writing) and receptive skills (reading/ listening) in a practical way using modern standard teaching materials and educational technology tool.

CREDITS: 3.00

AES 3003 - PROFESSIONAL ARABIC
This is an Arabic communication course for the workplace, focusing on the needs of management professionals in a cross-cultural environment. which prepares students to communicate effectively in both oral and written media as applied in work related situations.

CREDITS: 3.00

AES 3013 - PROFESSIONAL ARABIC II
This is the second and advanced Professional Arabic course for the workplace, focusing on the needs of management professionals in a cross-cultural environment. The course aimed to prepare students to communicate effectively in both oral and written media as applied in work related situations.

CREDITS: 3.00

AET 2111 - FLUID DYNAMICS
Covers the basic concepts of fluid mechanics. Emphasis will be placed on basic topics including fluid properties, hydrostatics, basic fluid flow, continuity and momentum equations, energy equations, laminar and turbulent flow and pressure losses. The course practical work will reinforce the theory through a set of experiments in the fluid dynamics laboratory.

CREDITS: 3.00

AET 2112 - ELECTRIC FUNDAMENTALS I DC
(MOD 3, B1)
This course meets, in part, the requirements of CAR 66 Module 3. The course covers the direct current part of Module 3 and provides knowledge of electrical fundamentals and characteristics and the production and utilisation of electrical power.

CREDITS: 3.00

AET 2113 - ELECTRONIC FUNDAMENTALS
(MOD 4, B1)
This course meets all the requirements of CAR 66 Module 4 B1. It covers semiconductor devices and circuits and servomechanisms used in aircraft systems.

CREDITS: 3.00

AET 2114 - AIRCRAFT MATERIALS
Deals with understanding of material properties and behaviour and how that influences basic structural behaviour and structural design. This includes the understanding of the reason of certain material properties and how to change the properties. Furthermore students will learn about concepts as stresses and strain in tensile, shear or bending and how to apply that in basic structural elements. A brief description of typical fuselage and wing structures and the limitation this imposes on material selection is covered.

CREDITS: 3.00

AET 2211 - FUNDAMENTALS OF FLIGHT
Treats the basic aspects of atmospheric flight and how to do it in an efficient way, depending on the aerodynamic characteristics of airplanes and the engine performance, as well as how the geometric shape of the airplane influences these properties.

CREDITS: 3.00

AET 2212 - ELECTRIC FUNDAMENTALS II AC
(MOD 3, B1)
A continuation of Electric Fundamentals I and it covers the alternating current part of Module 3. Parts I and II meet all the requirements of CAR 66 Module 3.

CREDITS: 3.00

AET 2213 - AERODYNAMICS I
The objective of this course is to develop an understanding of low-speed aerodynamics and an introduction to compressible flows. It presents basic concepts such as aerodynamic forces, moments,
coefficients and introduces relevant fundamental principles and equations in aerodynamics. Flow over airfoils and over finite wings is studied in details. CREDITS: 3.00

AET 2214 - ENGINEERING MECHANICS
Forms the foundation of the mechanics on which much of aerospace engineering is based and is a natural continuation from Newtonian Mechanics and laws of conservation of Energy covered the physics courses. Dynamics is concerned with the description and analysis of the movement of particles and rigid bodies (kinematics) and the relations between kinematics and kinetics (mass and forces). The fundamental concepts of stress, strain and deformation of torque-transmitting shafts are introduced. CREDITS: 3.00

AET 3111 - AERIAL ENGINEERING THERMODYNAMICS
This course deals with thermodynamics applied to actual and perfect gases and vapours; energy concepts, processes, and applications. Application of thermodynamic principles to fluid flow, power cycles, and refrigeration is also covered. CREDITS: 3.00

AET 3112 - APPLIED ENGINEERING MECHANICS
Deals with the working knowledge of the elements and parts that are used in aeronautical machines. It deals with forces, reactions and the resultant stresses, influence of shape, linkages and their resultant motions and power transmission systems. The course would include reciprocating and rotary mechanism, fastenings, shafts and couplings, clutches, bearings, flywheels, belt and chain drives, gearing and gear trains. CREDITS: 3.00

AET 3113 - AIRFRAME STRUCTURES
Deals with various types of structures used in small, medium and large aircrafts. In addition to the descriptive treatment, analysis of simple astatically loaded trusses and joint will be covered. CREDITS: 3.00

AET 4111 - ENERGY AND PROPULSION
Modern air transport would not be possible without having turbo machine-powered propulsion devices in place. This course gives an introduction into air breathing propulsion concepts and has a clear focus on jet propulsion and turbo machinery. The aero- and thermodynamic terminology and equations relevant for these machines are discussed extensively. The principles of various propulsion concepts and their impact on energy usage and consequently the environmental impact are treated. CREDITS: 3.00

AET 4211 - COMPUTER-AIDED ANALYSIS FOR AERO-MECHANICAL DESIGN
In this course, the basic theory used in CFD methods is introduced. The theory is then applied in a number of computer labs where students learn how to use CFD software in the design of airborne vehicles. The labs are performed in cooperation with guest lectures and give insight in industrial applications of CFD, in particular the interaction between aerodynamics and design of aircraft. CREDITS: 3.00

AET 4212 - AVIATION LEGISLATION
Introduces and describes aviation legislation that is essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 10 B1.1. Topics covered include; regulatory framework, certifying staff, approved maintenance organisations, commercial and private air transportation, aircraft certification, CAR M and applicable national and international requirements. CREDITS: 3.00

AET 4311 - AIRCRAFT STRUCTURES ANALYSIS
This course covers topics on principles of stressed skin construction: Structural components of aircraft, Loads on structural components, Function of structural components, Fabrication of structural components and Connections, airworthiness and airframe loads, bending, shear, and torsion of open and closed thin-walled beams, structural idealisation, stress analysis of aircraft components, structural and loading discontinuities and introduction to Aeroelasticity. CREDITS: 3.00

AET 4321 - AIRCRAFT DESIGN
This course covers topics on conceptual design of a modern airplane to satisfy a given set of requirements, estimation of size, selection of configuration, weight and balance, and performance of airplane, sizing of cockpit, passengers cabin, cargo compartment, and weapon carriage considerations and conic shape lofting of fuselage and wings for design layout. CREDITS: 3.00
AET 4331 - Composite Materials for Aerospace Applications
This course covers topics on application of composite materials in aerospace industry, fiber reinforced composites, stress, strain, and strength of composite laminate, failure criterion, environmental effect and design of composite structure.
CREDITS: 3.00

AET 4341 - Control Systems
This course covers topics on study of continuous-time systems, classical and modern system design methods, transfer function models, state space, dynamics of linear systems, and frequency domain analysis and design techniques and introduction of controllability and observability, and full-state pole placement controller design.
CREDITS: 3.00

AET 4351 - Aircraft Reliability and Maintenance Engineering
This course covers topics on reliability theory, life testing, maintained systems, integrated logistic support (ILS), aircraft handling, repair station requirements, quality systems, inventory control, structural repair, engine maintenance and overhaul, maintenance of aircraft systems and instruments.
CREDITS: 3.00

AET 4361 - Aviation Management
Provides an overview of airline economics and the structure of the air transportation industry. Also, it provides students with a detailed understanding of airport operations management with emphasis on the environmental issues.
CREDITS: 3.00

AET 4371 - Crew Resource Management and Human Factors
Covers the non-technical skills applicable to working in a multi-crew environment and it imparts on students management skills required of a pilot.
CREDITS: 3.00

AET 4381 - Rocket Science
Covers fundamental aspects of spaceflight dynamics. Two main topics are embraced: rocket dynamics and orbital mechanics, respectively. Emphasis is placed on conceptual understanding of the fundamentals, but students will also face more challenging tasks in project work.
CREDITS: 3.00

AET 4391 - Computational Aerodynamics
This course covers topics on simplifications to the Navier-Stokes equations for steady, attached flows, integral formulation of potential flow equations for subsonic flows, potential flow solutions with panel methods, gradient based design optimization, inverse airfoil design using a panel code, full potential flow equation, Transonic Small Disturbance (TSD) equation, characteristic lines, numerical solution of the TSD equation using Finite Difference methods, analysis of transonic flows past airfoils and numerical solution of the Full Potential flow Equation (FPE).
CREDITS: 3.00

AHA 1404 - Electronic Fundamentals (Mod 4 B1)
Delivered to aviation students covering electronic fundamentals and circuits including diodes, transistors, integrated circuits, printed circuit boards and synchro and servo mechanisms used in aircraft systems. This course meets the requirements of CAR Module 4B1.
CREDITS: 4.00

AHA 1504 - Digital Techniques/ Electronic Instrument Systems (Mod 5 B1)
Provides the theoretical and practical knowledge of the fundamental concepts of digital electronics technology. It covers the basic principles of components, circuits, and techniques used in digital computers and electronic instrument systems. This course meets the requirements of GCAA CAR 66 Module 5B1.
CREDITS: 4.00

AHA 1615 - Materials and Hardware (Mod 6 B1)
The purpose of this course is to provide the student with general knowledge of the theoretical and practical aspects of Advanced Aircraft Materials and Hardware and ability to apply that knowledge.
CREDITS: 15.00

AHA 3144 - Turbine Aeroplane Aerodynamics, Structures and Systems (Mod 11A) (B1.1) *1 yr course
Provides information on civil aircraft systems and
designs deemed essential by GCAA CAR 66 Module 11A (B1.1) for engineers in the field of aircraft maintenance. The course covers the range of airframe, electrical and avionic topics required for completion of the B1.1 Engineers licence.
CREDITS: 44.00

AHE 1102 - AVIATION ENGLISH TECHNOLOGY I
Intended for students in their first semester of the Applied Higher Diploma in Aviation Maintenance Technology. It is the first of three English for Aviation Technology courses that students will take in their first two years of the programme. All Higher Colleges of Technology Aviation Engineering students face a large amount of complex terminology related to Aviation Maintenance Technology in their courses.
CREDITS: 2.00

AHM 1104 - AVIATION MATHEMATICS (Mod 1 B1 and B2)
Aviation technology is governed by the laws of physics. All aircraft systems must obey the laws of physics, and therefore must obey the laws of mathematics which relate to physics. In order to design and build aircraft and aircraft systems, as well as maintain those systems, engineers need to have a good foundation in mathematics. This course introduces and applies mathematical concepts that are essential for engineers in the field of aircraft maintenance, as required by GCAA CAR 66 Module 1. Topics covered include: arithmetic, algebra and geometry.
CREDITS: 4.00

AHM 1204 - AVIATION PHYSICS (Mod 2 B1 and B2)
Designed to develop fundamental principles of physics relevant to aviation technology, as required under GCAA CAR 66. Topics covered include: matter, statics, kinetics, dynamics, fluid dynamics, thermodynamics, optics, wave motion, and sound.
CREDITS: 4.00

AHM 1309 - ELECTRICAL FUNDAMENTALS (Mod 3 B1 and B2)
This common course is delivered to all aviation students to furnish the needed background. It provides knowledge of electrical fundamentals and characteristics and the production and utilisation of electrical power. This course meets all the requirements of CAR 66 Module 3.
CREDITS: 9.00

AHM 1803 - BASIC AERODYNAMICS (Mod 8: B1 and B2)
Aerodynamics is the study of objects moving through the air. In effect, aerodynamics is concerned with the aircraft, the relative wind and the atmosphere. This common course is delivered to all aviation diploma and higher diploma students in semester two, and furnishes the basic knowledge of aerodynamics required for entry into GCAA CAR Module 11 and 13 courses. This course meets the requirements of GCAA CAR Module 8.
CREDITS: 3.00

AHM 2005 - AVIATION LEGISLATION (Mod 10B1 and B2)
Introduces and describes aviation legislation that is essential for Engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 10 B1.1. Topics covered include: regulatory framework, certifying staff, approved maintenance organisations, commercial and private air transportation, aircraft certification, CAR M and applicable national and international requirements.
CREDITS: 5.00

AHM 2904 - HUMAN FACTORS (Mod 9 B1 and B2)
Introduces human factors principles that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 9 B1 and B2. Topics covered include: human performance and limitations, social psychology, factors affecting performance, physical environment, communication, human error and hazards in the workplace.
CREDITS: 4.00

AHM 3004 WORK PLACEMENT (10 Weeks)
This course requires the student to gain relevant aviation engineering experience in an actual working environment in order to provide an opportunity to develop and apply professional work ethics and practices. Transfer of engineering skills learned at college to the workplace is a major feature of this course.

AHV 1411 ELECTRONIC FUNDAMENTALS (Mod 4 B2)
This course covers electronic components and circuits including diodes, transistors, integrated circuits, printed circuit boards and syncho and servo mechanisms. This course meets the requirements of CAR Module 4B2.
CREDITS: 11.00
AHV 1511 Digital Techniques Electronic Instrument Systems (Mod 5 B2)
This course develops and applies theoretical and practical digital concepts to an advanced level, which is essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 5 B2. Topics covered include: digital instrument systems, numbering systems, data conversion/buses, logic circuits, integrated circuits, computer structure, microprocessors, multiplexing, fibre optics, EMI and software management control.
CREDITS: 11.00

AHV 2406 Propulsion (Mod 14 B2)
This course introduces gas turbine engine concepts and develops theoretical and practical knowledge relating to engine parameter monitoring that is essential for avionics engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 14 B2. Topics covered include: basic turbine engine construction and operation, turbine engine indication systems, engine control systems, and engine built in test equipment (BITE).
CREDITS: 5.00

AHV 2611 Materials and Hardware (Mod 6 B2)
The purpose of this course is to provide the avionics student with general knowledge of the theoretical and practical aspects of Advanced Aircraft Materials and Hardware and ability to apply that knowledge. This course introduces aircraft hardware in the field of aviation maintenance engineering.
CREDITS: 11.00

AHV 2711 Maintenance Practices (Mod 7 B2)
This course provides the avionics student with a theoretical and practical familiarisation of maintenance practices that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 7 B2. Topics covered include: safety precautions, workshop practices, tools, test equipment, fits and clearances, electrical connectors, riveting, maintenance procedures and material handling.
CREDITS: 11.00

AHV 3348 Aircraft Aerodynamics, Structures and Systems (Mod 13) (B2) *1 yr course
This course provides information on civil aircraft systems and designs deemed essential by GCAA CAR 66 Module 13 (B2) for engineers in the field of aircraft maintenance. The course covers the range of electrical, instrument, com/nav and miscellaneous avionics topics required for completion of the B2 engineers’ licence.
CREDITS: 48.00

AS N206 - Avionics
Designed to introduce cadets to the basic concepts, terminology and theory for airborne avionics systems. Emphasis is placed on radio communications, transceivers, including HF, VHF, and UHF communications. Basic concepts of navigation systems will be introduced, such as, VOR, DME, TACAN, ILS, GPS etc. Furthermore, this course covers introduction to theory of radar system and demonstrate basic airborne radar systems including weather radar, radio altimeter, and ATC transponder.
CREDITS: 3.00

AS N207 - Meteorology I
Devoted to basic meteorological knowledge essential to understanding the effect of weather on flight. Student pilots study the structure of the atmosphere, temperature, pressure, wind, clouds, stability, air masses, fronts, thunderstorm, icing, turbulence, visibility and fog. The course also includes lab activities designed to reinforce the theoretical concepts.
CREDITS: 3.00

AS N208 - Principles of Flight
This course is a comprehensive study of principles of flight fundamentals and theory at the technical level. This course includes history of flight, major aircraft components, basics of aerodynamics, aerodynamic lift, drag, stalling and high speed aerodynamics. The course also includes practical sessions conducted at PF Lab. to measure and calculate the different aerodynamic forces and plot the different aerodynamics curves.
CREDITS: 3.00

AS N209 - Instruments
The instruments covered by this course are treated in general terms, applicable to any aircraft. This course deals with the basic flight instruments, general instruments followed by instruments used for aircraft systems monitoring. The course also contains instruments for ancillary systems. The instruments commonly used in most types of aircraft are described in simple and general terms. In order to promote better
AS N210 - SURVIVAL
The Basic Aircrew SERE (Survive, Evade, Resist, Extract) Course prepares students for emergencies which they may experience during flying training and provides an essential foundation for future SERE training. Clearly, at a flying training level, personnel are concerned with non-operational, permissive environment survival (part of the survive task) and extraction by Search and Rescue (SAR) assets (part of the extract task). It is important, however, for such training to be forward-thinking and fully supportive of future intent.
CREDITS: 2.00

AS N211 - AIRCRAFT SYSTEMS AND COMPONENTS
This course is a comprehensive study of aircraft systems and components at the technical level. Areas of study include the parts of aircraft, loads on aircraft and form of structures. The course also includes aircraft systems: hydraulic systems, pneumatic systems, ice protection systems, air conditioning and pressurisation systems, oxygen systems, fire protection systems, landing gear and fly-by-wire control systems. Learning and teaching include theory of operation, calculations and typical applications.
CREDITS: 3.00

AS N212 - AERO-ENGINES
A comprehensive study of aircraft gas turbine engine fundamentals and theory at the technical level. Areas of study include aircraft propulsion systems, types of heat engines, variations, and applications; engine theory; cycles, calculation of engine thrust and efficiencies, factors affecting thrust.
CREDITS: 4.00

AS N213 - NAVIGATION
This is a foundation course which provides essential knowledge and practical skills in Air Navigation necessary for a career in military aviation. Commencing with the shape of the Earth, its rotation, axis, orbit and magnetic field, the course then defines how position is measured on the Earth’s surface and how to measure distance and direction. Local Mean Time and Greenwich Mean Time and conversion between the two are explained as is the use of the 24 hour clock.
CREDITS: 3.00

AS N214 - AIRMANSHIP
Covers basic Aviation Terminology, important Rules and Procedures, knowledge about Airport and Air Traffic Control System. This course improves cadets sense of safe flying or Airmanship. The knowledge gained by classroom lectures is reinforced further by demonstrations in the Airmanship Lab and showing of some relevant films. The students also visit the Air Traffic Control Tower, Runway, Airport Lights, Navigation Aids and PC-7 aircraft.
CREDITS: 3.00

AS N215 - AVIATION PHYSIOLOGY
This course provides students with the effects of flying on pilot’s body, precautions and remedies for the physiological and psychological problems experienced by pilots. Hypoxia, hyperventilation, spatial disorientation, vision, physiology of ejection, effects of drugs alcohol and carbon monoxide on flying are included. Motion and decompression sickness, fatigue and effects of acceleration, description of the first-aid and good nutrition are also treated.
CREDITS: 2.00

AS N216 - AVIATION SAFETY
Designed to provide cadets with the necessary knowledge and skills required to perform their duties and assuming their responsibilities as pilots or support officers in an Aviation Safety Environment. Area of study includes: concept of aviation safety; human factors; safety programme; safety inspection programme, introduction to aircraft accident investigation, and the roles of various government and industry organisations have in preventing accidents.
CREDITS: 3.00

AS N301 - AIRCRAFT PERFORMANCE
The focus of this course is on aerodynamic performance of aircraft powered by reciprocating, turboprop, or jet turbine engines. The course includes aircraft performance curves, straight and level performance, climbing performance, descending performance, turning, take-off and landing performance, spinning, stability and control, and weight and balance.
CREDITS: 3.00

AS N302 - ADVANCED NAVIGATION
Building upon the foundation course (AS 213), the course teaches advanced navigation techniques essential in single seat flying operations. Mental Dead
Reckoning techniques are taught, including regaining track and timing correction by variations in track distance or speed.
CREDITS: 3.00

**AS N303 - Meteorology II**

This course is the second of two meteorology courses designed for B.Sc. in aviation science for military pilots. The course consists of theoretical items as well as hands-on practical training and laboratory exercises. Emphasis is on printed and graphic aviation weather products as well as weather chart analysis.
CREDITS: 3.00

**AVM 101 - Airport Operations**

Covers how airports operate, from organisation, planning, security to passenger and freight facilities. Students will study all type of activities that take place at large, modern international airports. In particular, students will learn how airports are organised, the technical standards and requirements for the approval of airport operations, up-to-date coverage of airport security, international focus on new airports facilities and privatisation, review online ticketing, check-in, and booking arrangements plus an emphasis on safety management based on international standards.
CREDITS: 3.00

**AVM 102 - Aircraft Accident Investigation**

Provides a thorough coverage on the various aspects of aircraft safety and operations. It covers all aspects of aircraft accident investigations, including information on the investigation of in-flight fires, electrical circuitry, composite structure failure, engine failures, human error and many other related issues. The course explains the investigation procedures required by Civil Aviation Authorities and ICAO, covering basic investigation techniques, and aeronautical and structural knowledge useful to investigators.
CREDITS: 3.00

**AVM 103 - Military Transport Category Aircraft Operations**

This course provides an overview of military transport category type of aircraft. Students will learn the basics of transport missions in military settings and will study the most common transport aircraft used nowadays by military forces. The course presents the main features/ characteristics of heavy/large aircraft used in transportation missions, covering the standards and requirements applied to the operation of this type of aircraft. The main purpose of this course is to assist in preparing pilots to embrace a career as aircraft transport pilots in the Armed Forces.
CREDITS: 3.00

**AVM 104 - Technically Advanced Aircraft Operations**

Focuses on some of the features in the most advanced aircraft in operation today. A few advanced systems are selected from these and a thorough analysis will be implemented for those systems that make it apart. Students will have the opportunity to study in deep the fly-by-wire concept, head-up displays (HUD), the use of composite materials, and many other technically advanced features with a clear impact on flight operations. The course entails a system-by-system approach, contributing to make students more knowledgeable about technically advanced aircraft operations.
CREDITS: 3.00

**AVM 105 - National and International Aviation Systems**

Covers how the aviation system is organised and works. It provides an opportunity to learn how the aviation world is organised at the UAE and international levels. Students will learn the key players in the international aviation scene (ICAO, IATA, ACI, etc.), plus the rules and regulations binding these together. At the national level, students will acquire knowledge on the aviation history in the UAE, the role and responsibilities of the key aviation players, as well as a summary of the organisation and national aviation legislation applicable to this country.
CREDITS: 3.00

**AVM 106 - Aircraft Maintenance for Pilots**

Teaches the basics of airworthiness, determination of aircraft inspections, maintenance documentation, record entries, plus maintenance responsibilities and other duties. In particular, this course will provide students with a good understanding on how to plan and control aircraft maintenance operations, how to coordinate activities on various maintenance facilities, how to establish an initial maintenance programme, how to develop a systems concept of maintenance and how to identify and monitor maintenance problems and trends.
CREDITS: 3.00
AVM 107 - Human Factors in Aviation for Pilots
Offers an assessment and analysis of the way in which human factors function in the flight situation, with regard to pilots. In particular, it offers an in-depth analysis of cockpit design problems, how pilots’ eyes and ears gather information, what factors affect pilot’s decision making and how to use cockpit resources effectively. The purpose of this course is to reflect and analyse on how pilots, as human beings, interact with complex machines and the consequences of the limitations of human boundaries.
CREDITS: 3.00

AVM 108 - Aircraft Command Techniques
This is a comprehensive course on the characteristics of the experienced captain/pilot in command. A captain must be able not only to fly the aircraft, but also to manage it, manage the crew, and above all, manage his resources. Offering a wealth of practical knowledge and guidance, this course is an ideal platform for pilots to deepen their knowledge on how leadership and management skills are used to achieve excellence in flying.
CREDITS: 3.00

AVM 109 - Flight Operations Management
This course will prepare students to engage in flight operations management. The modern concept of flight operations will be presented, for both the military and civilian settings. Upon completing this course students will have gained the skills to plan and execute all types of flight operations, maximise budget and cost control in flight operations, enhance training, retention, and recruitment strategies, as well as improve quality management of flight operations.
CREDITS: 3.00

AVM 110 - Aviation and the Environment
The main purpose of this course is to bring the sustainable development challenge facing the air transport industry to the fore, and to inform effective policy responses. Aviation plays a critical role in supporting economies and societies that are increasingly interconnected by globalisation; this course presents the view that the vital economic and social benefits of the air transport industry should not be lost - and in fact could be distributed far more widely and equitably - but that the environmental impacts of air transport nevertheless require urgent and effective management.
CREDITS: 3.00

AVM 111 - Aviation Project
This is a one-year long individual project focused in exploring an aviation topic. In this course students will learn how to plan, organise and propose a small aviation project. The main purpose of this course is to learn how to research, analyse and propose a solution for a technical problem. This is an ideal opportunity for experienced pilots to bring practical problems from their own settings, and use problem solving techniques to address those challenges, as part of the project.
CREDITS: 6.00

AVM 301 - Safety Management Systems for Civil Aviation
Systematically design, implement and then manage a Safety Management System, or SMS, in the Aviation workplace. Participants will be introduced to the fundamental requirements of an SMS and be shown how to use an SMS to managing aviation safety risks and issues.
CREDITS: 3.00

AVM 302 - Operational Risk Management for Civil Aviation
Apply Operational Risk Management (ORM) to everyday aviation operations across the organisation at every level of the aviation decision-making process.
CREDITS: 3.00

AVM 303 - Performance Based Navigation
An introduction into the concepts and practices of Performance Based Navigation, including an overview of the history and evolution of the PBN concept, GNSS theory, Area Navigation (RNAV), RNP and airspace planning and design.
CREDITS: 3.00

AVM 304 - Emergency Planning and Response For Airports
Review of the latest methodology and requirements for responding to an aircraft emergency at or around the airport. Students learn to set up a coordinated response between the aircraft operator, airport authorities, ground service providers and state emergency response agencies.
CREDITS: 3.00

AVM 401 - Aero-Engines
This course is a comprehensive study of aircraft gas turbine engine fundamentals and theory at the technical level. Areas of study include aircraft propulsion systems,
types of heat engines, variations, and applications; engine theory: cycles, calculation of engine thrust and efficiencies, factors affecting thrust. The course also includes the construction of gas turbine engines; engine systems and accessories and propellers.

CREDITS: 3.00

AVM 402 - AIRCRAFT PERFORMANCE
The focus of this course is on aerodynamic performance of aircraft powered by reciprocating, turboprop, or jet turbine engines. The course includes aircraft performance curves, straight and level performance, climbing performance, descending performance, turning, take-off and landing performance, spinning, stability and control, and weight and balance.

CREDITS: 3.00

AVM 403 - AIR TRAFFIC CONTROL
Provides students with a fundamental knowledge of air traffic control systems. It is designed to provide exposure to procedures and operations consistent with those found in Federal Aviation Administration air traffic control facilities. The course covers the FAA; ICAO; the air traffic control career; Aerodrome Familiarisation; Airport Lights and Signals; navigational aids; airspace; communications; federal aviation regulations; ATC procedures; control tower operations; non-radar operations; radar operations; pilots environment; and future air traffic control systems.

CREDITS: 3.00

AVM 404 - AVIONICS
Designed to introduce the basic concepts, terminology, and theory for airborne avionics systems. Emphasis is placed on radio communications, transceivers, including HF, VHF, and UHF communications. Basic concepts of navigation systems will be introduced such as VOR, DME, TACAN, ILS, GPS...etc. Furthermore, this course covers introduction to theory of radar system and demonstrate basic airborne radar systems including weather radar, radar altimeter, and ATC transponder.

CREDITS: 3.00

AVM 405 - INSTRUCTIONAL TECHNIQUES
This course is appropriate for those wishing to engage in a career in aviation training with a solid foundation of what it takes to be a good instructor. This course provides the knowledge and skills to prepare effectively for training, managing and evaluating training events; teach to students with improved skills; have practical presentation and communication skills; motivate participants and engage their participation during training.

CREDITS: 3.00

AVM 406 - AVIATION SECURITY
In the changing landscape of criminal attacks on civil aviation and security regulations, the role of the Aviation Security officer is vital in assuring efficient and compliant operations. Learn the essential management and administration techniques you need to run your business successfully, while complying with national and international legislation. Through daily classroom simulations, test your ability to work under pressure in crisis situations, and learn how to prioritise responsibilities and respond to common problems in your daily operations.

CREDITS: 3.00

BSD 1013 - INTRODUCTION TO ORGANISATIONAL OPERATIONS
Covers the current trends relating to how organisations function. Students are introduced to the foundational topics in organisational operations including the roles of employees and managers in business operations, planning and decision making, and organisational structure within a retail environment. They will also be introduced to the concept of appropriate communication and interpersonal skills in a retail setting. Through the incorporation of authentic real life simulations, students will be exposed to opportunities to solidify learning in a contextualised environment.

CREDITS: 3.00

BSD 1023 - SOFTWARE APPLICATIONS I
Introduces computer terminology, hardware, software, operating systems, and information systems relating to the business environment with emphasis on the retail environment. The main focus is on understanding the functions of the different software for personal and organisational productivity, including word processing, spread sheets, databases, presentations, graphics, statistical packages and business-oriented utilisations of the internet and mobile communications technology. It provides an overview of the integrated software packages most often used in the workplace.

CREDITS: 3.00

BSD 1113 - PROPER BUSINESS PRACTICE
Provides students with a solid foundation in business ethics. Students will explore examples of the impact of proper and improper business practices on society,
both locally and globally. They will examine and discuss the affect that such practices have on their daily lives. This course introduces students to the moral and ethical responsibilities required of those working in a customer service environment. Students are introduced to the impact of unethical behaviour has on business sectors, as well as the employees and the customers. CREDITS: 3.00

BSD 1213 - WORKING IN THE RETAIL ENVIRONMENT
Provides students an understanding of the nature of working in a retail environment. It will introduce students to the skills and concepts to work in a variety of functions within a retail environment. They will be introduced to cash management, appropriate sales processes and policies, inventory control, types of customer services, promotions and effective customer service. They will also gain an understanding of the important role of the internal and external customer. CREDITS: 3.00

BSD 1223 - MARKETING PRINCIPLES
Designed to introduce students to the basic concepts and application of marketing in a retail environment. Students learn the concepts related to market segmentation, positioning, basic consumer behaviour, lifecycle of a product and marketing mix. Students will be introduced to the factors of what makes one marketing campaign successful, while another will fail. Where possible they will be expected to associate various marketing processes and procedures for a real world understanding and draw conclusions on the effectiveness of marketing strategies. CREDITS: 3.00

BSD 1233 - ETHICS IN A RETAIL ENVIRONMENT
Introduces students to the moral and ethical responsibilities required of those working in a retail environment. Students are introduced to the impact of unethical behaviour has on the retail business, as well as the employees and the customers. Codes of conduct and an employee's responsibility in the organisation are also explored, as well as the need for equal treatment amongst employees in a retail environment. CREDITS: 3.00

BSD 1243 - RETAIL OPERATIONS
Provides students with the basic concepts and practices in retailing operations with an emphasis on inventory procedures, merchandising, and retail technologies. Students are introduced to the function of retail operations, and the effect that this area has on inventory planning and control. Students will be introduced to a variety of inventory procedures and will gain an understanding of the role that such systems play in ensuring productivity in a retail environment. CREDITS: 3.00

BSD 1253 - ARABIC IN A RETAIL ENVIRONMENT
This course will give students an understanding of Arabic communication in a retail environment. Students will learn basic communication skills in Arabic to be applied in a retail context. CREDITS: 3.00

BSD 2013 - INTRODUCTION TO HUMAN RESOURCES
Introduces human resources practices within the UAE retail environment. Students will learn about team work, motivation, organisational culture and performance development. They will be expected to be able to demonstrate effective practices in both simulated and actual retail events. They will also be able to understand the basic role that human resources plays in an effective working environment. CREDITS: 3.00

BSD 2023 - SOFTWARE APPLICATIONS II
Introduces security procedures and information technology concepts and techniques, as applied in a business environment. The main focus is on business applications of software for personal and organisational productivity, including word processing, spread sheets, databases, presentations, graphics, statistical packages and business-oriented utilisations of the Internet and mobile communications technology. It provides an overview of how to use computers to communicate and solve management problems in contemporary business environments. CREDITS: 3.00

BSD 2033 - BASIC ACCOUNTING
An introduction to basic accounting with particular relevance to retailing. Students will learn accounting terminology, accounting principles, the transactions trail using documents sourced from the retail sector, the fundamentals of double entry and the accounting process from journal entries through to financial statements. In addition, the course covers basic banking transactions, reading and understanding bank statements. CREDITS: 3.00
BSD 2067 - APPLIED DIPLOMA WORK PLACEMENT
Provides students with a workplace experience in a real working environment. Students develop good work ethics, habits and practices observed in real work situations, including teamwork and communication skills. During this work placement students are expected to apply the theoretical and practical knowledge learned in the classroom in a professional manner.
CREDITS: 7.00

BSD 2213 - RETAIL CUSTOMER SERVICE
This course will give students an understanding of customer service concepts. The students will develop the skills to satisfy diverse customer needs. Students will explore the concepts of internal and external customer more fully. Through real and model scenarios, students will be given the opportunity to practice and reflect on what is considered good customer service.
CREDITS: 3.00

BSD 2222 - APPLIED RETAILING PROJECT I
Provides students with an opportunity to apply the skills and knowledge acquired in the whole of programme to this point. Students work in guided teams to plan and execute a retail activity within the college environment. This project could be the grounding for the Applied Retailing Project II.
CREDITS: 2.00

BSD 2233 - RETAIL MARKETING
In this course students learn about the retail marketing mix. The main emphasis is on the practical application of the marketing concepts covered in the course. Students will gain understanding by working in both controlled and simulated environments with real customers where possible. This course should build upon the learning that has come from the Applied Retailing Project I.
CREDITS: 3.00

BSD 2252 - APPLIED RETAILING PROJECT II
Builds upon the work done in BSD 2223, Applied Retail Project I, where possible, and provides students an opportunity to further apply the skills and knowledge acquired in the programme. Students will complete a project in collaboration with a retail industry partner, and where appropriate can be done in conjunction with BSD 2066 Work Placement.
CREDITS: 2.00

BSD 2263 - SOCIALLY RESPONSIBLE RETAILING
Introduces the principles of corporate social responsibility and sustainability in the retail environment. Students will gain an understanding of the various type of philanthropic activities that organisations are involved in, and how this both positively and negatively affects their market share.
CREDITS: 3.00

BUS 1003 - MANAGEMENT AND LEADERSHIP
Gives students an understanding of how the concept of leadership and management has been understood by practising managers and behavioural scientists. Students will learn the basic functions of management, management levels and skills, model of communication, individual and group decision making, role of leaders in managing the change, leadership theory, concepts and practical issues related to both the UAE and the wider business environment.
CREDITS: 3.00

BUS 1103 - ECONOMICS FOR MANAGERS
Introduces the basic concepts of Microeconomics with an emphasis on their application in business decisions and market structures. It focuses on the mechanism of demand and supply, price elasticity of demand, costs of production and the basic characteristics of market structures. Students are expected to use the theoretical concepts covered and apply them to UAE businesses and their industries.
CREDITS: 3.00

BUS 1203 - SOFTWARE APPLICATIONS FOR BUSINESS
Introduces computer terminology, hardware, software, operating systems, and information systems relating to the business environment. It focuses on business applications of software for personal and organisational productivity, including word processing, spread sheets, databases, presentations, graphics, statistical packages and business-oriented utilisations of internet and mobile communications technology. It outlines integrated software packages most used in the workplace and how to use computers to communicate and solve management problems in contemporary business environments.
CREDITS: 3.00

BUS 1303 - MARKETING
Introduces the basic concepts of Marketing, this course develops an understanding of the overall process of Marketing including the research, planning, implementation and control of marketing activities in
the contemporary business environment. The main emphasis is on the practical application of marketing concepts covered in the course, using UAE consumer products as examples where possible.
CREDITS: 3.00

BUS 1403 - BUSINESS ETHICS AND CORPORATE GOVERNANCE
Introduction to business ethics, codes of conduct are studied and ethical dilemmas are explored. The purpose is to impart on students the importance of critical assessment of situations that are ethically ambiguous or contain ethical dilemmas. This course also introduces corporate social responsibility (CSR) and governance from local and international perspectives, as they relate to business and politics, industrial pollution, environmental policy, and institutional investor participation. The ethical administration and moral responsibility of corporations is studied.
CREDITS: 3.00

BUS 1503 - ACCOUNTING FOR MANAGERS
An introduction to accounting as the language of business. Students will learn terminology, accounting principles, the fundamentals of double entry, the accounting process from journals to financial statements, and how financial statements communicate information about performance and position to users external to the business. Included also is an introduction to managerial accounting with ratio analysis, cost classification, Cost Volume Profit Analysis (CVP) and Operating Budgets.
CREDITS: 3.00

BUS 2003 - BUSINESS AND COMMERCIAL LAW
Provides an insight into the fundamental principles of law including contract and tort and the foundations of UAE law including the Civil Code and the Judicial System. The course then focuses on the business aspects of law including an introduction to company formation; financial control and workplace issues. The course will develop an understanding of how law may control business operations and the procedures for resolving conflict and seeking appropriate redress.
CREDITS: 3.00

BUS 2103 - OPERATIONS MANAGEMENT
This course provides a detailed study of the management of an organisation’s chain of value adding activities, from procurement of resources and transformation into manufactured goods and service outputs, through distribution to customers. The major areas include operations strategy and the various tools and techniques of operations management; quality, work, product and service design, process selection and facilities layout, capacity and location planning and related issues and models.
CREDITS: 3.00

BUS 2203 - BUSINESS STATISTICS FOR MANAGERS
This course is designed to develop students’ ability to assess and critically interpret statistics and business information and apply them in changing business environments. It places a strong emphasis on developing a clear theoretical understanding of various analytical tools including descriptive statistics; probability; hypothesis testing and correlation and regression analysis; and an appreciation of the application of analytical tools to business decision contexts. These skills and competencies provide a foundation for professional practice and further study in the majors degree.
CREDITS: 3.00

BUS 2303 - FINANCIAL MANAGEMENT
Provides an overview of financial management basics for financial decision making. This course covers the fundamentals of financial management to support both short and long-term financial decisions of the firm. The course includes topics related to sources of short-term and long-term financing, financial statement analysis, time value of money, capital budgeting and working capital management.
CREDITS: 3.00

BUS 2403 - INNOVATION AND ENTREPRENEURSHIP
Develops the concepts and skills of how to start and run new ventures and discusses challenges entrepreneurs face in a rapidly changing economic environment. Informed by industry and local entrepreneurs the course discusses how to develop a business plan and financial feasibility study and synthesises knowledge students have gained from their management, business law and ethics courses. This course is anchored on the capstone project that requires students to engage with industry and the business environment to create and defend a comprehensive business proposal for a new idea.
CREDITS: 3.00
BUS 2903 - **INTRODUCTION TO LOGISTICS AND SUPPLY CHAIN MANAGEMENT**
Examines fundamental concepts of Supply Chain Management (SCM) and Logistics that together underpin corporate strategies aimed at achieving business performance goals. The course introduces logistics and SCM principles, processes and strategies from a managerial perspective, and examines them within a framework that requires cross-functional integration of key business processes within the firm and across the network of firms comprising the supply chain. Emphasis is on analysing supply chain issues and aligning logistics and SCM strategies with business performance goals.
CREDITS: 3.00

BUS 2913 - **SUSTAINING CULTURAL IDENTITY THROUGH TOURISM AND EVENTS**
Provides insight into the Tourism and event Industries and the importance of maintaining cultural identity. Globalisation of tourism and events brings prosperity to the destination but a growing concern is how to maintain distinctiveness and uniqueness of the destination’s cultural identity. This course emphasises the need for destination visioning and strategic planning to enable the tourism and event industries to flourish while maintaining the integrity and sustainability of cultural heritage and traditions.
CREDITS: 3.00

BUS 2923 - **INTRODUCTION TO SUSTAINABLE PROPERTY DEVELOPMENT AND MANAGEMENT**
This course provides students with a general introduction to the processes and professional activities involved in sustainable property development and management. It allows students to explore the career and entrepreneurship opportunities within this professional area. The course includes general international principles of property appraisal; linkages to the general economy; the local development process; property marketing; property law and aspects of property and facilities management.
CREDITS: 3.00

BUS 2933 - **MACROECONOMICS**
Provides an introduction to the basic concepts and tools of macroeconomic analysis. It begins with a demonstration of the measurement of key concerns in macroeconomics: GDP, unemployment and the price level. The second part of the course provides analytical models for exploring economic performance and long run growth. The third part analyses the nature of business cycles and fiscal and monetary policies.
CREDITS: 3.00

BUS 3003 - **MANAGING PEOPLE AND ORGANISATIONS**
Students will gain an understanding of the linkage between organisations; human resource management (HRM) and business success. To do this, they will be exposed to the principles of organisational behaviour and the fundamentals of HRM. Students will be introduced to the concepts of: organisation structure and design; power and politics; motivation and job satisfaction; recruitment and selection; employee development and reward management; and the role of HRM in gaining sustainable competitive advantage for the organisation.
CREDITS: 3.00

BUS 3103 - **INTERNATIONAL BUSINESS AND GLOBALISATION**
Students gain an understanding of how the global context of the business environment impacts upon managerial processes. Understanding business in an international context enables students to appreciate the interrelationships between global business and the environmental, social, technical, legal and regulatory frameworks that influence business operations.
CREDITS: 3.00

BUS 3203 - **STRATEGIC MANAGEMENT AND BUSINESS POLICY SIMULATIONS**
This is the capstone course in the Business Administration discipline. Through case studies it analyses the nature of competitive advantage, and the various strategies available for firms to develop sustainable business growth in a global environment. The course features a complex business simulation game in which students can show, by making a series of inter-related decisions, their ability to apply business administration concepts in practice for the benefit of an imaginary company.
CREDITS: 3.00

BUS 3406 - **WORK RELATED LEARNING**
Designed as a framework within which a range of work related learning activities can be accommodated to meet defined learning outcomes. It facilitates students to make direct linkages between the work environment, the application of their chosen major and what they
learn in their courses; and gives them flexibility to learn from work experience or to undertake an industry based project which meets the same outcomes. It is driven by an evidence based portfolio approach to assessment, enabling students to bring their contextual learning into the final year of study.
CREDITS: 6.00

BUS 3903 - CONTEMPORARY ISSUES IN BUSINESS
Introduces students to current thinking and research on contemporary issues in business. It offers students an opportunity to develop a foundation for their future major by researching a contemporary business issue in a major business sector. Students will be expected to read, understand, and evaluate research and analysis on this issue, and demonstrate an understanding of how research and analysis affect proposed solutions or responses to the issue.
CREDITS: 3.00

BUS 3913 - EMOTIONAL INTELLIGENCE FOR BUSINESS EFFECTIVENESS
Provides the tools needed to be emotionally intelligent in the workplace. It is designed to help students understand the linkage between Emotional Intelligence and business success. To do this, students will be exposed to the core principles of Emotional Intelligence which will enable them to manage their own impulses, communicate with others effectively, manage change well and solve problems. Students will learn best practices in developing/leveraging abilities; being aware of self and others, understanding emotions, and emotional management.
CREDITS: 3.00

BUS 3923 - MANAGEMENT INFORMATION SYSTEMS INCORPORATING SAP
Focuses on the application of technology-based information systems in organisations as tools for achieving operational efficiency. Students study how information systems support development and management of products and services and the decision making process to achieve competitive advantage. Students are also introduced to different processes of information management in SAP. The major parts of information systems and their inter-relationships are evaluated to justify the effective utilisation of the systems.
CREDITS: 3.00

BUS 4113 - FINANCIAL ACCOUNTING I
Provides students with the knowledge of how to identify and apply the concepts and principles of accounting for merchandising business. It also provides an overview of some of the balance sheet items. Specific topics include classification and valuation of long term assets and current assets such as cash, accounts receivables and inventories. The course also examines concepts and procedures for recording and reporting shareholders equity transactions in a corporate environment.
CREDITS: 3.00

BUS 4123 - AUDITING
Provides students with a basic understanding of the overall purpose and objectives of audit and basic concept and functions of Accounting Information System (AIS). The course then give students the opportunity to analyse different audit areas including professional standards and ethical responsibilities of auditors, audit risk and materiality, risk assessments for internal control, internal control for cash receipts and disbursement cycle, audit evidence and reporting on audited financial statements.
CREDITS: 3.00

BUS 4133 - MANAGERIAL ACCOUNTING I
Introduces a business-management approach to the use of accounting information for internal reporting and decision-making. Major topics include profit planning and control measures. It provides in-depth knowledge on cost accounting by focusing on its role in internal reporting and the resulting decision-making processes. Students will evaluate the basic costing systems employed in the management accounting profession; pricing and profitability concepts and principles; determine how cost allocations, product quality, and investment decisions are applied by management accountants.
CREDITS: 3.00

BUS 4143 - IFRS
Provides a basic understanding of the structure and requirement of International Financial Reporting Standards (IFRS) in a current financial reporting environment. The course is designed to recognise, measure, classify, present and disclose financial information according to IFRS. The course also gives students the opportunity to apply IFRS to selected items of the financial statements.
CREDITS: 3.00
BUS 4153 - Financial Accounting II
Examines important topics that serve as a foundation for a more detailed study of financial statements. It provides the students with the necessary knowledge to succeed in the modern world of accounting. This course studies the applications of accounting for investments that companies make in stock and debt securities of other companies and account for the different forms of leases which can be used in organisations and timing and criteria of revenue recognition.
CREDITS: 3.00

BUS 4163 - Taxation
Emphasises tax concepts and issues. The course explains the principles and professional standards governing the tax systems. In addition, it provides an approach to the taxation of individuals and a more in-depth study of the taxation of different business entities. This course particularly focuses on technical details to provide a foundation for future practice in taxation and consulting. This course is designed to provide an overview of tax computation and tax compliance and understand the rules to determine taxable income for individuals and business.
CREDITS: 3.00

BUS 4173 - Managerial Accounting II
Develops analytical skills useful for managerial decision making. The course introduces students to the evolving role managerial accounting is expected to play in servicing the informational needs of managers in planning, organising and controlling functions. It helps students become proficient in structuring business decisions systematically and identifying the information relevant to a decision.
CREDITS: 3.00

BUS 4183 - Corporate Finance
This course provides students with the necessary exposure to the various tools used in analysing and evaluating the financial performance of business in terms of risk and return. Students also learn how to calculate and analyse the various performance ratios and examine the key issues that affect dividend policies. They are also introduced to the concepts of cost of capital, risk and uncertainty in capital budgeting decisions and elements of international finance.
CREDITS: 3.00

BUS 4213 - Financial Quantitative Methods
This course systematically builds upon students’ knowledge of Excel and its application to financial concepts. It critically explores the time value of money; risk and return relationships and bond and stock valuations. Students will explore and apply the capital asset pricing model and develop and analyse diversified investment portfolios.
CREDITS: 3.00

BUS 4223 - Retail Finance and Banking
The goal of this course is to expose the students to the dynamic environment of the retail finance and banking industry. It introduces them to the financial needs of retail clients and the retail banking and insurance products matching these needs. The course also explores advanced marketing techniques, customer relationship management, service quality and customer complaints techniques as applicable to finance and banking.
CREDITS: 3.00

BUS 4233 - Financial Assets and Markets
The goal of this course is to provide the basic role of financial markets, the types of financial assets and how they are traded. This course examines valuation techniques, derivatives and alternative investments and their associated trading strategies to achieve risk return objectives. From an overview of equity and capital markets, it explains the importance of capital markets for the economy and corporations.
CREDITS: 3.00

BUS 4243 - International Trade and Finance
Distinguishes international finance from domestic finance and introduces students to the international financial environment, the foreign exchange market and foreign exchange exposure management. This course examines the international monetary system, the balance of payments, the main factors affecting foreign exchange rates and the microstructure of international trade.
CREDITS: 3.00

BUS 4253 - Law, Ethics and Professional Standards
Provides students with an opportunity to critically examine legal and ethical issues pertaining to the
banking and financial services industry. The course will focus on the application of legal and ethical principles to current industry risk management concerns such as mobile banking, Basel III capital requirements, money laundering, bribery, and executive compensation and corporate governance. Students will compare risk management and compliance programmes in order to identify best practices in mitigating the ethical and legal risks associated with such concerns.
CREDITS: 3.00

BUS 4263 - CORPORATE FINANCE AND BANKING
The primary objective of this course is to provide a framework for assessing the role of banking in corporate finance. The approach is rigorous and analytical. Firstly, it analyses issues in the cost of capital assessment, capital budgeting decisions, financing decisions, working capital management and cash flow management which are faced by financial managers in corporations. Then, it critically examines how various banking products satisfy the financial needs of corporations.
CREDITS: 3.00

BUS 4273 - WEALTH AND RISK MANAGEMENT
This course examines the various factors that impact investment risk and returns. It explores the characteristics of financial instruments and applies modern portfolio theory to enable students to provide financial solutions to meet the investment, retirement, protection, estate and tax planning needs of their clients and determine how these solutions can help deal with both expected and unplanned events.
CREDITS: 3.00

BUS 4283 - ISLAMIC FINANCE AND BANKING
Distinguishes Islamic finance and banking from conventional finance and banking and introduces the students to the principles of Islamic finance, sources of Sharia Law and the role of the Sharia Supervisory Board. It also explores the characteristics of common Islamic banking and Islamic insurance (Takaful) products in comparison to their conventional alternatives. Finally, the course introduces Sukus (Islamic bonds) and examines their evolving role in financing corporations.
CREDITS: 3.00

BUS 4313 - EMPLOYEE RELATIONS AND UAE LABOUR LAW
Building upon an earlier study of the principles of law, in particular the legal relationship between employers and individual employees, and the common law aspects of that relationship, including contracts and tort, the course focuses on the application of laws specific to commercial enterprises and workplace situations. Students will develop skills to: recognise competing and conflicting legal interests, rights and obligations in various commercial contexts; understand methods of legal dispute settlement; analyse factual situations; and apply the appropriate law.
CREDITS: 3.00

BUS 4323 - CAREER DEVELOPMENT AND PLANNING
Helps students understand how organisational performance is improved by managing the workforce efficiently and effectively. It includes a critical analysis of the value of career development theories in HR planning. Students will develop decision-making skills through strategic thinking in both local and global perspectives. Students will be exposed to concepts related to: mentoring, coaching, replacement charts, skill inventories, career paths, succession planning, PAQ (position analysis questionnaires), and career development strategies related to plateaued staff.
CREDITS: 3.00

BUS 4333 - RECRUITMENT AND SELECTION
Develops students' knowledge and skills of the recruitment and selection process in human resource management and the importance of ensuring that the best people are selected to work in organisations. Throughout the course students will learn: the underpinning recruitment and selection processes and the relationship with the overall management of the organisation.
CREDITS: 3.00

BUS 4343 - TRAINING AND DEVELOPMENT
This course gives students an understanding of the role of training and development in maintaining a motivated, up to date workforce. It enables students to compare the way the training and development function is structured in different organisations and to explore the training delivery techniques used in different training programs. Students will use the training cycle to design, develop, deliver and evaluate training.
CREDITS: 3.00

BUS 4353 - INTERNATIONAL HUMAN RESOURCE MANAGEMENT
Examines the opportunities and challenges associated
with managing employees in international and cross-cultural contexts. International recruitment, selection, preparation, placement, management development, performance management, reward and remuneration in international, multi-national and trans-national corporations are studied. The implications of internationalisation and globalisation on human resource management (HRM), differences between domestic and international HRM, and challenges associated with managing the workforce in foreign locations are explored.

CREDITS: 3.00

**BUS 4363 - MANAGING ORGANISATIONAL CHANGE**

Provides students with an understanding of the nature of change, driving forces of change, theories and models of organisation change and the process of organisational change within the theoretical frameworks of organisation culture, power, politics, resistance to change and leadership. It examines both a theoretical and practical approach to the issues of change diagnosis and strategies to manage and implement the change.

CREDITS: 3.00

**BUS 4373 - STRATEGIC HUMAN RESOURCE MANAGEMENT**

This course gives students the opportunity to study the strategic-level human resource management challenges facing businesses, including long term human resource planning; managing workforce diversity; implementing downsizing strategies, creating outsourcing solutions and managing the workforce in knowledge based economies. It enables students to take a critical view of ethical decision-making approaches and best practices in the region for attracting, retaining and developing employees and management from a strategic perspective.

CREDITS: 3.00

**BUS 4383 - PERFORMANCE MANAGEMENT**

Students will compare traditional and contemporary approaches to performance management. They will learn about the design and implementation of performance management systems, and the role of compensation, incentives and rewards in performance management. This course also gives students the opportunity to examine performance management systems in various organisations, and to consider the underlying aims of such systems.

CREDITS: 3.00

**BUS 4513 - STRATEGIC DECISIONS WITH MANAGEMENT SCIENCE**

This is an interdisciplinary course that provides efficient methods for several resource allocation, general optimisation, and queuing or simulation problems. It presents various quantitative decision analysis tools to support complex strategic planning decisions. The course utilises spreadsheets and practical case studies, allowing students to analyse complex business situations and scenarios, identify the suitable management science technique and recommend a solution for the problems.

CREDITS: 3.00

**BUS 4533 - INTERNATIONAL QUALITY MANAGEMENT SYSTEM**

This course evaluates the components of quality systems and the theoretical and philosophical concepts of quality models. It examines why quality management is fundamental to strategic management and how innovation can improve the performance of any organisation. The course focuses on evaluating various strategies for senior managers to improve organisational performance.

CREDITS: 3.00

**BUS 4543 - QUALITY MANAGEMENT TOOLS**

Introduces the students to qualitative and quantitative analytical tools used in a quality management system. Students will be given the opportunity to study international quality management systems and how efficiently these tools are used to support strategic decision making in managing organisations. The students will identify problems with workflows within various parts of real organisations. It then develops the students’ ability to use appropriate quality management tools and to measure their effectiveness towards quality improvement from a strategic perspective.

CREDITS: 3.00

**BUS 4553 - STRATEGIC SUPPLY CHAIN MANAGEMENT**

Looks at how strategic supply chain management can be a driver of the firm’s overall competitive strategy. Students learn how to systematically assess supply chains and then use the knowledge to plan and execute strategic supply chain management according to a theoretical framework to optimise supply chain performance. Students will also be able to evaluate supply chain management practices of real business supply chains.

CREDITS: 3.00
BUS 4563 - STRATEGIC MARKETING MANAGEMENT
Highlights the impact of contemporary issues on marketing management planning, and strategy formulation within a complex business environment. Students are encouraged to critically evaluate the implications of specific decisions and assess various options in making strategic marketing decisions. Through innovative marketing solutions, in relation to brand and market development, students will recommend strategic developments to enhance competitive advantage and positioning in relation to fluctuating consumer behaviours.
CREDITS: 3.00

BUS 4573 - ADVANCED STRATEGIC MANAGEMENT
This interdisciplinary course provides students with conceptual frameworks and analytical tools to identify key drivers of competitive advantage, build business models based upon the firm’s unique propositions of value, profit and people, and choose appropriate strategy. Students will acquire skills to formulate and implement the corporate, business, and functional strategies. Students will develop their strategy skills through participation in the debates, analysis of cases, and ultimately, the development of strategy for one of the local companies.
CREDITS: 3.00

BUS 4583 - ISO STANDARDS AND EXCELLENCE
Provides an overview of the ISO family of international standards. Students are required to engage with industry to develop quality management systems in accordance with ISO standards. It also compares various organisational performance, benchmarking, quality awards and other measures of excellence, such as the Baldrige Quality Award, Khalifa Quality Award and Dubai Quality Award.
CREDITS: 3.00

BUS 4623 - INTERNATIONAL BUSINESS FINANCE
This course introduces students to the environment of international business and the international monetary system. This course examines the relationship between the international monetary system, the balance of payments and the Foreign Exchange markets. This course evaluates the methods used by firms to manage their foreign exchange exposure and explores the factors affecting the financial decisions in a multinational business.
CREDITS: 3.00

BUS 4643 - CROSS CULTURAL RELATIONS MANAGEMENT
Adopts a multi-disciplinary approach to introduce students to important issues and challenges in managing cultural diversity in international markets. It uses conceptual and theoretical frameworks to explain how cultures differ and how such differences impact businesses. Students learn about cross-cultural communication and marketing, negotiation and conflict resolution, managing multicultural workforces and the dynamics of multi-cultural teams. This course also gives an insight to the impact of cultural heterogeneity/homogeneity on innovation and global business opportunities.
CREDITS: 3.00

BUS 4653 - INTERNATIONAL MARKETING FOR GLOBAL COMPETITIVENESS
Demonstrates how international marketing enhances the global competitiveness of a business. Students will learn how marketing related factors make a business more competitive in dynamic global markets. International marketing principles are applied to product, service and country specific situations. Marketing skills and contingencies that are required for a business to strategically move into a foreign country are developed.
CREDITS: 3.00

BUS 4663 - INTERNATIONAL TRADE
Gives students an understanding of the current international trade environment. Students learn about the theory of international trade; the practice of trade policies; international trade and economic development; world trading arrangements, and issues concerning an open economy. The course also enables students to assess how trade related factors and changes in the international trade environment impact business opportunities and strategies. It will give students knowledge on why international trade is a key component in the performance of businesses and nation states.
CREDITS: 3.00

BUS 4673 - INTERNATIONAL LAW
The course gives an insight to the legal aspect of international business and how it impacts businesses with international operations. It provides an introduction to the basic tenets of legal systems in world markets and the settlement of legal disputes. Students learn about the fundamental components of law in
international business transactions, including how the legal framework of the WTO impacts businesses. This course also gives students the opportunity to study the impact of the international legal environment on FDI.

**CREDITS:** 3.00

**BUS 4683 - MIDDLE EAST DEVELOPMENT AND LOGISTICS**

Offers insights into the interdependence between development, infrastructure and logistics in the Middle East. The course enables students to analyse factors that influence development, growth and competitiveness, including the importance of trade logistics. It allows students to consider the impacts of trade logistics, and evaluate the current development strategies. This course gives students the opportunity to offer ideas on how governments can promote regional business development through trade logistics.

**CREDITS:** 3.00

**BUS 4813 - SUPPLY CHAIN CONCEPTS AND PRACTICES**

This introductory course focuses on the key functions, decisions and players involved in contemporary supply chains. It allows students to explore how decisions must be made to coordinate the movement of products and services effectively and efficiently in the supply chain to manage customer service expectations. It uses the concept of the value chain as a lens to examine how each element is critical to the creation of value for the business, customers and other stakeholders in the supply chain.

**CREDITS:** 3.00

**BUS 4823 - LOGISTICS AND TRANSPORTATION 1**

Introduces students to logistics and transportation. Students will be given the opportunity to explore the roles and practices of logistics and transportation in the supply chain. The functions of transportation, warehousing, material handling, packaging, cold chains, security, insurance and economics in logistics will be examined. The course also provides students with a framework of how logistics and transportation can optimise supply chain efficiency and improve customer satisfaction.

**CREDITS:** 3.00

**BUS 4833 - MANUFACTURING IN SUPPLY CHAIN**

This course focuses on the influence of manufacturing on the supply chain. It provides students fundamental knowledge of common manufacturing systems, and methods of manufacturing planning and control. This course allows students to explore how manufacturing decisions affect supplier service and customer service levels in the supply chain. It also enables students to use manufacturing decision-making models in the development of solutions to overcome supply chain challenges.

**CREDITS:** 3.00

**BUS 4843 - SUPPLY CHAIN STRATEGY AND MANAGEMENT**

Examines how supply chain strategies are developed, their interrelationships and their impact on business competitive advantage. Students will learn about a framework to strategically manage supply chains in today’s rapidly changing markets. Students also learn how recent developments and best practices in supply chain management have supported the achievement of improved supply chain performance.

**CREDITS:** 3.00

**BUS 4853 - LOGISTICS AND TRANSPORTATION II**

Focuses on the management of transportation and logistics to achieve supply chain objectives. It allows students to consider the cost implications of logistics and transportation in making products available to customers. It enables students to develop solutions and make decisions for the supply chain involving the efficient integration of suppliers, manufacturers and retail stores with logistics and transportation, encompassing firms’ activities from the strategic level through the tactical to the operational level.

**CREDITS:** 3.00

**BUS 4863 - PROCUREMENT AND INVENTORY MANAGEMENT**

This course examines how businesses make buying decisions as well as manage their buying processes within the supply chain. In addition the course gives insights into inventory management and how inventory decisions affect buying practices. Students will be exposed to practices including sourcing, procurement and supply management; inventory classification; approaches to managing inventory; cost analysis; and the use of information systems to make decisions.

**CREDITS:** 3.00

**BUS 4873 - SUPPLY CHAIN RISK MANAGEMENT**

Develops students’ ability to view and manage the
supply chain from a risk management perspective. It explores how a coordinated approach involving all stakeholders can reduce supply chain vulnerability. Students will learn how to identify and analyse the risk of failure points within the supply chain, and how to quantify risks via metrics. This course also develops skills in flexible planning to manage, control, share and avoid supply chain risks attributed to unforeseen events, differing business norms, changing regulatory and economic environments or shifts in customer demand.

CREDITS: 3.00

BUS 4913 - INTEGRATIVE INDUSTRY PROJECT (ACCOUNTING)
Designed as a framework within which projects can be accommodated to meet defined learning outcomes. It is designed to collapse artificial boundaries between subjects and give opportunities for the application and critical review of theory and custom in a practical environment. Informed and supported where possible by industry it will provide high level authentic learning and develop consultancy and client management skills.

CREDITS: 6.00

BUS 4923 - INTEGRATIVE INDUSTRY PROJECT (FINANCE AND BANKING)
Designed as a framework within which projects can be accommodated to meet defined learning outcomes. It is designed to collapse artificial boundaries between subjects and give opportunities for the application and critical review of theory and custom in a practical environment. Informed and supported where possible by industry it will provide high level authentic learning and develop consultancy and client management skills.

CREDITS: 6.00

BUS 4933 - INTEGRATIVE INDUSTRY PROJECT (HUMAN RESOURCE MANAGEMENT)
Designed as a framework within which projects can be accommodated to meet defined learning outcomes. It is designed to collapse artificial boundaries between subjects and give opportunities for the application and critical review of theory and custom in a practical environment. Informed and supported where possible by industry it will provide high level authentic learning and develop consultancy and client management skills.

CREDITS: 6.00

BUS 4953 - INTEGRATIVE INDUSTRY PROJECT (QUALITY AND STRATEGIC MANAGEMENT)
Designed as a framework within which projects can be accommodated to meet defined learning outcomes. It is designed to collapse artificial boundaries between subjects and give opportunities for the application and critical review of theory and custom in a practical environment. Informed and supported where possible by industry it will provide high level authentic learning and develop consultancy and client management skills.

CREDITS: 6.00

BUS 4963 - INTEGRATIVE INDUSTRY PROJECT (INTERNATIONAL BUSINESS MANAGEMENT)
Designed as a framework within which projects can be accommodated to meet defined learning outcomes. It is designed to collapse artificial boundaries between subjects and give opportunities for the application and critical review of theory and custom in a practical environment. Informed and supported where possible by industry it will provide high level authentic learning and develop consultancy and client management skills.

CREDITS: 6.00

BUS 4983 - INTEGRATIVE INDUSTRY PROJECT (SUPPLY CHAIN MANAGEMENT)
Designed as a framework within which projects can be accommodated to meet defined learning outcomes. It is designed to collapse artificial boundaries between subjects and give opportunities for the application and critical review of theory and custom in a practical environment. Informed and supported where possible by industry it will provide high level authentic learning and develop consultancy and client management skills.

CREDITS: 6.00

CDA 2303 - PRINCIPLES OF ANIMATION I
Designed to introduce students to the fundamental principles of animation that form the foundation of animation practice. Through guided tutorials, lectures, practical assignments, and projects students learn how to create animation.

CREDITS: 3.00

CDA 3503 - STORYBOARDING
Students learn the concepts and theories of applied storyboarding techniques used to communicate the essential elements of shot, scene and storyline. Working through case-based instruction, the students learn
Storyboarding conventions for staging, shot variation, scene pacing, camera angle and direction, audio effects (FX) and dialogue. They use these conventions to produce storyboards for both presentation and production purposes.
CREDITS: 3.00

**CDA 3513 - Character Design**
Provides students with the skills to design a variety of characters that meet the requirements of the script, scene, genre and storyline. Students will learn the design characters that reflect a range of cultural, visual and personality styles. Students experiment characters with costuming and cultural influences and understand characters that reflect a range of visual styles.
CREDITS: 3.00

**CDA 3523 - Principles of Animation II**
Designed to introduce students to the fundamental principles of animation that form the foundation of animation practice. Through the use of industry standard animation software and hardware the course will guide students in producing animation from initial design stages to completion.
CREDITS: 3.00

**CDA 3603 - 3D Modelling**
Students learn to model three-dimensional objects, and simple characters, using a variety of essential 3D modelling and texturing techniques. Students will learn how to evaluate models in terms of quality of visual design and suitability for purpose, of the level of detail and polygon count.
CREDITS: 3.00

**CDA 3613 - Multimedia Scripting**
Introduces students to Multimedia Scripting. Students learn about the Multimedia Object Model as well as basic scripting elements - variables, control structures, objects, methods and events. Students will learn how certain types of animation can only be achieved by having script level control.
CREDITS: 3.00

**CDA 4703 - 3D Animation**
This course covers the basic structure of the 3D animation production pipeline. The emphasis of the course is primarily on creation of the animation performance of simple objects and characters using applied animation principles in a 3D environment. Students learn to apply 3D animation to a variety of situations, for a variety of purposes. Students also critique their own work and the work of others.
CREDITS: 3.00

**CDA 4713 - Film Analysis and Narrative Structure**
Focuses on developing storytelling (narrative structure) through the analysis of short animation and live action films, shots and sequences. It covers the elements of story structure, shot selection, scene development, and pacing and integrates elements of art direction, composition, colour, lighting, music and sound, and editing technique.
CREDITS: 3.00

**CDA 4723 - Animation Scripting**
The course begins by introducing students to the basic commands and scripts in MEL, and then continues to guide them through increasing levels of complexity to maximise their control of the commands, macros, scripts, and custom interface elements that can be created with MEL. Students also use MEL commands to bypass Maya’s user interface, quickly create shortcuts, and access advanced features.
CREDITS: 3.00

**CDA 4803 - VFX, Audio, Editing, Compositing**
This course integrates key skills necessary in visual effects, music and sound, rendering, and compositing in order to assemble all the assets of a short animation production into its final form. The student is introduced to the basic elements of post-production through exercises in each area using existing assets.
CREDITS: 3.00

**CDA 4806 - Final Project - Animation**
The senior animation project creates a structure within which the students may demonstrate their area of specialty through a complete professional-level pre-production, production and post-production pipeline. This project trains the students’ ability to follow a tight production schedule, plan and create a short production, accept constructive criticism and direction, solve problems, and demonstrate a strong work ethic and meet key deadlines. Students also critique their own work and the work of others.
CREDITS: 6.00
CDF 2303 - FASHION DRAWING
Builds on the skills developed in Drawing I and provide the initial introduction to the basic drawing concepts and skills needed in the profession of fashion design. The course emphasises the fundamentals of drawing the basic shapes, lines and contours used in the creation of fashion design drawings for a variety of basic clothing types.
CREDITS: 3.00

CDF 3503 - FASHION DESIGN AND TEXTILE
Leads students through the study and analysis of the relationship between textiles and fashion, and adequate selection, combination, decoration and application of fabrics in Fashion Design. The objective is to improve students knowledge about fibres and fabrics, characteristics of textile and their application in fashion design. Students learn how to choose appropriate fabrics for specific fashion collection while analysing various aspects of fabrics and textile-comfort, appearance, textures, draping abilities, and various combinations effects.
CREDITS: 3.00

CDF 3513 - FASHION DRAPING AND PATTERN MAKING
Introduces students to the fundamental techniques of draping and basic pattern making. The draping segment covers the fundamentals of draping that include the ability to drape and fit toiles or muslins according to specific measurement and fit standards; students practice the skills on dress forms. The pattern making segment of the course places emphasis on precision pattern drawing, basic pattern production, development of blocks and application of measuring techniques to record body and dress form measurements.
CREDITS: 3.00

CDF 3523 - FASHION DESIGN AND TECHNOLOGY I
The objective of the course is to improve students' knowledge and skills in fashion design and technology application from concept development to editing and presenting a fashion collection. Students are encouraged to use various technologies in design and illustration, they also gain advanced technical skills in garment production technology using different kinds of sewing machines and CAD, finally they learn how to make professional presentation of their work creating personal portfolio and web site using various technologies.
CREDITS: 3.00

CDF 3603 - FASHION DESIGN AND TREND RESEARCH
The primary goal of this course is to develop students' design and trend research skills. Practical work broadens students knowledge about the connection between fashion design and various fashion markets. Students learn how to develop design concept, analyse trends, potential fashion markets and target specific customers. They also learn to understand the factors which influence trends in the global fashion market. This course is a combination of theory, design practice and research skills.
CREDITS: 3.00

CDF 3623 - FASHION DESIGN AND TECHNOLOGY II
Covers advanced level of the technology application in fashion design, production and presentation process. Students continue to combine skills and principles of technology application, design development and professional presentation in fashion. They work through carefully selected projects aimed at increasing their ability to develop original ideas, design unique fashion collections, produce garments and create professional presentation of their work using various technologies.
CREDITS: 3.00

CDF 4703 - FASHION DESIGN AND PRODUCTION
In this course, students analyse the fashion production process and apply that knowledge to produce specific collections.
CREDITS: 3.00

CDF 4713 - FASHION AND CAD DESIGN
This course provides students with the skills and knowledge to develop fashion projects using various computer software programs - both for collection design and pattern development in fashion. It also supports the student's fashion collection presentation skills through the development of advanced computer skills.
CREDITS: 3.00

CDF 4723 - FASHION MARKETING
This course deals with the theoretical and practical understanding of fashion marketing decision making. It begins with exploring the fundamentals of fashion marketing including general fashion marketing concepts, the marketing environment and types of markets. Students learn how to analyse a target market and how to conduct market research for the fashion industry. Students also explore the fashion industry...
including types of businesses, history, current trends, fashion products, fashion consumers and the fashion marketplace.
CREDITS: 3.00

CDF 4803 - FASHION MERCHANDISING
This course provides students with a solid foundation for success in entry-level positions within the Fashion Merchandising field, by analysing concepts related to the commercial and professional elements of fashion. Students analyse all aspects of merchandising, and marketing, within fashion and its related industries.
CREDITS: 3.00

CDG 2303 - INTRODUCTION TO GRAPHIC DESIGN
Provides an introduction to the fundamental elements and principles of both two and three dimensional design. Aspects of colour theory and colour systems and typography basics are discussed and students are able to demonstrate an understanding of typeface selection. Composition, rendering and production techniques are demonstrated using sketching and industry-standard software methods.
CREDITS: 3.00

CDG 3503 - TYPOGRAPHY I
Introduces students to the basic aspects of typography such as letter-forms and page structures, through a variety of application scenarios. Students are exposed to the historical background, technical and aesthetic issues, and communicative abilities of typography, as both individual forms and as text. Students undertake a series of assignments and projects to apply basic typography concepts to given situations.
CREDITS: 3.00

CDG 3513 - INTRODUCTION TO DESIGN ILLUSTRATION
Introduces students to the professional field of illustration, with a strong emphasis on concept development. The class specifically focuses on visual narratives by utilising a variety of media and formats. A dialogue of drawing and illustration issues is encouraged and expected as part of the classroom experience.
CREDITS: 3.00

CDG 3603 - TYPOGRAPHY II
Throughout this course, students expand and refine the skills acquired in Typography I. Using the foundation of typographic basics like letterforms and page structure, students primarily focus their efforts towards developing a greater understanding of typographic form through exercises based on the setting of words, phrases, sentences and short paragraphs.
CREDITS: 3.00

CDG 3613 - STUDIO I
This course reviews the application of design principles and elements. Visual communication issues are analysed and solved through extensive critical research on existing visual communication. Students will also further develop their own creative processes while also critiquing their own work. Students will learn to creatively solve communication problems based on real design case studies through critical analysis of the application of learned design principles, design elements, and typography.
CREDITS: 3.00

CDG 3623 - HISTORY OF GRAPHIC DESIGN
Through a chronological survey, students study how, since 1450, graphic design has responded to (and affected) international, social, political, and technological developments. Emphasis will be on printed work from 1880 to 1970, understanding visual communication in historical context and its application to design practice.
CREDITS: 3.00

CDG 4703 - STUDIO II
This course continues the work done in Studio I by further extending the students' knowledge and skills in the solution of project design situations faced by professional visual communication offices. More advanced problems that represent current visual communication issues are solved through extensive research and the application of learned concepts and skills.
CREDITS: 3.00

CDG 4713 - PACKAGING DESIGN
Addresses the theory behind, and the studio investigation of, three-dimensional structures as they relate to the area of packaging, exhibition, advertising and environmental design. Experimentation with different materials is explored while addressing the client briefs and ensuring that the design rational being used is conscious of the target market. Students
further develop their own creative processes while also critiquing their own work and the work of others.

CREDITS: 3.00

CDG 4723 - SUSTAINABLE/SOCIAL DESIGN
This course addresses the designer’s role in shaping the public narrative on sustainable/social issues, causes and other needs-based topics. Students analyse contemporary environmental, cultural and societal issues around the world that have an impact on our daily lives. They also design communication strategies that increase awareness, motivate, inspire or incite action from specific, or broad, audiences.

CREDITS: 3.00

CDG 4803 - PHOTOGRAPHY FOR GRAPHIC DESIGN
Using a digital camera, students extend their ability to ‘see’ things around them, both outside and inside the studio. Through shooting assignments, students apply photography as another means of image-making for designers.

CREDITS: 3.00

CDI 2303 - INTRODUCTION TO INTERIOR DESIGN
This course introduces the students to the fundamental principles and history of interior design and further explores the application of design elements in the interior design field.

CREDITS: 3.00

CETE N400 - MANAGEMENT INFORMATION SYSTEMS
This course focuses on the role of computer-based information systems in business and industrial organisations from a management perspective. The strategic nature of an information system is emphasised in relation to other business systems. The major parts of an information system, their general inter-relationships and appropriate terminology are introduced to enable the effective communication of business requirements by managers to IT professionals.

CREDITS: 4.00

CIA 2503 - WEB APPLICATIONS DEVELOPMENT
Students study Web Applications and their underlying technologies including the role of client-side and server-side scripts. The course introduces good web design practices and methodologies used in creating interactive web-based user interfaces. The concepts of user authentication, personalisation, data validation and persistence are introduced and applied by students to functioning web applications with access to data stored on a server.

CREDITS: 3.00

CIA 3103 - DATABASE DESIGN AND ADMINISTRATION
This course focuses on data modelling, database design and database administration on an RDBMS server as well as introducing the use of Structured Query Language (SQL) to define, manipulate, and administer data and covers the concept of database administration and defines the duties and responsibilities of database administrators.

CREDITS: 3.00

CIA 3303 - PRINCIPLES OF MOBILE APPLICATIONS
Teaches students to develop and deploy mobile applications using a current mobile development technology. Students compare current mobile devices and their application development tools.

CREDITS: 3.00

CIA 4003 - ADVANCED MOBILE APPLICATIONS
Covers advanced mobile application concepts. The course teaches students how to create custom user interfaces and screens, manipulate and animate 2D graphics objects, and add multimedia content (audio and video) to mobile applications. The course covers file system access, SD card access, network data access, and how to use SQL for permanent data storage and retrieval. Furthermore, the course covers location-based services and Global Positioning System (GPS) applications.

CREDITS: 3.00

CIA 4103 - DATA DRIVEN WEB TECHNOLOGIES
Develops in students the skills required for building data-driven web applications. Students will learn how to write server-side code to generate content, handle user interaction, validate user input, handle unexpected errors and maintain application state. The course also covers database connectivity for displaying and updating an application’s data through the application’s server-side code. Students learn security principles through user authentication, roles, and user authorisation.

CREDITS: 3.00
CIA 4203 - ENTERPRISE DATABASE APPLICATIONS
Focuses on various advanced topics pertinent to database management systems (DBMS) and study how they are being applied in a business environment. The course will examine the advanced concepts used to design, implement and administer database applications on client server configuration. Students will use different tools to develop forms and reports, control objects and codes for mitigation of data entry errors, and implement security measures.
CREDITS: 3.00

CIA 4503 - ADVANCED OBJECT ORIENTED PROGRAMMING
Continues to enhance student’s ability to apply object oriented concepts in providing solutions for problems faced by software developers. Students will demonstrate ability to appropriately apply the concepts of abstract classes, inheritance, polymorphism, interfaces, method overloading, aggregation, compositions, and associations in developing object oriented code. Students will develop also applications that include a database back-end component.
CREDITS: 3.00

CIB 2003 - TECHNOLOGY BASED MARKETING
Introduces the basic concepts and process of marketing with a focus on technology based marketing strategies, principles and concepts.
CREDITS: 3.00

CIB 3003 - HUMAN RESOURCE MANAGEMENT AND SYSTEMS
Creates an understanding of HRM concepts from theory and practice, examines processes and systems, tools and contemporary developments.
CREDITS: 3.00

CIB 3103 - OBJECT ORIENTED ANALYSIS AND DESIGN
Presents one practical, complete, object-oriented analysis and design (OOAD) road map from requirements gathering to system design. It explains the concepts and techniques necessary to effectively use system requirements captured in use cases to drive the development of a robust design model.
CREDITS: 3.00

CIB 3203 - ACCOUNTING FOR MANAGERS
Introduces students to accounting as a system of information gathering and reporting, and its role in business decision-making. It introduces the processing of financial transactions through the accounting information system in each accounting period.
CREDITS: 3.00

CIB 3303 - E-BUSINESS PRINCIPLES
This course explores e-business strategies, technologies and related legal issues. Students define e-business and explore its opportunities, limitations and impact on traditional businesses and institutions.
CREDITS: 3.00

CIB 3403 - ADVANCED DATABASE TECHNOLOGIES
Discusses advanced database technologies and business intelligence tools that help modern day enterprises store, access and analyse data essential in decision making. The course focuses on such database technologies as data warehousing, data mining, XML data and information retrieval. Students understand the importance of data quality and such issues as integrity, consistency, concurrency and security.
CREDITS: 3.00

CIB 4003 - E BUSINESS APPLICATIONS DEVELOPMENT
This course develops students’ skills required for building e-commerce applications. Students will learn how to develop server side applications that generate content, maintain state, authenticate users, connect to databases, and provide security of transactions and confidentiality of data. At the end of the course students will be able to build a complete e-commerce web application that handles memberships, online catalogues, shopping cart module, and check out.
CREDITS: 3.00

CIB 4103 - BUSINESS FINANCE
This course provides students with financial and accounting concepts and the skills to integrate financial data with relevant information systems. It discusses financial and accounting concepts and issues that will contribute positively to the students’ ability to design integrated business solutions enabled by information technology. Examples and applications will focus on IT infrastructure, Business solutions, IS management and implementation projects, in the business environment.
CREDITS: 3.00
CIB 4203 - Customer Relationship Management Systems
Explores the use of Customer Relationship Management (CRM) to support business processes and development. It examines the information technology resources, strategies, software and processes needed to support an effective CRM strategy. It explores, in particular CRM techniques for enhancing customer service, sales force effectiveness and marketing strategy. The course explores the benefits of creating customer loyalty, developing market intelligence and embedding a customer relationship management system into an organisation.
CREDITS: 3.00

CID 1003 - Introduction to Internet Technologies
Introduces the basic concepts of the internet, the World Wide Web and their underlying technologies. Students explore Internet-based tools such as email, web browsers and file transfer applications, as well as various types a variety of website types including social media, blogs, student forums and mobile web applications. Topics include the history of the Internet, the difference between static and dynamic websites and the evolution from Web 1.0 to Web 2.0.
CREDITS: 3.00

CID 1013 - Computer Hardware and Software
An introduction to the essential hardware and software components of a contemporary computer system. Students learn about the internal components and organisation of computing and peripheral devices, leading on to the application of those skills in building and configuring computer systems. Software topics include the role of the operating system, operating system installation, system software administration and basic system security.
CREDITS: 3.00

CID 1023 - Basic Networking
This course introduces students to basic computer networking. Students will learn about standard network components, devices and media. Students will learn basic TCP/IP addressing and will build and test peer to peer local area networks using desktop operating systems. They will be introduced to home wireless networking setup and configuration.
CREDITS: 3.00

CID 1033 - Web Design
Covers the fundamental concepts necessary for planning, designing, developing and publishing static web sites. Students use industry standard web page development tools to create static web sites including site maps, page layouts, navigation, images, multimedia objects, text, tables, forms and validation. The course includes detailed coverage of HTML and XHTML.
CREDITS: 3.00

CID 1062 - Creative Thinking for IT Professionals
This course develops the students creative thinking skills. Students are introduced to and apply a variety of creative thinking techniques such as Six Thinking Hats, Mind mapping and Storyboarding using computer applications.
CREDITS: 2.00

CID 1063 - Databases
Introduces relational database concepts. Students learn the difference between duplicated and redundant data, as well as the importance of removing redundant data and controlling duplicated data. Topics include entity relationship modelling techniques, entities, attributes, relationships, etc. Students learn to map the entity relationship diagram to a relational database in order to produce an initial database design. Students use basic SQL statements to create tables and retrieve data.
CREDITS: 3.00

CID 1113 - Productivity Tools
Introduces students to personal productivity tools. Topics include keyboarding in both English and Arabic, computer files, word processing, spread sheets, databases, presentation software and accessing electronic information. Students are introduced to mobile collaboration apps. Students are prepared for the relevant modules of the European/International Computer Driving License (ECDL/ICDL) examination and certification.
CREDITS: 3.00

CID 1123 - Customer Service Skills
This course teaches students how to build and maintain effective customer relationships by meeting the needs of both internal and external customers. Students learn how to monitor and solve customer service problems; process customer service complaints; handle difficult customers; respect diversity; work with others to improve customer service; and provide excellent customer service in person, online and via the telephone.
CREDITS: 3.00
CID 1203 - NETWORKING CONCEPTS
Introduces the basic concepts of the OSI and TCP/IP networking models. Students learn and apply basic network communication protocols. Main topics/skills include Access Layer, Internet Layer and Transport Layer with a basic introduction to Application Layer of the TCP/IP model. Students will also be able to apply IP addressing and subnetting techniques to the design of basic local area networks. Simple cabling and basic device configuration, as well as establishing and testing network connectivity will also be included.
CREDITS: 3.00

CID 1303 - ADVANCED PRODUCTIVITY TOOLS
Introduces students to advanced skills in personal productivity tools. Topics include: word processing including tables, mail merge and reports; spreadsheet including sort, filter, formulas, functions, and conditional formatting; personal calendar management; keyboarding in English; cloud-based storage and web apps.
CREDITS: 3.00

CID 2003 - DATABASE MANAGEMENT SYSTEMS
This course covers Relational Database Management Systems (RDBMS) that allow creation of tables and application of constraints (restrictions) on them, as well as storage, modification and retrieval of information. Students learn the core skills of database implementation and business application development. These skills include building database systems, using different types of queries to retrieve and manipulate data, and creating customised forms and reports.
CREDITS: 3.00

CID 2013 - SECURITY FUNDAMENTALS
Introduces key concepts, basic principles and techniques related to security and assurance of information resources. The course focuses on the practical aspects of risk identification and inspection techniques. Students gain hands-on skills in the detection of and response to security threats.
CREDITS: 3.00

CID 2053 - INFORMATION ASSURANCE
This course focuses on legal, ethical, social and professional issues in information security. Topics include security solution planning and the development and implementation of security solutions. Students design and implement an information assurance plan for an organisation’s information assets. Please add more characters
CREDITS: 3.00

CID 2087 - APPLIED DIPLOMA WORK PLACEMENT
This course is designed as a framework within which a range of work related learning activities can be accommodated to meet defined learning outcomes. It gives the flexibility, for students to learn from work experience and to receive an understanding of business and technology and its real life operations, where possible in their chosen major topic, or to undertake an industry based project which meets the same outcomes.

CID 2094 - APPLIED DIPLOMA PROJECT
Provides students with an opportunity to integrate the skills and knowledge acquired throughout the programme. Students work in teams to develop a solution to an industry-based problem, relevant to their programme major. Students apply project management techniques and the System Development Life Cycle approach.
CREDITS: 4.00

CID 2203 - LOCAL AREA AND WIRELESS NETWORKING
This course introduces intermediate networking concepts including physical addressing, network devices, network types and routed protocols. The course focuses on the characteristics of Ethernet as the predominant LAN technology. Students acquire the practical skills to configure networking devices such as switches and routers and to set up office wireless networks.
CREDITS: 3.00

CID 2213 - NETWORK SERVICES ADMINISTRATION
Introduces the concepts and skills required for successful planning, installation, configuration and administration of an enterprise operating system. Students develop administration skills on standalone servers in a workgroup environment to prepare them for advanced courses in administration of domain based enterprise networks. Topics/skills include creating users and groups and configuring other network resources.
CREDITS: 3.00
CID 2223 - NETWORK DOMAIN ADMINISTRATION
Covers the concepts and skills required for successful planning, installation, configuration and administration of a domain-based operating system. Students will promote servers from a workgroup environment to a domain environment and will administer domain-based enterprise networks. Topics/skills include creating users and groups, implementing group policies and configuring a range of network features and services. CREDITS: 3.00

CID 2303 - FUNDAMENTALS OF DIGITAL MULTIMEDIA
Introduces various multimedia components such as text, images and 2D graphics. Students develop practical skills in the design, development and delivery of multimedia content using specialised software tools. CREDITS: 3.00

CID 2313 - E-OFFICE PROCEDURES
Introduces different electronic document formats, the electronic documents/records life cycle, as well as classification, storage and archiving requirements and techniques. Students gain hands-on skills in document storage, dissemination and archiving as well as document security/confidentiality in a simulated office environment. CREDITS: 3.00

CID 2323 - INTERACTIVE MULTIMEDIA TOOLS AND APPLICATIONS
Focuses on video, audio and interactivity. Topics/skills include creating and editing video/audio files and designing and implementing interactive objects. Students work on a practical project which involves all technological phases of creating interactive multimedia applications. CREDITS: 3.00

CIM 2003 - GRAPHIC DESIGN FOR MULTIMEDIA
Provides an introduction to the fundamental elements and principles of graphic design in both print-based and digital applications. Students develop an understanding of the design process from the development of concepts and visuals to the production of Web/print-ready images. Students will demonstrate an understanding of typeface selection. Aspects of colour theory systems are discussed. Composition, rendering and production techniques are demonstrated using visualisation and abstraction methods and industry-standard image processing software. CREDITS: 3.00

CIM 3003 - STORYBOARDING AND ANIMATICS
This course develops a thorough understanding of traditional storyboarding practices, and demonstrates how a digital pipeline can speed up working processes and provide greater flexibility in possible outputs. CREDITS: 3.00

CIM 3103 - PROGRAMMING FOR MULTIMEDIA
The objective of this course is to introduce students to programming as a creative tool for digital image and audio processes, and to assist them in developing a basic understanding of object-based constructions and optimal multimedia delivery requirements. CREDITS: 3.00

CIM 3203 - 2D AND 3D ANIMATION
Introduces students to the fundamental principles of 2D and 3D animation, the theory and the application thereof. The course covers the topics such as timing, framing, camera techniques, rigging, skeletons, kinematics, walk-cycle and various constraints. This course will bring students' ideas to life by combining their artistic skills and design techniques for the creation of 3D modelling and 3D animation projects. CREDITS: 3.00

CIM 3303 - 2D AND 3D ANIMATION
Introduces students to the fundamental principles of 2D and 3D animation, the theory and the application thereof. The course covers the topics such as timing, framing, camera techniques, rigging, skeletons, kinematics, walk-cycle and various constraints. This course will bring students' ideas to life by combining their artistic skills and design techniques for the creation of 3D modelling and 3D animation projects. CREDITS: 3.00

CIM 4003 - MULTIMEDIA SCRIPTING
This course will introduce students to scripting as a creative tool for digital image and audio processes. It will also assist the students in gaining a basic understanding of object-based constructions and optimal multimedia delivery requirements. Students will design, assemble and write multimedia applications using scripting languages. CREDITS: 3.00

CIM 4103 - WEB AUTHORING AND ADMINISTRATION
This course is designed to equip students with specialist skills in the use and design of digital multimedia including graphics, sound and digital movies for web-based presentation on the Internet. It will involve training in the specialist graphics, animation and multimedia software packages in current use. The course also focuses on web administration areas such as web security, web content management, log analysis, web usage and load balancing. CREDITS: 3.00
CIM 4203 - Virtual Reality and Simulation
This course will examine the emerging electronic technology of Virtual Reality (VR). It teaches the key concepts to understand and evaluate VR systems, applications and simulators, and their impact on future digital systems and user interfaces. The course also covers the topic of simulation which includes sub-topics such as stochastic modelling, random number generators, discrete-event simulation approaches, simulated data analysis, and simulation variance reduction techniques.
CREDITS: 3.00

CIM 4303 - VFX, Audio, Editing and Composition
Covers the techniques and technology used to create high quality digital visual effects, giving the students the skills required to work in post-production. The course gives an overview of the entire production process, before moving to key production and post-production skills such as digital film-making, compositing, editing, motion graphics, effects and computer graphics interface (CGI). The students will create a rich portfolio of work that will showcase their technical, artistic and team-working abilities.
CREDITS: 3.00

CIN 3103 - Wireless Networks
Introduces the fundamentals of wireless communication including the various wireless standards and the relevant organisations. Students learn the terminologies and behaviour associated with radio frequencies, as well as the components, basic measurements techniques and antenna concepts used in the planning and design of wireless networks.
CREDITS: 3.00

CIN 3203 - WAN Technologies
Focuses on the various WAN technologies used to connect small to medium sized networks, including PPP, Frame relay and DSL. WAN security is also discussed including methods for analysing network vulnerabilities and mitigating common security threats. The course covers configuration and implementation of IP addressing in an Enterprise network including NAT, DHCP and IPv6.
CREDITS: 3.00

CIN 3303 - Network Security
This course provides a detailed investigation of the principles of network security. An in-depth exposure to the management of network security including threat identification, risk analysis, risk management and risk avoidance will be included.
CREDITS: 3.00

CIN 4006 - Advanced Routing
Teaches advanced skills for configuring and implementing enterprise wide converged networks. Using interior and exterior gateway protocols such as EIGRP, OSPF and BGP, students learn how to determine network resources, and create implementation and verification plans for both interior and exterior gateway routing protocols. The course also includes extensive information on the configuration and implementation of IPv6. It also analyses the concepts of layer 3 path control and discusses basic teleworker and branch service using technologies such as broadband and VPN.
CREDITS: 6.00

CIN 4106 - Advanced Switching
Teaches advanced skills in networking required to
configure and implement enterprise wide switched networks. The main focus of the course is to design, build and secure switched networks. Students will also learn to design, implement and monitor campus network services such as IP telephony, QoS (traffic shaping and traffic engineering) and the integration of wireless LANs. The configuration and implementation of multilayer switching, high availability using protocols such as HSRP, VRRP/GLBP, VLANs, multicasting and protocols such as VIP and advanced STP will also be covered.

CREDITS: 6.00

CIS 1003 - INFORMATION SYSTEMS IN ORGANISATIONS AND SOCIETY
Introduces students to information systems and development concepts. The course will cover the fundamental and changing role of information within organisations and society exploring how information technology (IT) supports decision making and enables improvements in communication, quality, efficiency and effectiveness. Students will study emerging technologies and the local and global impact of such technologies on individuals, organisations and society.

CREDITS: 3.00

CIS 1103 - HARDWARE AND NETWORKING
Introduces students to the essential components of a contemporary computer system. Students will study the hardware, operating system and networking for desktop PCs. Students will learn about the internal components and organisation of computing and peripheral devices. Operating system topics include the role of the operating systems, installation, basic system administration and local security.

CREDITS: 3.00

CIS 1203 - WEB TECHNOLOGIES
This course introduces the basic concepts of the World Wide Web and its underlying technologies. It defines the functions of web browsers and web servers for accessing resources over the internet. It explains the structure, categories, security and accessibility of web sites. The course also describes current popular web applications like search engines, social networking, wikis and blogs as well as emerging web technologies and trends. The course provides the students with basic skills to plan, design, develop, and publish static websites using an industry standard web authoring tool, including site maps, page layouts, navigation, images, multimedia objects, text, tables, forms, validation, and CSS.

CREDITS: 3.00

CIS 1303 - DATA AND INFORMATION MANAGEMENT
This course introduces relational database concepts and simple database application development. It focuses on core skills of identifying organisational requirements, database design and implementation, and business application development. Students will develop practical skills in building database systems using different types of queries to retrieve and/or manipulate data, through customised forms and reports.

CREDITS: 3.00

CIS 1403 - FUNDAMENTALS OF PROGRAMMING
Builds the foundations of logical thinking/problem solving and introduces the fundamental concepts and terminology of programming. Students develop skills in designing and writing simple computer programs within an integrated development environment. Concepts and techniques covered include variables, data types, sequence, selection, iteration, classes, objects, methods and the mechanics of running, testing and debugging programmes.

CREDITS: 3.00

CIS 1503 - INTRODUCTION TO MULTIMEDIA
This course introduces students to various multimedia components such as 2D graphics, audio and video. It will examine software applications used for creating and editing 2D graphics, audio files, video files. Students will gain practical experience in various stages involved in the design, development and delivery of interactive multimedia content. The core objective of this course is to provide the students a walkthrough into the technological progress to be made later in the interactive multimedia specialisation.

CREDITS: 3.00

CIS 2003 - STATISTICS AND PROBABILITY
Designed to develop students ability to assess and critically interpret statistics and business information and apply them in changing business environments. It places a strong emphasis on developing a clear theoretical understanding of various analytical tools including descriptive statistics; probability; hypothesis testing and correlation and regression analysis; and an appreciation of the application of analytical tools to IT/Business decision contexts. These skills and
competencies provide a foundation for professional practice and further study in the CIS degree programmes.
CREDITS: 3.00

CIS 2103 - PRINCIPLES OF INFORMATION ASSURANCE, SECURITY AND PRIVACY
Introduces key concepts related to security and assurance of information assets. The course focuses on information risks, security frameworks and controls, and relevant legal, ethical, and professional issues.
CREDITS: 3.00

CIS 2303 - SYSTEMS ANALYSIS AND DESIGN
Introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, the systems development life cycle phases, modelling tools and techniques, testing procedures and the need for systems evaluation.
CREDITS: 3.00

CIS 2403 - OBJECT ORIENTED PROGRAMMING
This course introduces the object-oriented methodology for programming. Topics include: the object oriented programming paradigm; objects and classes; data abstraction and encapsulation; and exception handling. The course explores graphics, event handling, and graphical user interfaces.
CREDITS: 3.00

CIS 3003 - HUMAN COMPUTER INTERACTION
Introduces the concepts of human-computer interaction (HCI) through the use of multimedia tools. It provides students with the skills to design interactive layouts using a Graphical User Interface in a systematic manner.
CREDITS: 3.00

CIS 3013 - IT FOR HEALTH SCIENCES
This course introduces the principles of information technology and its applications within all aspects of health science including health care delivery and promotion. It provides the students with the fundamental building blocks of health information systems. Students will learn about the role of information technology in healthcare systems and develop health decision support information system using productivity tools.
CREDITS: 3.00

CIS 3103 - PROJECT MANAGEMENT
This course explores a systematic methodology for the initiating, planning, executing, controlling, and closing of projects.
CREDITS: 3.00

CIS 4103 - RESEARCH METHODS FOR EMERGING TECHNOLOGIES
Provides students with an opportunity to investigate the most recent advances in IS/IT. In this research-based course, students will select an emerging technology, describe how it works, analyse its strengths and weaknesses and determine what impact it is likely to have in their chosen major. Students will receive guidance in how to select a research topic, write a research question, conduct a literature review, analyse and properly attribute outside sources and write an abstract.
CREDITS: 3.00

CIS 4203 - INFORMATION TECHNOLOGY STRATEGY AND GOVERNANCE
Provides an understanding of IS Strategy and Governance, decision rights, strategic frameworks and mechanisms, alignment of strategy, governance and performance with related change management issues and schemes. The course highlights the fact that IS strategy and governance refers to allocation of responsibilities for the control of IS that enable accountability, participation, predictability and transparency. The course emphasises the responsibility of the board of directors and executive management in an organisation, and their integral role in enterprise governance.
CREDITS: 3.00

CIS 4803 - WORK RELATED LEARNING
Designed as a framework within which a range of work related learning activities can be accommodated to meet defined learning outcomes. It gives the flexibility, for example, for students to learn from work experience and to receive an understanding of business and technology and its real life operations (where possible in their chosen major topic) or to undertake an industry based project which meets the same outcomes.
CREDITS: 3.00

CIS 4906 - CAPSTONE PROJECT (INTEGRATIVE AND CONSULTANCY FOCUSED)
This capstone course will integrate knowledge and skills gained throughout the major and lead students, to analyse, design, and build a business information
system component. Students will experience the ownership of an idea from concept to solution. They will act as consultants, to elicit and articulate business requirements, then work through the full development cycle.

CREDITS: 6.00

CMC 2303 - CORPORATE COMMUNICATION I
Introduces students to the principles and concepts of corporate communication including key definitions, dynamics and the tools of corporate communication. Students learn the skills needed to develop, execute and analyse the strategies, which are essential in the contemporary corporate world.

CREDITS: 3.00

CMC 3503 - SOCIAL MEDIA
Social Media has played a critical role in changing the landscape of the corporate and media communication industries in the past few years. This course introduces the students to current issues arising in the online communication field focusing on opportunities and challenges available to organisations and journalists.

CREDITS: 3.00

CMC 3603 - MEDIA RELATIONS
Introduces students to current issues in communication and media theory in relation to the local media environment. Students consider the current situation rather than the historical. Aspects of the new media and their attributes are balanced with the more controversial issues of contemporary communication technologies. Students produce basic competitive media campaigns targeting the appropriate audience, tracking and evaluating the final product, coordinating and preparing for interviews and interacting with media organisations.

CREDITS: 3.00

CMC 3623 - MEDIA AND SOCIETY
Focuses on the social, cultural and political contexts in which media operates today. The course, engaging with critical issues of contemporary media landscape, highlights the role of journalist in society bringing to the forefront issues of social change, women and media, environmental issues, reporting human rights and humanitarian issues, freedom of press, privacy, and ownership and news management. The course also takes a critical look at the social and technological implications on the practice of journalism due to the growth in the digital and online media.

CREDITS: 3.00

CMC 3633 - DIGITAL BROADCASTING
This course provides students with the fundamentals of broadcast journalism in the digital age, including the use of words, images, and sounds to tell a newsworthy story. The journalist’s role in news selection and the treatment of the news stories is examined along with the importance of journalistic ethics. The course also explores the use of the newly emerging social and convergent medias.

CREDITS: 3.00

CMC 4623 - COMMUNICATION THEORY
In this course students evaluate various communication theories and how they relate to society and culture. The emphasis is on the concepts, meanings, effects and impacts of diverse forms of mass communication within contemporary societies. The course covers the nature of theory and scientific research methods, communication theories and models, media content, and the communication process. It also includes social-psychological approaches on the theories of persuasion and mass media effects, as well as the issue of media ownership.

CREDITS: 3.00

CMC 4703 - PUBLIC RELATIONS
Students evaluate organisations, publics, and the media in order to prepare public relations messages for print and electronic media.

CREDITS: 3.00

CMC 4713 - MEDIA LAW AND ETHICS
In this course students discuss media law and ethics, particularly as they apply to the UAE, and analyse specific past and developing cases relevant to an understanding of media law and ethics. Students learn the legal and ethical boundaries within which media
professionals must operate. They also learn specific legal terms and concepts, such as defamation and Intellectual Property Rights, while evaluating ethical issues such as fairness, balance and bias. 
CREDITS: 3.00

CMC 4806 - Final Project - Corporate and Media Communication
Students take on the role of a corporate communication specialist, as part of a project to produce a media campaign based on an actual industry situation for a real client. The role of faculty is as a mentor, coach, and adviser as required. Practical projects may involve group work by interdisciplinary teams. The project parameters are negotiated between the student(s), the industry client and the teacher(s) involved. Students critique their own work and the work of others. 
CREDITS: 6.00

CMM 2303 - Introduction to Media Communication
Introduces students to the field of media communication focusing on the practice of journalism to help them understand the role journalists play in reporting, processing and producing news. 
CREDITS: 3.00

CMV 2303 - Introduction to Video Production
Serves as a basic introduction to the practical elements of video production. Students apply the basic concepts of video camera and tripod setup, basic shot composition, recording both sound and video, logging and capturing video material, and basic editing. 
CREDITS: 3.00

CMV 3503 - Editing
In this course students learn the basics of post-production and are introduced to the history and theory of editing through critical analysis and discussion of selected examples. Student praxis includes hands-on editing exercises and assigned projects, software skills and post-production techniques, including sound mix and colour grading. 
CREDITS: 3.00

CMV 3513 - Production Skills I
Students learn the elements of professional video production with an emphasis on production procedures. Students build their knowledge of visual literacy, storyboarding, shot composition, framing and shot types. They learn to apply the proper use of sound, appropriate selection of microphones and lighting equipment. Students create a video production (such as a P.S.A., information piece, or news item) and critique their own work and the work of others. 
CREDITS: 3.00

CMV 3606 - Short Video
Students collaborate on all stages of a video production, from concept to distribution of the finished project. They produce a script, become visual storytellers, guide/direct actors, and choreograph the best possible shots and camera movements for visual conveyance of their story. An emphasis is placed on storytelling in narrative format. 
CREDITS: 6.00

CMV 3613 - Production Skills II
Students extend video production skills with the introduction of additional creative concepts and technical skills. Working in small teams in different roles, learning new skill sets, including crew hierarchy, set procedures, budgets and realistic production schedules. The emphasis of the course is on enhancing the students technical and creative abilities in different phases of production. Students produce single camera productions working as a cohesive unit. 
CREDITS: 3.00

CMV 4709 - Documentary and Video Production
Through a combination of lecture, film screenings and hands-on demonstrations, this course familiarise students with the basics of producing, shooting, lighting, sound gathering and editing for documentary production. Students operate field monitors, simple location lighting packages, sound recording equipment and basic editing systems. Students evaluate techniques to improve storytelling skills, creative decision-making, and creating proposals for funding a project. 
CREDITS: 9.00

CMV 4803 - Advanced Edit and Effects
In this course students work with advanced editing and embark on an advanced study of the techniques of film and video post-production. 
CREDITS: 3.00

CMV 4806 - Final Project - Video Production
This capstone course is the culminating educational experience for the student and links academic
coursework and professional practice. Using a major production as the focus, students have the opportunity to use their knowledge, skills and experiential learning to demonstrate learning as well as behaviours typical of their chosen profession. The project requires students to collaborate with their peers and engage in reflective thinking during and after completing a major video.

**CREDITS:** 6.00

**COM 1003 - Digital Storytelling**

The aim of this course is to provide a hands-on experience of the most essential elements of media production with a particular focus on storytelling in video, audio and presentation. Students will be given simple media creation tasks and then learn to deconstruct and reflect on their output.

**CREDITS:** 3.00

**COM 1103 - Introduction to Mass Communication**

Introduces students to the development of mass media examining the nature of the print and electronic media. Students will examine the importance of the communication process, the different types of communications, and the role mass media play in communicating messages/information to mass audiences. Students will explore issues that shape the relationship between the media and society.

**CREDITS:** 3.00

**COM 1113 - Drawing**

Provides the initial introduction to the basic concepts and language of visual communication by introducing the basic drawing skills needed in Applied Communication professions. The course emphasises the fundamentals of drawing line, shape, light and reflection, shade and shadow, perspective, rendering techniques and colour theory.

**CREDITS:** 3.00

**COM 1123 - Introduction to Media Technology**

Introduces students to the underlying concepts and theories of digital production, as well as practical knowledge involved in creating digital works using industry standard programmes and practices. This course is intended to introduce students to multiple tools and concepts that will apply and develop during their media careers.

**CREDITS:** 3.00

**COM 1133 - Visual Communication**

Introduces students to the concept of image based communication. Students will gain a theoretical and practical understanding of images, pictures, symbols, signs, icons and pictograms, as well as a range of visual design elements. This course also covers the governing principles of arrangement and composition in still images and image sequences.

**CREDITS:** 3.00

**COM 1203 - Photography**

Introduces students to the basic photographic technical and compositional skills, together with an understanding of the history and development of photography.

**CREDITS:** 3.00

**COM 1213 - Arabic I**

Provides students with an intermediate level of Arabic language skills, including reading about the history of media and various media and design majors, writing and research techniques, speaking (including debating, group discussions and individual presentation skills), the fundamental principles of translation and starting the development of a glossary of media terminology in both Arabic and English.

**CREDITS:** 3.00

**COM 1223 - History of Media and Design**

This course introduces students to the historical developments in design, with a focus on the interface between media and design.

**CREDITS:** 3.00

**COM 1703 - Introduction to Business and SME Management**

Introduces students to the basic concepts and theories of business and the management of small to medium enterprises. The courses looks at basic business models and forms of ownership, management roles and responsibilities, management types and the basic departments that make up small to medium enterprises.

**CREDITS:** 3.00

**COM 2303 - Communication Research and Writing in an English/Arabic Environment**

This course introduces students to the basic concepts and skills of research methodology and information literacy.

**CREDITS:** 3.00
COM 2313 - Project Management for Media
The aim of this course is to provide a basic knowledge of project management principles, methodologies, tools and techniques. Learners develop an understanding of what constitutes a project, and the role of a project manager. They analyse and plan the activities needed to carry out the project, including how to set up a project, how to control and execute a project, and how to carry out project reviews. Learners discuss how the project fits into the company’s strategy.
CREDITS: 3.00

COM 2323 - Media Education
Introduces students to media literacy concepts and increases their functional literacy so that they can access, analyse, evaluate and create media messages of all kinds using a combination of text, images and sounds. The course provides the tools and skills that help to understand the role media plays in shaping, reflecting and, at times, manipulating social realities. The course offers insight into media production processes and encourages critical thinking, so that students can understand and navigate through complex media environment we live in.
CREDITS: 3.00

COM 2403 - Web Development
In this course, students learn the fundamentals of website design and development. It introduces students to the principles of usability and accessibility and builds on the application of graphic design principles to the interactive environment. The course introduces client-side technologies like HTML and CSS as well as giving a basic understanding of the functionality of JavaScript. Students will be using industry standard applications for web development and site management.
CREDITS: 3.00

COM 2413 - Portfolio and Presentation Skills
Instructs students in the preparation and presentation of a personal professional portfolio. Presentation techniques and continued portfolio review are emphasised in the course, and it also provides a forum for critiquing Website projects. Students are introduced to interactive electronic portfolios and their characteristics, and utilise their technical skills in the preparation of print and digital multimedia portfolio.
CREDITS: 3.00

COM 3503 - Arabic II
Provides students with an advanced level of Arabic language skills to help students engage with media content in newspapers, TV, Radio, Advertising and Public relations. Students will learn how to use their language skills in researching, analysing and interpreting local and international media content, and how to apply knowledge of Arabic language to debates, discussions and presentations with focus on improving both writing and speaking skills. Students will also learn the fundamental principles of translation, techniques of referencing and glossary writing in Arabic.
CREDITS: 3.00

COM 4806 - Learning in the Workplace
Provides students with work experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations and will enable the student to transfer vocational skills learned at the college to the workplace.
CREDITS: 6.00

CSD 1003 - Introduction to Customs Administration
This is an introductory course that will prepare the students for future subjects in Customs Administration and gives them and overview of customs in general and Abu Dhabi customs in particular. The course will discuss Customs and Trade Glossary, the Clearance System, the role of customs on the local and federal level, the strategic objectives of Customs Authorities, customs tools, laws, bylaws, instructions, distinguishing characteristics of goods, inspection, valuation, classification, and audit.
CREDITS: 3.00

CSD 1013 - Introduction to Criminology
Explains the foundations of crime and criminal law, the characteristics of criminals and victims, the nature of violent and white-collar crimes, smuggling of banknotes, the crimes of sneaking through international borders, money laundering, or entering and exiting dangerous materials through borders.
CREDITS: 3.00

CSD 1023 - The Crime of Smuggling
This course will discuss the documentation and procedures related to many smuggling offences, including smuggling of banknotes and other types
of payment tools through international borders, the offence of money laundering, sneaking through international borders without legal papers; entering and exiting dual-usage materials, weapons of mass destruction, and intellectual property.

CREDITS: 3.00

CSF 3103 - INCIDENCE RESPONSE AND DISASTER RECOVERY
Develops two threads: how to identify and respond to an attack, and how to recover the system from an attack or other disaster. Students will learn how to identify system vulnerabilities, take appropriate countermeasures, and identify and apprehend attackers, with the end goal of minimising downtime and the accompanying organisational loss.

CREDITS: 3.00

CSF 3203 - INTRUSION DETECTION AND ETHICAL HACKING
This course gives students the skills to recognise and utilise intrusion detection techniques, for the purpose of defending and securing organisational information infrastructures. This course studies in-depth the methods used in computer and network hacking with the intention of learning how better to protect systems from such intrusions. Hacking techniques covered include reconnaissance techniques, system scanning, network and application-level access attacks, and denial-of-service attacks, as well as multiple technique attacks.

CREDITS: 3.00

CSF 3403 - COMPUTER FORENSICS AND INVESTIGATION
Explores the methods of analysis of computer systems that have already been compromised. The course teaches students how to conduct a systematic investigation, recover critical data, and aid authorities in tracking those who caused the security breach.

CREDITS: 3.00

CSF 3603 - CRYPTOGRAPHY AND NETWORK SECURITY
Introduces key concepts of encryption such as ciphers, symmetric encryption and asymmetric encryption. It discusses advanced techniques including public key infrastructure, digital signatures and hash functions, with applications to user authentication, e-mail, IP/web security, and wired/wireless networks.

CREDITS: 3.00

CSF 4003 - SECURITY AND RISK MANAGEMENT
This course provides a detailed study of information security from the management and administration perspective. The course covers guidelines for access management, control and communication, and business continuity management. Students will learn methods for information security risk assessment, intellectual property protection, organisational structure assessment and modelling of critical infrastructure protection, and apply these methods to case studies from industry. The course also presents a set of analytical tools for quantifying risk and the costs and benefits of various mitigation methods.

CREDITS: 3.00

CSF 4103 - WEB APPLICATION AND E-COMMERCE SECURITY
A practical guide to discovering and exploiting security flaws in web applications, as well as protecting web applications against known vulnerabilities. Students will learn different steps involved in detecting, exploiting, and securing different types of vulnerabilities found within a variety of applications such as online banking, e-commerce and other web applications. The course covers techniques for exploiting client-side controls, authentication, session management, and access controls vulnerabilities.

CREDITS: 3.00

CSF 4203 - TELECOMMUNICATIONS AND WAN SECURITY
Develops the knowledge of data communications, networking and network security in telecommunications industry. Students are expected to learn, discuss concepts and techniques in the field of telecommunication and how to apply them. The course also discusses concepts and techniques of data communications in Wide Area Networks using different media and protocols including Wireless WAN. Students will also understand different protocol reference models such as TCP/IP protocol suite and OSI model architecture for business data communications.

CREDITS: 3.00
CTT 2003 - PRINCIPLES OF LEARNING FOR INSTRUCTIONAL TECHNOLOGY
Provides a revision of learning theories in relation to technology-supported learning. The course focuses on principle theories of learning with a foundation in instructional design.
CREDITS: 3.00

CTT 3103 - LEARNING ENVIRONMENT DESIGN, SUPPORT AND ADMINISTRATION
This course provides an overview of the management and utilisation of technology-based training practices in corporate settings. The course focuses on the selection, planning, development, administration, organisation and delivery of training to adult learners with the special attention to the role of instructional technologists.
CREDITS: 3.00

CTT 3303 - ASSISTIVE TECHNOLOGY
Provides students with an understanding of the current philosophies, levels of support, structure, methodologies and assistive technologies required to educate students with special needs in different learning environments. It offers an overview of the learning needs of gifted learners and learners with hearing, visual, and language impairments, and intellectual and socio-emotional disabilities.
CREDITS: 3.00

CTT 3403 - INSTRUCTIONAL DESIGN FOR COMPUTER BASED TRAINING
Focuses on the systematic design of instructional courseware, including analysis, media selection and evaluation. It includes instructional strategies, screen design, response analysis, feedback and interactivity.
CREDITS: 3.00

CTT 4003 - DISTANCE AND ONLINE EDUCATION
Discusses modern theoretical and practical aspects of distance and online education. Students evaluate the effectiveness of teaching and learning resources used in distance and online education practices using a range of available tools against specific educational and pedagogical criteria. Students design and construct an e-learning site for a specified learning community using a course management system and the assessment software to produce relevant assessments for their e-learning materials.
CREDITS: 3.00

CTT 4203 - STAFF DEVELOPMENT AND CORPORATE TRAINING STRATEGIES
Introduces a strategic training process which is considered as the preferred training methodology for the world’s major corporations to ensure training quality and compliance with corporate goals, and to provide cost effective benefits to employers and employees alike. This course focuses on concepts and models useful in the formulation, analysis, and implementation of training strategies. During the course, students will learn how to create the Strategic Training and Development Plan
CREDITS: 3.00

CTT 4303 - TECHNOLOGY BASED ASSESSMENT DESIGN AND ADMINISTRATION
This course will explore assessment writing principles and practices in relation to different Computer-based assessment (CBA) models. Course provides guidelines in designing computer-based assessments using different computer-based assessment tools. Course focuses on quality of Computer-based assessments, its administrations, and integrity of the testing environment.
CREDITS: 3.00

EAA 1403 - ELECTRONIC FUNDAMENTALS (Mod 4 B1)
In this course the fundamentals of electronics are taught. This course is delivered to aviation students to furnish a familiarisation with common semiconductor devices, printed circuit boards and synchro and servo mechanisms used in aircraft systems. This course meets the requirements of CAR Module 4B1.
CREDITS: 3.00

EAA 1503 - DIGITAL TECHNIQUES/ ELECTRONIC INSTRUMENT SYSTEMS (Mod 5 B1)
This course provides the theoretical and practical knowledge of the fundamental concepts of digital electronics technology.
CREDITS: 3.00

EAA 1612 - MATERIALS AND HARDWARE (Mod 6 B1)
The purpose of this course is to provide the student with general knowledge of the theoretical and practical aspects of Advanced Aircraft Materials and Hardware and ability to apply that knowledge.
CREDITS: 12.00

EAA 2509 - GAS TURBINE ENGINE (Mod 15 B1)
Introduces and applies gas turbine engine concepts
and designs that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 15 B1.1. Topics covered include; fundamentals, engine parts functional breakdown, engine designs, APU, protection and indication, and storage and preservation.

CREDITS: 9.00

**EAA 2712 - MAINTENANCE PRACTICES (Mod 7 B1)**

This course introduces and applies maintenance practices that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 7 B1.1. Topics covered include; safety precautions, workshop practices, tools, test equipment, fits and clearances, electrical connectors, riveting, maintenance procedures and material handling.

CREDITS: 12.00

**EAA 3136 - TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS (Mod 11A) (B1.1) *1 yr course**

Provides information on civil aircraft systems and designs deemed essential by GCAA CAR 66 Module 11A (B1.1) for engineers in the field of aircraft maintenance. The course covers the range of airframe, electrical and avionic topics required for completion of the B1.1 Engineers licence.

CREDITS: 36.00

**EAA 3704 - PROPELLER (Mod 17 B1)**

This course introduces and applies propeller concepts that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 17 B1.1. Topics covered include; fundamentals, construction, pitch control, synchronising, ice protection, propeller maintenance, storage and preservation.

CREDITS: 4.00

**EAM 1103 - AVIATION MATHEMATICS**

Aviation technology is governed by the laws of physics. All aircraft systems must obey the laws of physics, and therefore must obey the laws of mathematics which relate to physics. In order to design and build aircraft and aircraft systems, as well as maintain those systems, engineers need to have a good foundation in mathematics. This course introduces and applies mathematical concepts that are essential for engineers in the field of aircraft maintenance, as required by EASA Part 66 Module 1. Topics covered include: arithmetic, algebra and geometry.

CREDITS: 3.00

**EAM 1203 - AVIATION PHYSICS**

This course is designed to develop fundamental principles of physics relevant to aviation technology, as required under EASA Part 66. Topics covered include: matter, statics, kinetics, dynamics, fluid dynamics, thermodynamics, optics, wave motion, and sound.

CREDITS: 3.00

**EAM 203 - BASIC AERODYNAMICS (Mod 8)**

Aerodynamics is the study of objects moving through the air. In effect, aerodynamics is concerned with the aircraft, the relative wind and the atmosphere. This common course is delivered to all aviation diploma and higher diploma students in semester two, and furnishes the basic knowledge of aerodynamics required for entry into EASA Module 11 and 13 courses. This course meets the requirements of EASA Module 8.

CREDITS: 3.00

**EAM 2023 - AVIATION LEGISLATION (Mod 10B1 and B2)**

Introduces and describes aviation legislation that is essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 10 B1.1. Topics covered include; regulatory framework, certifying staff, approved maintenance organisations, commercial and private air transportation, aircraft certification, CAR M and applicable national and international requirements.

CREDITS: 3.00

**EAM 2903 - HUMAN FACTORS (Mod 9 B1 and B2)**

Introduces human factors principles that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 9 B1 and B2. Topics covered include; human performance and limitations, social psychology, factors affecting performance, physical environment, communication, human error and hazards in the workplace.

CREDITS: 3.00

**EAV 1409 - ELECTRONIC FUNDAMENTALS (Mod 4 B2)**

This course covers electronic components and circuits including diodes, transistors, integrated circuits, printed circuit boards and synco and servo mechanisms. This course meets the requirements of CAR Module 4B2.

CREDITS: 9.00
EAV 1509 - Digital Techniques/ Electronic Instrument Systems (Mod 5 B2)
This course develops and applies theoretical and practical digital concepts to an advanced level, which is essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 5 B2. Topics covered include: digital instrument systems, numbering systems, data conversion/buses, logic circuits, integrated circuits, computer structure, microprocessors, multiplexing, fibre optics, EMI and software management control.
CREDITS: 9.00

EAV 2405 - Propulsion (Mod 14 B2)
Introduces gas turbine engine concepts and develops theoretical and practical knowledge relating to engine parameter monitoring that is essential for avionics engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 14 B2. Topics covered include: basic turbine engine construction and operation, turbine engine indication systems, engine control systems, and engine built in test equipment (BITE).
CREDITS: 5.00

EAV 2608 - Materials and Hardware (Mod 6 B2)
The purpose of this course is to provide the avionics student with general knowledge of the theoretical and practical aspects of Advanced Aircraft Materials and Hardware and ability to apply that knowledge. This course introduces aircraft hardware in the field of aviation maintenance engineering.
CREDITS: 8.00

EAV 2708 - Maintenance Practices (Mod 7 B2)
Provides the avionics student with a theoretical and practical familiarisation of maintenance practices that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 7 B2. Topics covered include: safety precautions, workshop practices, tools, test equipment, fits and clearances, electrical connectors, riveting, maintenance procedures and material handling.
CREDITS: 8.00

EAV 3340 - Aircraft Aerodynamics, Structures and Systems (Mod 13) (B2) *1 yr course
This course provides information on civil aircraft systems and designs deemed essential by GCAA CAR 66 Module 13 (B2) for engineers in the field of aircraft maintenance. The course covers the range of electrical, instrument, com/nav and miscellaneous avionics topics required for completion of the B2 engineers licence.
CREDITS: 40.00

ECE 2003 - Teaching Mathematics in the Early Years: Skills and Concept Acquisition
This course charts the development of early mathematical skills and concepts collectively known as problem solving, reasoning and numeracy, subdivided into the areas of numbers as labels and for counting, calculating and shape, space and measures. It also explores contemporary thinking about pedagogy and current practice in mathematics teaching in early childhood settings with a particular emphasis on the provision of developmentally appropriate, play-based learning experiences.
CREDITS: 3.00

ECE 2203 - Learning through the Visual Arts
Explores recent thinking about creativity, nurtures student teacher creativity including the acquisition of new technical skills, and provides a context for understanding the importance of the creative arts and more specifically the visual arts to enable children to express themselves through a variety of media using all the senses.
CREDITS: 3.00

ECE 2503 - Theories of Teaching and Learning that impact the Preschool Curriculum
This course builds on previous learning with a key focus on how a range of approaches to teaching and learning in ECE settings are influenced by early childhood practitioners such as: Froebel, Montessori, Dewey and Steiner (Waldorf); current practice e.g. Reggio Emilia; general theories of child development; and more specifically the work of developmental psychologists such as Piaget, Bruner and Vygotsky.
CREDITS: 3.00

ECE 2603 - Learning through the Performing Arts
This course will explore the relative importance of the performing arts in a range of early childhood methodologies including the UK Early Years Foundation
Stage (EYFS), the Montessori Method, the IB Primary Years Programme (IB PYP), the High / Scope programme and in the UAE preschool syllabus.
CREDITS: 3.00

**ECE 3003 - Literacies in Early Childhood**
Explores a range of current approaches that facilitate the development of language and literacy skills including what are currently termed the new literacies, digital literacies or multiliteracies, (Lankshear and Knobel 2003) which integrate screen-based texts, images, text layout and hypertext within their scope of study. The processes by which children interact with a range of multiple sign systems that represent meaning in soft texts will be explored.
CREDITS: 3.00

**ECE 3203 - Learning through Literature**
Focuses on how books, poems and a range of other texts can be used to develop learning across domains with a particular emphasis on early childhood literacy. Students examine four aspects: the historical and contemporary influence of popular culture on the development of early childhood literacy practices, the role of literature to support learning across domains, selecting and exploiting appropriate texts/genres for young learners (with reference to UAE and cross culturally relevant content) and establishing print/literacy-rich environments with a range of texts for various purposes.
CREDITS: 3.00

**ECE 3503 - Planning and Assessment in Early Childhood Education**
In this course students review the factors, including developmental levels, individual learning needs and programme aims that need to be considered in planning for learning across both domains (cognitive, physical, social and emotional) and curriculum areas. Students define the terms curriculum and syllabus, examining the relationship between the two.
CREDITS: 3.00

**ECE 3703 - Building Learning Communities in Early Childhood Education**
This course raises student awareness of the family as the child’s first teacher, foundation, and framework for the transmission of culture, language, attitudes, and values. Students analyse the stages of the family life cycle, interpersonal relationships within and outside the family and also explore the impact of context and culture on its ability to function effectively as an institution.
CREDITS: 3.00

**ECH 1003 - General Chemistry I**
Introduces the fundamental concepts of chemistry to chemical engineers. This introductory inorganic chemistry course will cover the following topics: matter and measurements in chemistry, atomic theory and periodic table, naming and formulas of inorganic compounds, concepts of chemical bonding, mass relations in chemical compounds and reactions. Classroom concepts are supported by laboratory experiments.
CREDITS: 3.00

**ECH 1103 - Chemical Engineering Principles I**
This course is the first of two courses that cover the essential issues of chemical engineering principles and their application in industry. A brief introduction is given to the fundamental techniques of engineering calculations.
CREDITS: 3.00

**ECH 2003 - Physical Chemistry**
In this course, the students will be introduced to gas law and kinetic theory of gases, thermochemistry, spontaneity of reaction, chemical equilibrium, properties of solutions, and study the phenomena of liquid at interface. Attention should be focused on an engineering application.
CREDITS: 3.00

**ECH 2013 - Chemical Engineering Principles II**
This course is the second part of a course series covering fundamental chemical principles and applications. It introduces students to the applications of material and energy balances for non-reactive and chemically reactive systems used in industrial processes.
CREDITS: 3.00

**ECH 2033 - Fluid Mechanics**
Covers fluid mechanics principles of energy balance, determination of flow regimes, compressible flow, and fluid measurement mechanisms. The course includes metering and pumping of fluids, a relevant application to the chemical and petrochemical industry.
CREDITS: 3.00
ECH 2043 - Analytical Chemistry
The main purpose of this course is to provide students with the fundamentals and practical background of classical and analytical techniques in chemistry. It also covers instruments as related to modern laboratory operation and applications to industrial settings. CREDITS: 3.00

ECH 2053 - Organic Chemistry
Covers the basic and fundamental principles of organic chemistry, nomenclature, structure and properties of organic molecules, isomerism, reactions and mechanisms. In the practical component, the student will learn how to, synthesise simple organic compounds, perform separation and purification experiments, and also be able to identify compounds based on their functional groups. CREDITS: 3.00

ECH 2063 - Thermodynamics
Introduces students to thermodynamic properties of pure substances. It also covers the properties and the equations-of-state of ideal and real gases. CREDITS: 3.00

ECH 2083 - General Chemistry II
General Chemistry II is a continuation of General Chemistry I and its targeted students taking chemical engineering as their degree major. The course concentrates on the study of gases and gases behaviour, thermochemistry, chemical equilibrium, solutions and their properties, and electrochemistry. Attention should be focused on engineering and technical applications. CREDITS: 3.00

ECH 3003 - Mass Transfer
Covers mass transfer operations with their fundamental theories as related to industrial applications. Emphasis is made on equilibrium stage operations, diffusion, gas absorption in packed towers, distillation and humidification. Laboratory exercises will be performed to illustrate the theory covered in this course. CREDITS: 3.00

ECH 3013 - Materials and Corrosion
Provides an introduction to the properties and corrosion behaviour of metals, alloys and non-metallic materials. Laboratory exercises assist to reinforce theoretical concepts. Corrosion topics include classification of corrosion types and related corrosion mechanisms. CREDITS: 3.00

ECH 3023 - Chemical Heat Transfer
Covers heat transfer, one of the core subjects in chemical engineering. The principles of heat transfer in solids (heat conduction), forced and natural convection, and radiation are thoroughly covered. Emphasis is placed on problems solving techniques related to heat flow and heat exchangers design. A description of evaporators, furnaces, and boilers, is also included. A series of experiments are designed to reinforce the principles and develop skills for operating heat transfer equipment. CREDITS: 3.00

ECH 3033 - Electrical Fundamentals and Instrumentation
Offers an introduction to electrical circuit theory and process instrumentation as it applies to the day to day operation in a Chemical and Petro-Chemical process plant. CREDITS: 3.00

ECH 3043 - Process Control: Chemical
Covers the theory and practical aspects of chemical process control including the development of outline control schemes and troubleshooting base on control related problems. Conventional control methods as well as computer process control are discussed and laboratory sessions will emphasise the basic principles. This course examines the role and importance of process control systems and the dynamic behaviour of the process. Students will learn and apply the concept of P, PI and PIP controllers. CREDITS: 3.00

ECH 3053 - Unit Operation I
Covers the fundamentals of separation processes used in chemical industries, such as filtration, evaporation, drying, liquid - liquid extraction and multi-component distillation. CREDITS: 3.00

ECH 3063 - Reaction Kinetics
Provides an introduction to the kinetics of chemical reactions and the design and operation of elementary chemical reactors. The principles of the kinetics of homogeneous gas and liquid phase reactions are detailed and a brief coverage of complex kinetic concepts related to chain reactions, and heterogeneous catalysis is given. CREDITS: 3.00
ECH 4002 - Design Project I
This course is the first of a two-semester final year design project. The course introduces the design selection process and detailed material and energy balance used for the design. Students also consider engineering ethics common to typical work situations. The course project is undertaken by student teams with individual responsibilities.
CREDITS: 2.00

ECH 4003 - Chemical Engineering Design
Provides knowledge of equipment design for chemical processes. The course covers the overall procedure of designing a chemical process for various unit operations. It introduces the students to the detailed procedures of equipment design found in most gas and petroleum plants. Special emphasis is also made on mechanical design of the selected equipment.
CREDITS: 3.00

ECH 4022 - Design Project II
This course is the second of the final year design project. It incorporates the implementation, evaluation, and analysis of a chemical engineering project with consideration of technological, organisational, communication, and interpersonal team skills. Student teams apply a variety of fundamental and principle concepts gained from the programme. The process design implementation, documentation, and presentation skills form the basis of assessment.
CREDITS: 2.00

ECH 4053 - Chemical Engineering Simulation
Simulation Software’s are widely used in universities and colleges in introductory and advanced courses especially in chemical engineering. In industry, simulation software’s are used in research, development, modelling and design. Simulation Software’s can help the students perform lengthy calculations in a manner of a few seconds. Hence, students can make parametric analysis and other evaluations with ease and can provide a more in-depth analysis of the performance of unit operations in chemical processes.
CREDITS: 3.00

ECH 4073 - Optimisation and Application in Refinery
This course introduces optimisation principles and linear programming techniques which serve as a general guide for problem solving in design and operation. It focuses on model development and applications to solve a wide range of process engineering problems using spread sheet software (Excel or Mathcad). The course also introduces the use of commercial software which is extensively used in the oil, gas and petrochemical industries.
CREDITS: 3.00

ECH 4903 - Chemical Process HAZOP and Risk Analysis
This course provides an introduction to the specific approaches and techniques which may be used to analyse, assess and manage hazards and risks in chemical process industries. Emphasis is placed on HAZOP and semi-quantitative studies for hazard identification and risk analysis. Chemical process safety involving accident sequences, methods to eliminate sequence steps and use of statistics to characterise accidents are reinforced through case studies.
CREDITS: 3.00

ECH 4913 - Gas Processing
This course is designed to cover the fundamentals of the gas process operations in the petroleum industry. Students will gain an understanding of hydrocarbon exploration methods and the conditions required for the formation and accumulation of hydrocarbon reserves. An overview of gas processing from exploration up to final production and transportation as well as gas properties calculations is also included. The course focuses on the principles of NGL extraction, LPG fractionation and LNG production plus some design aspects of the major unit process operations.
CREDITS: 3.00

ECH 4933 - Petroleum and Petrochemical Processing
This course covers the essential processing operations in a refinery where crude oil is converted into lighter fuels. The properties of significant fuels, such as motor gasoline, diesel, jet fuel and heating oils are covered. The production, chemistry, and marketing aspects of some important petrochemicals are also covered. The course is supported by the relevant laboratory experiments.
CREDITS: 3.00

ECV 1003 - Applied Drafting and CAD: Civil
Develops skills to use CAD drafting as a means of communication in the civil and construction industry.
CREDITS: 3.00
ECV 1103 - Construction Materials
Introduces the student to many of the materials used in the construction industry. It covers materials used in the construction of buildings, pavements and infrastructure using international and local standards.
CREDITS: 3.00

ECV 2003 - Soil Mechanics
Soil Mechanics is the study of the physical properties and behaviour of soil as an engineering material before, during and after the design and construction of foundations for structures and subgrades for highways.
CREDITS: 3.00

ECV 2013 - Engineering Mechanics
This course covers the basic principles of mechanics including composition and resolution of forces. The combination of forces to keep a body in equilibrium and their effect on the stability of basic structures such as beams, cantilevers, trusses and cables are also investigated.
CREDITS: 3.00

ECV 2023 - Fluid Mechanics and Hydraulics
This course introduces students to the fundamental principles of fluid mechanics and hydraulics with applications to practical engineering problems. Primary emphasis will be placed on basic topics including fluid properties, hydrostatics, and hydrodynamics forces on submerged surfaces, floatation and buoyancy theory and measurements of flow and pressure.
CREDITS: 3.00

ECV 2033 - Strength of Materials
This course introduces the concepts necessary for the design of structural elements including material selection and component design. The course provides a link between engineering mechanics and structural analysis.
CREDITS: 3.00

ECV 2043 - Foundation Engineering
This course extends the core knowledge and understanding of soil mechanics previously taught in the programme. Students will be introduced to geotechnical engineering systems and approaches required for their design and stability issues.
CREDITS: 3.00

ECV 2053 - Site Surveying
This is a fundamental civil engineering course that provides students with industry-relevant theoretical and practical surveying skills.
CREDITS: 3.00

ECV 2073 - Chemistry for Civil Engineering
This is an introductory course in general inorganic chemistry followed by topics specifically related to civil engineering. Lab experiments support classroom instruction.
CREDITS: 2.00

ECV 2033 - Highway Engineering
Highways play an essential role in sustaining the development of countries such as the United Arab Emirates. This course introduces the topics of design and construction of highways. It addresses geometric design of highways-vertical and horizontal alignment, cross-sections, preparation of plans, drainage concerns, and intersections at grade and interchanges. Emphasis is on design practices and construction procedures to achieve a highway with acceptable levels of performance in terms of safety, operation, economics and environmental concerns.
CREDITS: 3.00

ECV 2023 - Quantity Surveying and Estimating
Examines project cost measurement and monitoring relative to the client, the consultant, and the contractor. Emphasis is placed on the roles of the quantity surveyor and estimator with respect to estimation and measurement at all stages throughout the project. The course also examines the various constraints placed on the project in order to conform to the client’s planned project expenditure, and the role of the contractor’s project management team in estimating, monitoring and controlling costs, from the tender phase to completion.
CREDITS: 3.00

ECV 2043 - Structural Analysis
Includes the basics of structural analysis for both determinate and indeterminate structures. The material covers the principles and applications of structural analysis.
analysis for indeterminate structures as a blend of classical concepts and current computer techniques. The main topics are the determination of reactions and internal forces for beams, frames and arches as well as the calculation of deflection for beams and trusses. There are relevant laboratory experiments to verify the theoretical calculations.
CREDITS: 3.00

ECV 3053 - WATER RESOURCES AND SUPPLY
An introduction to water supply technology as a branch of municipal engineering. The course provides a comprehensive understanding of municipal water and processing and water supply distribution. Emphasis will be placed on the chemical and biological science applied to water technology, design of internal and main water supply networks, drinking water quality, municipal water supply requirements, processing of water and water supply systems in the UAE.
CREDITS: 3.00

ECV 3063 - CONCRETE DESIGN
Introduces the student to the properties and design principles of reinforced concrete structural elements. The Euro codes and the British Standards Code of Practice BS 8110 are the basic codes of reference for all the design and detailing work in this course. This Code is predominantly used in the UAE. The course includes the properties of structural concrete and the influence of each of its constituents on the performance of the final product.
CREDITS: 3.00

ECV 3073 - CIVIL ENGINEERING CONSTRUCTION
Introduces different topics related to civil engineering construction; e.g. common types of formwork, steel and precast concrete frames and causes of deterioration in concrete structures. The course materials reflect local, regional and international building standards and practices.
CREDITS: 3.00

ECV 3263 - STEEL DESIGN
Covers topics such as moment connections, beam-column members and lateral frames for steel structures. The course further incorporates basic steel design into the overall analysis and design of a small industrial building. An introduction of the analysis and design of steel bridges will be presented.
CREDITS: 3.00

ECV 4003 - CIVIL PROJECT I
This final year course requires the formation of a team to propose, plan and design a civil engineering project. The student team is totally responsible for the completion of the project milestones and course objectives while working under the mentorship of a faculty or industry engineer. The team is evaluated on its ability to coordinate efforts to propose the project design criteria, components, resources, implementation schedule, and estimated cost.
CREDITS: 2.00

ECV 4023 - CIVIL PROJECT II
This final year course consists of the implementation, evaluation, and analysis of a civil engineering design project. Though guided by faculty, the student team is primarily responsible for the completion of the project milestones and course objectives. The course requires the integration and application of technological, organisational, communication, and interpersonal skills by the student team. Accurate analysis, implementation, documentation, and presentation skills form the basis for assessment.
CREDITS: 2.00

ECV 4053 - ENVIRONMENTAL ENGINEERING
Discusses the fundamental principles in environmental engineering as an interdisciplinary science. The course covers all the naturally occurring environmental phenomena, industry and human induced compounds and micro-organisms and the changes and imbalances that occur in the environment.
CREDITS: 3.00

ECV 4803 - CONCRETE DESIGN II
This course gives the students an understanding of typical design procedures, construction methods and detailing of reinforced concrete elements and structures as a whole. The course will cover basic design procedures and detailing of footings, pile foundations, walls, shear walls, columns, beams, and slabs for reinforced concrete buildings.
CREDITS: 3.00

ECV 4813 - GIS APPLICATIONS IN CIVIL ENGINEERING
This course enables students to define the basic concepts and types of Geographic Information Systems (GIS), collect and analyse data, and perform selected spatial operations. It introduces the five main components
and functions of a GIS while differentiating between vector and raster methods for data capture. Students will be introduced to various GIS applications in civil engineering using appropriate software.

**ECV 4903 - ROAD DESIGN AND CONSTRUCTION**

This course introduces pavement types and the factors that impact their design with emphasis on equipment, materials and practices associated with the construction of flexible and rigid pavements. Maintenance methods including evaluation and rehabilitation are addressed. Environmental impacts of construction and maintenance topics are included.

**CREDITS: 3.00**

**ECV 4923 - CONSTRUCTION CONTRACT MANAGEMENT**

This course aims to give an overview of principles and procedures involved in effective administration and management of engineering contracts, from tender to final completion. Topics covered include: legal implications of contract documents; major issues in pricing and bidding; preparation of tenders and work breakdown for bidding; reading tender documents and estimating the cost of work; initiating, negotiating and signing agreements; coordinating with General Services as per UAE procedures.

**CREDITS: 3.00**

**ECV 4963 - SOLID WASTE MANAGEMENT**

This course gives the opportunity for the student to examine the different sources of solid waste management. The important aspects of waste control legislation, waste reduction programs and waste recycling are investigated and strategies developed to protect the local and global environment. Finally the handling and disposal of hazardous waste is introduced.

**CREDITS: 3.00**

**ECV 4973 - RESEARCH METHODS IN ENGINEERING**

Designed to introduce students to the techniques and methods of research in engineering, using qualitative and quantitative methods for decision making. The course addresses a variety of research methodologies, data collection and analysis, development of theory and research verification and validation through the application of statistical analysis in research.

**CREDITS: 3.00**

**ECV 4993 - TRANSPORTATION PLANNING**

Introduces the processes involved in facilitating the planning for future transportation facilities. Factors to be considered in the planning of new transportation projects include traffic flow, safety, energy consumption, travel time, accessibility, socio-economic and environmental impacts.

**CREDITS: 3.00**

**EDD 0004 - APPRENTICESHIP I: INTRODUCTION TO OBSERVATION**

Provides an introduction to the observation of children in schools. Students will be given a general overview of the role and responsibilities of teachers. The study and practice of different types of observations will be supported by the development of skills in note-taking and writing reports and by the analysis of the role of observation in assessing the progress of the child. Confidentiality issues concerning student records will be presented.

**CREDITS: 4.00**

**EDD 0014 - APPRENTICESHIP II: WORKING OUTSIDE THE CLASSROOM**

Examines the different areas in which teaching assistants will work within the school environment. Students will learn about the roles and responsibilities of the professionals who work in education as well as the support staff. Students will examine and discuss how each of these groups supports learning in the school and what the role of a classroom assistant is in each of these areas. Students will learn about the importance of taking an active part in a team and how teams in schools may be different groups of people who work together in order to support the children.

**CREDITS: 4.00**

**EDD 1003 - SPECIAL EDUCATIONAL NEEDS I - APPRECIATING THE DIFFERENCES**

Introduce the students to the concept of differences in the human condition. The students will compare standard (or normal) development and performance to mainstream and to exceptional development and performance. The causes of differences in development and performance will be studied. Students will research and report on different kinds of disabilities affecting the educational performance of children. It should be noted that giftedness will be included as an exceptional development.

**CREDITS: 3.00**
EDD 1004 - Domains of Childhood Development IA
Provides an introduction to the development of children in the kindergarten and primary schools. A general outline of the five domains of development is followed by a specific focus on the stages of development in each of these domains, associated developmental milestones and the factors that affect their development. It also prepares students to support the development of these domains during the kindergarten and primary years.
CREDITS: 4.00

EDD 1014 - Computers in Education
In this course, students will improve their ICT skills in order to assist teachers more efficiently. At the same time, they will study and research how ICT can be used as a learning tool with a special focus on the KG and primary levels. The support and maintenance of ICT will also be addressed.
CREDITS: 4.00

EDD 1103 - Special Educational Needs II: Addressing the Performance
Focuses on the identification of the children with special educational needs. After a review of the standard or normal performance, students will learn how to monitor the performance of children with special educational challenges in early childhood education and at the cycle 1 level in order to refer them to the proper authorities in the school. The screening, testing and placement of these children will then be investigated with a focus on the principal of inclusion into regular classrooms.
CREDITS: 3.00

EDD 1104 - Domains of Childhood Development IB
Introduces students to some of the main theories of child development and how they influence approaches to teaching and learning. It explores the development of children from birth to the end of primary school age. The concept of learning through play is studied and student will design learning activities based on the theories of child development.
CREDITS: 4.00

EDD 1114 - Creating, Managing and Organising Resources
Classroom assistants will be trained to work with the teacher in order to ensure that the children in the classroom have sufficient and meaningful learning resources. Students will acquire and demonstrate the skills required to create, manage and to organise materials, software and equipment used in the classroom.
CREDITS: 2.00

EDD 2002 - Communications III
Students will investigate, reflect on and apply to their own immediate milieu the language skills they will need to operate successfully in an English language environment. The focus will be on listening, speaking, reading and writing skills.
CREDITS: 2.00

EDD 2003 - Special Educational Needs III: Special Education Policies and Procedures
This course will have a special focus on the UAE Ministry of Education and the Abu Dhabi Education Council (ADEC) policies and procedures. After a summary look at international best practice standards students will learn about the policies and procedures governing the implementation of special needs services in the school in the UAE.
CREDITS: 3.00

EDD 2004 - Supporting Learning in the Classroom
Examines how classroom assistants can best support the learning in the classroom. They will investigate how children learn and how teachers do their long term and short term planning. They will support the learning in the classroom by practicing how to manage small groups, how to create activities and how to encourage independent learning and problem solving with a special focus on English, Mathematics and Science.
CREDITS: 4.00

EDD 2012 - Classroom Displays
After initial research and discussions on the concepts of how children learn, the need to motivate them and the importance of a positive school environment, students will learn how effective displays can contribute actively to the achievement of these objectives. Students will research, describe, discuss and create different types of displays using a variety of resources and presentation methods. Students will learn about display types, themes, sizes and how to make them effective; a special focus will be placed on the concept and the creation of interactive displays.
CREDITS: 2.00
EDD 2102 - Communications IV
In this course, the students will investigate, reflect on and apply to the kindergarten or primary school classroom environment the language skills they have developed in order to operate successfully in an English language environment. The focus will be on listening, speaking, reading and writing skills.
CREDITS: 2.00

EDD 2103 - Special Educational Needs IV: Supporting Students with Special Needs
Students will study, research and present activities to assist students with learning difficulties and with special educational needs. They will study the concepts of accommodation and modification of learning outcomes and they will learn to consult the Individual Education Plan (IEP) and the Advanced Leaning Plan (ALP). They will learn to use and demonstrate the use of assistive technology. Finally they will learn the basics of sign language and Braille communication.
CREDITS: 3.00

EDD 2104 - Guiding Children’s Behaviour
This course will help students acquire the skills and attitudes needed when dealing with children’s behaviour. It will teach students how to work alongside classroom teachers and to assist them in the management of children’s behaviour. Students will learn how a positive attitude, good preparation and efficient strategies are the key ingredients to efficient classroom management.
CREDITS: 4.00

EDD 2114 - Teaching Mathematics and Science
In this course, students focus on the process of inquiry. After defining the meaning of inquiry-based learning and the use of the 5 E’s (engage, explore, explain, elaborate and evaluate), students will analyse, identify, apply and create activities that support the development of a range of fundamental mathematical and scientific concepts and skills.
CREDITS: 4.00

EDT 2203 - Information, Communication and Media Studies
Media literacy is an essential component of global citizenship in today’s mediated world. Given the impact of the media on people’s lives, the media can also serve as a highly motivating resource for teaching.
CREDITS: 3.00

EDT 2503 - Technologies for Learning II
In this course students build on and extend their knowledge, skills and understanding of current educational theory and practice about computer-based learning technologies that were introduced and developed in Technologies for Learning I.
CREDITS: 3.00

EDT 2703 - Distance and Online Education
This course develops students understanding of current educational theory and practice about learning technologies in distance and online education.
CREDITS: 3.00

EDT 3003 - Computer Platforms
Covers the basics of network operating systems, network operating system components, operating system installation, and device drivers and configuration. Students learn how to install and configure an operating system in a work group and domain environment. Students also learn the basics of desktop, laptop, mobile and network hardware, system administration, resource permissions, and become familiar with planning, creating and managing user and group accounts.
CREDITS: 3.00

EDT 3203 - Computer-Based Training
Introduces the students to the skills needed to develop computer and web-based training courseware. Students will be introduced to computer and web based instructional teaching and learning theories and strategies. The students gain an understanding of the basic elements of computer and web-based system courseware and develop skills in designing and delivering computer based training.
CREDITS: 3.00

EDT 3503 - Web Design for Learning
Students use a current/contemporary web development technology, with a focus on designing and building dynamic, database driven web sites appropriate for
use in educational settings. This course deals with the role of Internet technology in present day educational settings, with particular attention to the development of Inter/Intranet applications.
CREDITS: 3.00

EDT 3703 - Multimedia Authoring for Learning
In this course students learn, demonstrate and use the principles, best practices and techniques of creating successful multimedia applications. They develop design and specifications for a multimedia application project for an educational context, including elements like storyboards, flow-models and mock-ups.
CREDITS: 3.00

EDU 1003 - Introduction to Theories of Learning 1a
Introduces students wishing to join the teaching profession to a broad base from which to understand the theories of child development and how they influence approaches to teaching and learning. It explores the development of children from birth to primary school age by investigating the domains of cognitive, linguistic, motor, social, artistic and emotional development.
CREDITS: 3.00

EDU 1203 - Learning to Teach in the Contemporary UAE 1a
Students will develop an initial understanding of the broad role of the teacher/educator, the student and the culture of the classroom/learning environment in an introductory and non-threatening manner. This will be achieved either by direct experience (observation) in relevant institutions, viewing videos of best practice, and input sessions at college. The themes of the course closely relate to educational and practicum subjects. Students explore a range of methodologies including Gardner’s theory of multiple intelligences, Bloom’s taxonomy and other contemporary theories, with students critically reflecting on their application.
CREDITS: 3.00

EDU 1302 - Learning Technologies for the Classroom
An introductory level course to introduce students to computer hardware, software, and web-based learning technologies that can be used in teaching and learning. This foundation course introduces the fundamental elements of ICT for learning environments and its underlying pedagogy, educational issues relating to the use of technology in the classroom, the significance of technologies, their impact on society, and how society has changed as a result of them.
CREDITS: 2.00

EDU 1503 - Introduction to Theories of Learning 1b
This course briefly revises theories of child development and how they influence approaches to teaching and learning that were introduced in semester one. Students explore the development of the older child by investigating the domains of cognitive, linguistic, motor, social, artistic and emotional development and their influence on motivation and learner behaviour.
CREDITS: 3.00

EDU 1703 - Learning to Teach in the Contemporary UAE 1b
Students will continue to develop an understanding of the broad role of the teacher/educator, students and the culture of the learning environment. This is achieved by direct experience (observation) in relevant institutions, viewing videos of best practice, and input sessions at college. The themes of the course closely relate to educational and practicum subjects. Students explore a range of methodologies including Gardner’s theory of multiple intelligences, Bloom’s taxonomy and other contemporary theories, with students critically reflecting on their application.
CREDITS: 3.00

EDU 1802 - Introduction to Math and Science in the Classroom
In this course, students focus on the process of inquiry. They will apply naturalistic, informal and structured concepts through activities that support the development of a range of fundamental mathematical and scientific concepts and skills. Links are made to theories learned in EDU1003, EDU1203, EDU1503 and EDU1703.
CREDITS: 2.00

EDU 2302 - Language and Development: SLA Principles and Pedagogy
Aims to further a student’s knowledge of language. They will develop their general academic language skills, examine their own language development and identify strategies from this to support teaching in their area of specialisation.
CREDITS: 2.00

EDU 2802 - Teaching Learners with Special Needs
Provides students with a basic understanding of the current philosophies, structure, levels of support, methodologies and assistive technologies required
to educate students with special needs in different learning environments.
CREDITS: 2.00

**EDU 4003 - RESEARCH METHODS AND REFLECTIVE PRACTICE IN EDUCATION**
This subject introduces students to basic educational research issues, enabling them to apply this knowledge to the creation of an authentic preliminary investigation into a self-selected researchable issue that is implemented in the second semester (EDUY N450) to form a complete action research project.
CREDITS: 3.00

**EDU 4103 - MANAGING INNOVATION AND CHANGE IN EDUCATION**
In this course students develop an awareness of the overall organisational and management structure of the UAE government education system as it impacts on the early childhood/school education sector, relating this to relevant theory.
CREDITS: 3.00

**EDU 4203 - CURRICULUM DESIGN**
Examines a variety of curricula and curriculum documents to develop an understanding of the various aspects and the dynamic nature of curriculum.
CREDITS: 3.00

**EDU 4503 - RESEARCH PROJECT**
This capstone course offer learners the opportunity to implement the authentic action research proposal designed in EDUY N400 culminating in a complete action research project.
CREDITS: 3.00

**EDU 4603 - EMPLOYMENT PREPARATION FOR NEW UAE EDUCATORS**
There are different and varying field requirements that aspiring teachers are required to meet in order to be considered for employment, depending on the UAE education agency involved, (e.g. IELTS band, ICDL, Praxis exam, etc.). This course assists students in addressing such requirements.
CREDITS: 3.00

**EEC 1003 - ELECTRIC CIRCUITS I**
This course introduces students to DC linear circuit fundamentals which include appropriately scaled-units of basic quantities, Ohm’s law, power dissipation, Kirchhoff’s laws, linear circuit theorems, and network analyses of series, parallel, and series-parallel linear circuits.
CREDITS: 3.00

**EEC 2003 - ELECTRIC CIRCUITS II**
Introduces transient and steady state analyses of linear reactive circuits. Circuit simulation and practical laboratories are utilised to reinforce concepts.
CREDITS: 3.00

**EEC 2013 - DIGITAL CIRCUITS**
Introduces fundamental concepts of digital systems, which include numbering systems, digital codes, logic symbols, Boolean expressions, logic minimisation techniques, analysis of combinational and sequential circuits, and classification of various integrated circuit (IC) families.
CREDITS: 3.00

**EEC 2033 - MICROCONTROLLER SYSTEMS**
Introduces the operation and implementation of microcontrollers to practical applications. Common input and output modules are utilised in typical applications in a laboratory setting.
CREDITS: 3.00

**EEC 2053 - ELECTRONICS I**
This course introduces the construction, operation, characteristics, and applications of common semiconductor devices such as the diode and transistor.
CREDITS: 3.00

**EEC 2073 - ELECTRICAL ENGINEERING FUNDAMENTALS**
Introduces fundamental concepts, components, and test equipment used with electrical circuits. Common passive components are presented and DC circuits are analysed. AC signals are generated and measured with a focus on signal amplitude and phase. The construction and operation of semiconductor devices are presented.
CREDITS: 3.00

**EEC 3003 - INSTRUMENTATION AND CONTROL**
This course introduces the elements of common industrial processes for measurement and control of temperature, flow, pressure, position, level, rotation and torque.
CREDITS: 3.00
EEC 3013 - ELECTRONICS II
This course introduces the fundamentals of analysis and design of analogue amplifier circuits for various applications. Noise measurement and noise reduction techniques are introduced as appropriate.
CREDITS: 3.00

EEC 3043 - COMMUNICATION SYSTEMS
Introduces the fundamentals of electronic communication systems. Topics include analogue modulation and demodulation techniques used in transmitters and receivers, respectively, and propagation characteristics of the transmission channel.
CREDITS: 3.00

EEC 3073 - SIGNALS AND SYSTEMS
This course introduces time and frequency domain representation of fundamental, continuous and discrete time signals and systems. Topics include fundamental signals and operations, system properties, representation of linear time-invariant systems, continuous-time Fourier analysis, Laplace transform analysis, discrete-time Fourier analysis and the application of the Z transform to analyse digital systems. MATLAB is used to simulate, implement, and analyse signals and systems accordingly.
CREDITS: 3.00

EEC 3103 - DIGITAL COMMUNICATIONS
This course introduces the fundamental operational principles of digital communication systems. Topics include source coding, channel coding, and modulation techniques for wired and wireless digital communication systems. Application of wave propagation for satellite and fibre optic communications is presented.
CREDITS: 3.00

EEC 3503 - EMBEDDED SYSTEM DESIGN
This course introduces the specification, design, development, and testing of real-time embedded microcontroller systems. Various architectures, real-time programming, and interface of common peripheral devices are presented. Concepts are introduced in a theoretical but descriptive form, which are reinforced with numerous sample applications. Students apply learned skills and techniques in a laboratory setting.
CREDITS: 3.00

EEC 4013 - DATA COMMUNICATIONS AND NETWORKS
An introduction to the fields of data transmission and networks, and covers concepts of digital and data communications. The topics covered by the course include: analogue to digital conversion, PCM, multiplexing, digital modulation techniques, cable networks, OSI model focusing on the Internet model and the TCP/IP protocol as an internet protocol.
CREDITS: 3.00

EEC 4023 - ADVANCED MICROPROCESSORS
Introduces modern microprocessor architecture and contrasts it with classical architecture. RISC and CISC processors are presented along with pipelining and superscalar processors. Modern interfacing techniques are introduced and the features of the approaches are discussed. The student applies the acquired knowledge by developing I/O handler programs for a modern microprocessor system.
CREDITS: 3.00

EEC 4033 - PROGRAMMABLE DEVICES
This course introduces programmable devices used to implementing digital circuits. The programmable logic device (PLD) and field-programmable gate array (FPGA) are presented as integrated circuits used to implement combinational and sequential logic circuits. Advantages, cost, programming and reliability are discussed for each type of device. Students use the FPGA prototyping boards to design, develop, synthesise, implement, test, and debug FPGA design project in accordance to a provided specification.
CREDITS: 3.00

EEC 4043 - CONTROL SYSTEMS
Introduces the use of modelling and simulation to analyse, augment, and improve the performance of analogue single-input single-output LTI control systems for a variety of applications. Typical control systems are modelled by a transfer function and MATLAB Simulink is used to assess the system response and stability. Basic concepts of digital control systems are introduced.
CREDITS: 3.00

EEC 4053 - VLSI DESIGN
Introduction to the design, simulation, and fabrication of CMOS very large scale integration (VLSI) digital circuits. The course presents the fabrication and layout of basic digital circuits (Inverter, NAND and NOR gates). The VLSI technology scaling at both the transistor and the interconnects level is reviewed. The time delay and power dissipation are calculated, through simulation of basic digital circuits, such as full adders and n-bit
multipliers. State of the art CAD tools are used for design in accordance to fabrication specifications and performance targets through simulation. CREDITS: 3.00

**EEC 4943 - Mobile Communications**
This is an introductory course to the field of mobile cellular communications. Key concepts such as architecture, cell design, frequency reuse, handoff, interference and capacity and grade of service (GoS) are covered. Propagation radio channel which limits the performance of mobile communication is addressed. A study of digital modulation and its performance over fading channels is covered. Multiple access schemes such as TDMA, FDMA, CDMA and spread spectrum systems are presented. Wireless standards and future development are considered in detail. CREDITS: 3.00

**EEC 4963 - Digital Signal Processing**
This course introduces a practical understanding of the fundamentals of digital signal processing. Specifically, the time, amplitude, and frequency effects of sampling and digitising continuous-time signals are presented. The Z-transform and signal flow diagrams are used in the design various FIR and IIR filter specifications. MATLAB is used to implement and analyse the frequency response. CREDITS: 3.00

**EEC 4993 - Intelligent Systems**
This course is an introduction to artificial intelligence (AI) and related system techniques. Basic AI topics of knowledge representation, search techniques and reasoning are presented. Methods of approximate reasoning, fuzzy sets and systems, and biologically inspired systems such as neural networks and genetic algorithms are discussed and practically applied. CREDITS: 3.00

**EEL 2003 - Power Electronics**
Introduces power switching devices such as the diode, thyristor, MOSFET, and IGBT. Methods for converting electrical power and delivering power to resistive and inductive loads are introduced. CREDITS: 3.00

**EEL 2023 - Power Generation and Transmission**
This course introduces power generation and transmission. The main components and characteristics of thermal power plants, the impact on the environment, and various transmission line models are presented. CREDITS: 3.00

**EEL 2043 - Principles of Machines and Power**
Introduces the fundamentals of common electrical machines used in industrial applications. Three-phase electrical circuits are introduced and the operation of electrical transformers is analysed. CREDITS: 3.00

**EEL 3003 - Electrical Machines**
Focuses on the construction, operation and testing of three-phase electrical machines. The physical concepts and basic laws governing electrical machines operation, such as Faraday’s Law, Ampere-Biot-Savart’s Law and Len’s Law, are introduced and the principles underlying the performance of three-phase electrical machines are subsequently explained. CREDITS: 3.00

**EEL 3013 - Electrical Power Distribution**
Introduces students to the fundamentals of electrical power distribution. It presents various distribution system layouts as well as the function of common distribution system substations and equipment. Students are introduced to design procedures and protection methods for power distribution systems of consumer installations. CREDITS: 3.00

**EEL 3023 - System Protection and Coordination**
This course introduces power system protection fundamentals, basic design requirements, and principles of operation for over-current, over-voltage, and under-voltage protection schemes for various power system components. Three-phase short circuit currents are analysed under various conditions are used as a basis to select circuit breaker types and ratings. Various protective devices, such as over current and earth leakage, differential, distance, over voltage, and under voltage relays, are applied as appropriate. Unit protection, back up protection, and protection coordination are introduced. CREDITS: 3.00

**EEL 4413 - Power Systems Analysis**
Equips students with the ability to analyse and solve problems commonly encountered in electrical power
systems. The course includes a revision of complex power calculations, per-unit system of analysis, and electrical network calculations. Topics include system modelling, load flow analysis, symmetrical components theory, fault analysis, and stability problems.
CREDITS: 3.00

EEL 4803 - ELECTRICAL DRIVES
Covers the theory and control methods for DC and AC electrical drive systems. Various methods for controlling the DC and AC motors are presented and mathematical models are used to implement linear control techniques. Various implementations and designs are modelled with the associated control mechanisms using a simulation package, such as MATLAB Simulink, in order to investigate and test the overall DC and AC drive system performance under various operating conditions.
CREDITS: 3.00

EEL 4813 - ELECTRICAL MAINTENANCE OPERATIONS
Introduces students to the preventive, corrective and opportunistic maintenance and testing of electrical equipment and subsystems including substations, circuit breakers, power transformers, and industrial machines. The Electrical Preventive Maintenance and Test (EPMT) programme is introduced and utilised, with consideration of electrical safety, switching practices and precautions taken with live circuits. Maintenance options with respect to economic considerations and cost-benefit analysis are also explored.
CREDITS: 3.00

EEL 4903 - MACHINE CONTROL AND DRIVES
Focuses on the analysis and design of electric motors and drive systems. Students are introduced to the fundamental physical electrical and mechanical properties of DC and AC motors as the basis for understanding the design and control strategies for motor drive systems. Mathematical modelling and software analysis packages are used extensively.
CREDITS: 3.00

EGN 2003 - COMPUTER PROGRAMMING
Presents formal, problem solving methods applied to the solution of practical, algorithm-based, problems using a high level programming language. Programming logic is taught and applied to generic problem solving as well as to the design and validation of programming algorithms.
CREDITS: 3.00

EGN 3033 - HEAT TRANSFER
The course involves the study of the basic physical laws of heat transfer including steady-state and transient heat flow, one-dimensional heat conduction in solids, free or forced convection in fluids, radiation and phase change and analysis of heat exchangers. The course enables students to better understand engineering applications involving heat transfer and allows a sound design or selection of pumps, heat exchangers and building insulation materials.
CREDITS: 3.00

EGN 3103 - PROJECT MANAGEMENT
This course introduces the necessary tools and information to manage engineering projects and resources. It covers a range of principles and practices in initiating, planning, staffing, coordinating and completing a project within the triple constraint of schedule, budget, and performance. The course strives to strike a balance between the general knowledge of project management and available tools, such as Primavera, OpenProj, and Microsoft Project, to assist in managing real life projects.
CREDITS: 2.00

EGN 3203 - ENGINEERING ECONOMICS
Introduces the basics of economic analysis for quantifying engineering business decisions. Topics include time value of money; analysis of single and multiple investments; comparison of alternatives; capital recovery and tax implications; certainty; uncertainty; risk analysis; public sector analysis and break-even concepts. Students discuss, analyse, and present relevant engineering case studies.
CREDITS: 3.00

EGN 3313 - ENGINEERING PRACTICE AND LEADERSHIP
Introduces professional practice, ethical decision making, and leadership in relation to engineering technology. Through the course, students study organisational structure and behaviour in an international context,
improve their ability to consider problems from multiple perspectives and make decisions associated with ethics, context, and uncertain, inconsistent, and imprecisely defined requirements.

CREDITS: 3.00

EGN 3333 - HEALTH SAFETY AND ENVIRONMENT
This course introduces common industrial procedures for employee health, safety and environment. The course covers hazards identification and control, occupational health, fire protection and prevention, safety management and ethics, safety regulations, safety inspection, accident investigation, personal protective equipment, and safety report documentation. The course also includes topics on environment protection, accident prevention, effective committee operations, accident investigation, and safety training.

CREDITS: 2.00

EGN 4003 - DESIGN PROJECT I
This capstone course requires the formation of a team to propose, design, and plan an engineering project. Though mentored by a faculty member, the team is evaluated on its ability to coordinate efforts to propose the project design criteria, major components, resources, systematic design, implementation schedule, and estimated cost.

CREDITS: 3.00

EGN 4023 - PROGRAMMABLE LOGIC CONTROLLERS
This course introduces the Programmable Logic Controller (PLC) and its application to industrial control systems. Ladder logic programming and device wiring techniques are used in laboratory applications.

CREDITS: 3.00

EGN 4033 - DESIGN PROJECT II
This course consists of the implementation, evaluation, and analysis of a capstone engineering project. Though guided by faculty, the student team is primarily responsible for the completion of the project milestones and course objectives. The course requires the integration and application of technological, organizational, communication, and interpersonal skills by the student team. Safe implementation, documentation, and presentation skills form the basis for assessment.

CREDITS: 3.00

EGN 4813 - ROBOTICS TECHNOLOGY
Introduces robotic technology with a focus on the components of computer automated processes. Specifically, a hands-on approach is used to explore robotic embedded systems, associated programming, dedicated controllers, and related applications. The fundamental concepts describing robotics operation including coordinate transformations, sensor and actuator selection and interface, motion analysis, path planning and kinematics are introduced.

CREDITS: 3.00

EGN 4823 - INDUSTRIAL PROBLEM SOLVING
Utilises an industry-based project as a practical means of researching a specific engineering technology problem by technically describing the project, determining the design criteria, assessing possible proposals, choosing the best solution, resolving implementation issues, and evaluating performance results.

CREDITS: 3.00

EGN 4913 - RENEWABLE ENERGY SYSTEMS
Introduces renewable energy sources and systems for conversion of various forms of energy into electrical power. Common energy sources such as wind, solar, nuclear, fuel cell, hydro, biomass and geothermal are described by operational principles, block diagrams and construction. This course also introduces factors affecting generation, efficiency and integration of power sources to the grid from wind and solar based energy systems.

CREDITS: 3.00

EGN 4923 - ENGINEERING DESIGN
This course is central to developing students ability to analyse, design and select engineering components and materials for manufacturing.

CREDITS: 3.00

ELT 2003 - LANGUAGE ARTS A (SPEAKING, LISTENING AND VOCABULARY)
Builds on the knowledge and awareness of both how language impacts learning and how young children acquire and learn in a second or additional language. Bilingualism and multilingualism and contrasting theories of first and second language acquisition including the nature of interlanguage and universal grammar are analysed and evaluated.

CREDITS: 3.00
ELT 2203 - LANGUAGE ARTS B (TEACHING METHODS FOR THE PRIMARY SCHOOL TEACHER A)
Explores appropriate methods and strategies for the effective, integrated delivery of Language Arts (Speaking, Listening, and Vocabulary) in an English medium primary classroom.
CREDITS: 3.00

ELT 2503 - LANGUAGE ARTS C (READING/Writing/Literature)
This course has 3 main strands: 1) The development and teaching of reading 2) The development and teaching of writing 3) The role of texts in developing literacy in the English Medium Primary School. Throughout the course, students are engaged in an on-going extensive and intensive reading and writing programme in order to develop their own reading and writing fluency and skills.
CREDITS: 3.00

ELT 2603 - LANGUAGE ARTS D (TEACHING METHODS FOR THE PRIMARY SCHOOL TEACHER)
Explores appropriate methods and strategies for the effective, integrated delivery of Language Arts (Reading, Writing and Literature) in an English medium primary classroom.
CREDITS: 3.00

ELT 3003 - CHILD AND ADOLESCENT LITERATURE
Aims to develop student’s awareness of the value of adolescent literature as a tool in language teaching. It explores some theoretical foundations for the use of literature in the classroom, and includes a strong practical component where students will work with stories to develop a bank of classroom applications for the teaching of English as a Second Language (ESL). Students publish and share resources/materials created for use by peers during teaching practice in schools.
CREDITS: 3.00

ELT 3203 - LANGUAGE ARTS E (TEACHING METHODS FOR THE SECONDARY SCHOOL ENGLISH)
Focuses on the teaching of reading and vocabulary while giving the students a chance to develop their own reading skills. Students will develop their understanding of what the skill of reading entails and how best to advance this at different age levels in secondary schools. In addition, students will examine concepts in first language literacy development and relate them to the teaching of ESL in schools. Students will also examine the crucial role of vocabulary in second language learning and develop strategies for the teaching of vocabulary in secondary schools.
CREDITS: 3.00

ELT 3503 - LITERACY AND GRAMMAR IN THE SECOND LANGUAGE CURRICULUM
Knowledge of the language is an essential tool for English language teachers. This course will raise awareness of grammar, sensitize students to the language they are teaching, and build on their existing knowledge. Students will analyse grammatical functions and structures in terms of form and use.
CREDITS: 3.00

ELT 3703 - LANGUAGE ARTS F (TEACHING METHODS FOR THE SECONDARY SCHOOL ENGLISH)
This course will enable students to build on their knowledge of literacy development by examining the teaching and learning of writing and grammar, whilst considering how to plan for these in the second language curriculum. Students start with an examination of the complex skills involved in writing, before moving on to analyse a range of approaches and strategies that can be used to teach writing in secondary schools.
CREDITS: 3.00

EMC 2003 - COMPUTER AIDED DRAFTING
Fundamentals of graphical communications, computer aided drafting, orthographic projections, drawing standards, drawing scales and tolerance, geometric modelling, descriptive geometry, problem visualisation and solution in mechanical engineering applications.
CREDITS: 3.00

EMC 2013 - MATERIALS SELECTION AND TESTING
Covers the material selection criteria for specific engineering applications by introducing mechanical properties and material defects. This course also covers material defects, dislocation, failure, grain size, crystallisation, phase diagrams and causes of corrosion with prevention.
CREDITS: 3.00

EMC 2023 - STATICS AND DYNAMICS
This course introduces the fundamentals of statics for
particles and rigid bodies and covers the principles of
dynamics with engineering applications.
CREDITS: 3.00

EMC 2033 - MANUFACTURING TECHNOLOGY
Designed to give students a grounding in the
processes and technologies relative to manufacturing
technology. The course includes primary and
secondary manufacturing processes, process selection,
measurement systems, quality control of manufactured
parts and technologies associated with Advanced
Manufacturing Technology (AMT).
CREDITS: 3.00

EMC 2043 - MECHANICS OF MATERIALS
Introduces the fundamental concepts of stress,
strain, deformation, strain energy and load carrying
capacity of structural members subjected to tension,
compression, shear, torsion, bending and stress-
strain transformation. Engineering design concepts
are integrated into the course with related laboratory
experiments.
CREDITS: 3.00

EMC 2053 - FLUID MECHANICS
Covers the basic concepts of fluid mechanics. Emphasis
will be placed on basic topics including fluid properties,
hydrostatics and hydrodynamics (buoyancy, forces on
submerged surfaces, pipe flow and energy losses). The
course practical work will reinforce the theory through
a set of experiments in the hydraulics laboratory.
CREDITS: 3.00

EMC 2223 - FLUID POWER
In this course the principles of fluid power and
components will be studied together with circuit design.
CREDITS: 3.00

EMC 3003 - INDUSTRIAL PLANT MAINTENANCE
This course covers methods of achieving good
organisational and maintenance planning in industrial
settings.
CREDITS: 3.00

EMC 3013 - FABRICATION AND WELDING
Covers the application of basic fabrication and welding
skills, joining and cutting metals using selected thermal
processes such as the Oxyacetylene (Gas Welding),
Manual Metal Arc (MMA), Metal Inert Gas (MIG) and
Tungsten Inert Gas (TIG) welding. Health, safety and
environment regulations for welding, proper use of
fabrication and welding tools and regular logbook
maintenance skills are also covered.
CREDITS: 3.00

EMC 3023 - THERMODYNAMICS I
This course covers thermodynamic principles and
fundamental laws and the application of these concepts
to engineering problems.
CREDITS: 3.00

EMC 3033 - THERMODYNAMICS II
Covers the applications of the laws of thermodynamics
in the design and optimisation of engineering systems.
Fundamental thermodynamic properties are analysed
including cycle efficiency. The course also includes the
principles of design and optimisation of basic energy
conversion processes within various power plants.
CREDITS: 3.00

EMC 3063 - MECHANICAL DESIGN I
Designed to provide the concepts, procedures, data
and decision analysis techniques necessary to design
machine elements commonly found in mechanical
devices and systems.
CREDITS: 3.00

EMC 3143 - ROTATING EQUIPMENT
Provides a broad introduction to the construction and
operation of the most common types of prime movers,
driven machines and transmission systems found in
the manufacturing and process industries, with special
emphasis on equipment in the UAE. The course draws
on the students knowledge of engineering principles
gained from earlier technical studies.
CREDITS: 3.00

EMC 3163 - PROCESS CONTROL: MECHANICAL
Presents the basic application concepts of automatic
process control theory, and the usage of these concepts
in modern industrial applications. The course looks
at two basic concepts of process control (feedback
control, and feed forward control), and variations and
extensions of these, to more special purpose concepts
and applications found in common practice.
CREDITS: 3.00

EMC 4003 - TURBOMACHINERY
Designed to provide the concepts, procedures, data and
dimensional analysis techniques necessary to evaluate
the flow and energy transfer through various types of turbo machines. This course builds on students’ knowledge gained from various engineering topics, to develop skills to analyse the energy transfer that is taking place between a fluid and a rotating element due to dynamic action.
CREDITS: 3.00

EMC 4043 - REFRIGERATION AND AIR CONDITIONING SYSTEM
Covers the classification of refrigeration and air-conditioning systems and their applications and psychrometrics to determine moist air properties and to analyse air conditioning processes. It introduces cooling loads estimation, air distribution systems and duct design. Vapour compression refrigeration cycles and components, vapour compression system analysis and energy estimation methods are also covered. It includes lab experiments and demonstrations to support key concepts with practical examples and application.
CREDITS: 3.00

EMC 4123 - GAS TURBINES
This course introduces thermodynamic concepts of gas turbine cycles. It also focuses on power plant efficiency and output enhancement.
CREDITS: 3.00

EMC 4143 - PRODUCTION PLANNING AND CONTROL (PPC)
Covers the design, development, implementation and management of production planning systems.
CREDITS: 3.00

EMC 4253 - APPLIED THERMODYNAMICS
Studies the application of thermodynamics through the first and second Laws of Thermodynamics, enthalpy, entropy and reversible and irreversible processes, and to solve a wide range of mechanical engineering problems. Essential thermodynamic components of refrigeration, IC engines, and power cycles are explained. Heat, work, efficiency and performance calculation procedures are emphasised.
CREDITS: 3.00

EMC 4923 - DESALINATION AND POWER
This course covers power and desalination principles and technology. It includes an overview of power generation systems and applications.
CREDITS: 3.00

EMC 4963 - POWER PLANT ENGINEERING
Designed for students to develop necessary knowledge and understanding of power plant technology used in the generation of electrical power. It introduces basic power plant components, operations, economics, design and performance. Power generation applications will be treated with emphasis on thermal systems analysis based on thermodynamics. The course includes thermodynamic and power plant cycle analysis, fossil and nuclear fuels, fuel combustion; power plant economic and environmental aspects; electrical equipment; nuclear power and emerging energy source technologies.
CREDITS: 3.00

EMC 4973 - COMPUTER INTEGRATED MANUFACTURING
An introduction to the technology associated with computer integrated manufacturing (CIM). It introduces Conventional manufacturing technologies, followed by computer automation and CIM. The course will include computer-aided design (CAD), automated manufacturing processes, integrated manufacturing systems and other related topics. In this course, an advanced CAD software will be introduced to guide students in design and manufacture.
CREDITS: 3.00

EMM 4003 - ADVANCED HUMAN FACTORS
Provides knowledge of advanced human factors concepts in an aviation setting. Topics covered include: a review of basic human factors topics; further exploration of systemic models in aviation human factors; human factors in aircraft maintenance and inspection, issues affecting aircraft maintenance, teams and organisational issues in a maintenance environment, automation and advanced technology, future challenges and error prevention.
CREDITS: 3.00

EMM 4902 AVIATION SAFETY MANAGEMENT SYSTEMS
The purpose of this course is to provide the student with a knowledge of Safety Management Systems (SMS). SMS provides a systematic way to identify hazards and control risks while maintaining assurance that these risk controls are effective. It is the reduction of risk to a level that is as low as is reasonably practicable. SMS is a systematic, explicit and comprehensive process for managing safety risks. As with all management systems, a safety management system provides for goal setting.
planning, and measuring performance. It is woven into the fabric of an organisation.

CREDITS: 2.00

EMM 4912 MAINTENANCE RESOURCE MANAGEMENT
The purpose of this course is to provide the student with a knowledge of Maintenance Resource Management (MRM). MRM training emphasises a team approach to human error reduction using principles that seek to improve communications, problem solving, decision making, and teamwork. MRM advocates a decentralised, human-centric approach to safety. MRM encourages work teams to communicate vital operational risk and safety information directly and informally, regardless of rank or position, thus permitting rapid response to prevent possible incidents or accidents.

CREDITS: 2.00

EMT 2003 - APPLIED MECHANICS
Explains the principles of force and motion and provides the knowledge required to calculate their effects on structural components and machines.

CREDITS: 3.00

EMT 2023 - ELECTROMECHANICAL SYSTEMS
This course introduces electromechanical machines and systems for a variety of industrial applications.

CREDITS: 3.00

EMT 2033 - ELECTRONICS SYSTEMS AND CIRCUITS
Introduces the application of semiconductor devices and operational amplifiers to digital and analogue circuits.

CREDITS: 3.00

EMT 3013 - THERMOFLUID SYSTEMS
Many engineering systems involve energy transfer and its conversion through fluids and the science that deals with this subject is broadly referred to as thermofluid systems. This course covers the basic concepts of fluid mechanics and thermodynamics and the application of these concepts to engineering problems.

CREDITS: 3.00

EMT 3103 - ENGINEERING MATERIALS
Covers the material selection criteria for specific engineering applications by introducing the concept of atomic structure, bonding, material transport, solidification, phase diagrams and solid state transformations by relating it to mechanical properties and defects in materials. It also introduces the concepts of material science and the relationship between material structure and mechanical properties such as tensile, compressive, bending and shear.

CREDITS: 3.00

EMT 4013 - INDUSTRIAL CONTROL SYSTEMS
This course introduces the concepts and design of industrial based control systems in a modern automated environment. Several types of control systems related to ICS and used in industrial production are covered including supervisory control and data acquisition systems (SCADA), distributed control systems (DCS) and programmable logic controllers (PLC). The focus is on communication and programming techniques for programmable logic controllers as well as on automated process systems from mainly electrical and electronic perspective.

CREDITS: 3.00

EMT 4923 - MECHANICAL VIBRATIONS
Provides students with an introduction to mechanical vibrations of single, two and multiple degree-of-freedom systems. Students are familiarised with the concepts of vibration control such as vibration isolation and vibration absorbers. The course also provides the basic knowledge of vibration measurement systems.

CREDITS: 3.00

EPC 1401 - PRACTICUM 1A
The practicum component is central to the Bachelor of Applied Science: Education. The content and student experiences in the workplace makes it pivotal as it allows them to observe, implement and reflect upon the theories, methodologies and approaches highlighted in the education and methodology strands of the programme.

CREDITS: 1.00

EPC 1901 - PRACTICUM 1B
The central component of the Education programme is the supervised teaching practicum carried out in a variety of educational settings. This course will allow student teachers to begin to teach an aspect of a class and as the placement progresses, under the close supervision of the class teacher, take on more responsibility in planning, preparing and implementing longer segments of the class.

CREDITS: 1.00
EPC 2401 - Practicum 2A
The central component of the Education programme is the supervised teaching practicum carried out in a variety of educational settings. This course will allow student teachers to take on more responsibility in the teaching environment. As the placement progresses and under the close supervision of the instructor/mentor, the student will take on more responsibility in planning, preparing and implementing longer segments of teaching sessions.
CREDITS: 1.00

EPC 2901 - Practicum 2B
The aim of this course is a detailed observation of learners, teachers/instructors and the educational setting. Depending on the programme, students will conduct the practicum in a relevant setting, e.g. nursery, primary school, special needs centre or training environment etc. This third practicum is for 15 days, students will spend a three-week block in the educational setting. Dates for this practicum may vary across the Emirates. Weeks 6, 7 and 8 are recommended, but the exact timing will depend upon the educational institution.
CREDITS: 1.00

EPC 3403 - Practicum 3A
Students continue to implement a range of observational and teaching tasks aimed at improving their understanding of how teachers/instructors can facilitate development across domains with particular emphasis on teaching and learning in the areas of literacy, numeracy and new technologies. The practicum is typically 12-15 days and enables students to design and implement a unit of work to suit the given major.
CREDITS: 3.00

EPC 3903 - Practicum 3B
Students continue to implement a range of observational and teaching tasks aimed at improving their understanding of how teachers/instructors can facilitate development across domains with particular emphasis on assessment in the areas of science concepts, science skills, and literacy skills embedded into science teaching and learning, or new technologies. The practicum is typically 12-15 days and enables students to look at the design and implementation of a sequence of science lessons. Understanding and demonstration of professionalism is highlighted.
CREDITS: 3.00

EPC 4403 - Practicum 4A
Student teachers work with children aged between 3-5 years old in local early childhood settings for 15-20 days, typically over a 3-4 week period. During this practicum student teachers explore ways in which to enhance children’s learning and plan and undertake family involvement initiatives, field trips and a class performance that support the curriculum. They also commence collecting data for their action research project.
CREDITS: 3.00

EPC 4909 - Practicum 4B (Internship)
Student teachers complete Internship of 35-40 days, typically over an 8-10 week period, ideally at the educational setting where they completed their Teaching Practice in Semester 7. Student teachers typically spend 4 days a week at their school and return to college one day per week.
CREDITS: 9.00

EPR 2003 - Language Arts A (Speaking, Listening and Vocabulary)
In this course, students examine significant international models of learning and teaching as well as examining approaches to the teaching of Speaking, Listening and Vocabulary to EFL learners aged 9-12. Microteaching and observation of microteaching, with a focus on accurate target language will support students’ ability to evaluate these approaches.
CREDITS: 3.00

EPR 2203 - Language Arts B (Teaching Methods for the Primary School Teacher A)
This course explores appropriate methods and strategies for the effective, integrated delivery of Language Arts (Speaking, Listening, and Vocabulary) in an English medium lower primary classroom. By identifying and evaluating a variety of international models for teaching the principles, concepts and skills of English, students can consider the implications for integrated content delivery in schools. Microteaching and the observation of microteaching support students ability to evaluate these approaches.
CREDITS: 3.00

EPR 2503 - Language Arts C (Reading/Writing/Literature)
This course has 3 main strands: 1) The development and teaching of reading 2) The development and teaching of writing 3) The role of texts in developing literacy in
the English Medium Primary School. Throughout the course, students are engaged in an on-going extensive and intensive reading and writing programme in order to develop their own reading and writing fluency and skills.

CREDITS: 3.00

EPR 2603 - LANGUAGE ARTS D: (TEACHING METHODS FOR THE PRIMARY SCHOOL TEACHER)
Explores appropriate methods and strategies for the effective, integrated delivery of Language Arts (Reading, Writing and Literature) in an English medium primary classroom. By identifying and evaluating a variety of international models for teaching the principles, concepts and skills of English, students will be able to consider the implications for integrated content delivery in schools.

CREDITS: 3.00

EPR 3003 - MATHEMATICS FOR THE PRIMARY SCHOOL TEACHER
Prepares student teachers with a current view of contemporary primary mathematics by integrating several key concepts necessary to equip them with knowledge, skills and attitude to teach mathematics at the primary school level effectively. Student teachers will be exposed to issues and standards influencing primary mathematics education. Links will also be made between teaching and learning in primary mathematics to key theories such as learning theories and motivation theories.

CREDITS: 3.00

EPR 3203 - MATHEMATICS TEACHING METHODS FOR THE PRIMARY SCHOOL TEACHER
Equips student teachers with a broad range of teaching strategies to effectively teach mathematics to primary school students. Student teachers will delve deeper into the underlying concepts and principles that are linked to various teaching methods. There will be a strong emphasis on problem solving strategies and model drawing. Explicit links are made between instruction and assessment. In addition, student teachers will learn about resource management such as the use of ICT, learning aids and other informal resources related to teaching and learning of primary mathematics.

CREDITS: 3.00

EPR 3503 - SCIENCE FOR THE PRIMARY SCHOOL TEACHER
Prepares student teachers with a view of contemporary primary science curricula by integrating several areas necessary to equip them with the knowledge, skills and attitude to teach at this level effectively. They learn more about the nature of science, science process skills, science literacy skills and make links between the content, skills and inquiry learning. During this course, student teachers acquire science content and process skills by planning and participating in various science inquiry activities.

CREDITS: 3.00

EPR 3703 - SCIENCE TEACHING METHODS FOR THE PRIMARY SCHOOL TEACHER
Equips student teachers with a broad range of methods and strategies to teach primary science effectively. Student teachers will explore constructivism as well as the inquiry learning process, the planning process for inquiry learning, and the assessment of science content and skills as developed through the inquiry learning. Underlying concepts and principles in these methods are highlighted. Various types and uses of assessment are addressed. Student teachers will also learn how to effectively use ICT, learning aids and resources for science teaching.

CREDITS: 3.00

EPT 1102 - INTRODUCTION TO PETROLEUM ENGINEERING
Provides an overview of the petroleum industry including nature of oil and gas reserves, petroleum exploration and drilling, formation evaluation, well completion and production, surface facilities, reservoir mechanics, and improved oil recovery. It introduces the importance of ethical, societal, and environmental considerations in the petroleum industry.

CREDITS: 2.00

EPT 2002 - PHYSICAL GEOLOGY
This course describes the origin of the earth and its structure. The physical geology of the earth in a general context will be discussed, with more emphasis on oil and gas extraction applications. The course covers materials making the earth interior zone and exterior crust, as well as geologic processes affecting them.

CREDITS: 2.00

EPT 2043 - FLUID MECHANICS AND HEAT TRANSFER
Covers basics and applications of fluid mechanics: statics, mass, energy, and momentum balances; laminar and turbulent flow, Reynolds number. Moody diagram;
flow of non-Newtonian fluids; multiphase flow; flow in porous media, non-Darcy flow. Heat transfer: heat conduction and convection. The course also includes the analysis and selection of pumps, compressors and heat exchangers.

CREDITS: 3.00

EPT 2053 - RESERVOIR PETROPHYSICS
Presenting and discussion of the physical properties of petroleum and gas reservoirs including lithology, strength, porosity, permeability, elastic/acoustic/electrical properties, and fluid transport properties such as capillary and saturation characteristics.

CREDITS: 3.00

EPT 2063 - RESERVOIR FLUIDS
Thermodynamic behaviour of naturally occurring hydrocarbon mixtures; properties of petroleum behaviour of gases, phase behaviour of liquids, qualitative and quantitative phase behaviour of hydrocarbon systems, reservoir fluid characteristics. Application of these concepts to the prediction of gas and gas-condensate reservoir behaviour.

CREDITS: 3.00

EPT 3003 - DRILLING ENGINEERING
Drilling operations, drilling costs and economics, drilling fluids, pressure losses in circulating systems, rotary drilling bits and penetration rate, rotary drilling techniques, pore and fracture gradients. Wellbore, well planning, casing design, direction control, drilling programme preparation.

CREDITS: 3.00

EPT 3013 - RESERVOIR ENGINEERING I
Fundamentals of evaluation of oil and gas reservoirs. Reservoir volumetrics; material balance; Darcy's law and equation of continuity; diffusivity equation; streamlines; well models; introduction to well testing; decline curve analysis; natural water influx.

CREDITS: 3.00

EPT 3023 - WELL PERFORMANCE
Steady-state, pseudo steady-state, and transient well testing methods to determine well and reservoir parameters used in formation evaluation; applications to wells that produce gas and liquid petroleum; rate forecasting; deliverability testing.

CREDITS: 3.00

EPT 3033 - COMPLETION AND WORKOVER
This course covers the continuation from drilling into completion engineering. Topics include casing design, cement planning, completion techniques and equipment, tubing design, wellhead selection, sand control, and perforation procedures.

CREDITS: 3.00

EPT 3063 - RESERVOIR ENGINEERING II
Advanced reservoir engineering concepts required for effective production of oil and gas. Reservoir characterisation; reservoir heterogeneity and anisotropy; recovery mechanisms; Leverett J-functions; upscaling; flow simulation; history matching and forecasting; uncertainty and risk.

CREDITS: 3.00

EPT 3073 - RESERVOIR CHARACTERISATION
A comprehensive description of reservoir modelling, starting with the analysis of geological, geophysical and production data. The construction of 3D geological models with particular emphasis on practical and effective modelling.

CREDITS: 3.00

EPT 4002 - DESIGN PROJECT I
Covers front-end engineering design of new production facilities for a potentially viable oil/gas field. Common offshore and onshore field development modes are first reviewed. Various oil/gas processing systems are studied, including gas dehydration, condensate handling, acid gas removal, LPG extraction, and crude oil stabilisation. Design tasks include process simulation, preparation of process flow diagrams/ piping and instrument diagrams, HAZOP studies, and project management arrangements.

CREDITS: 2.00

EPT 4022 - DESIGN PROJECT II
Covers front-end engineering design of new production facilities for a potentially viable oil/gas field. Common offshore and onshore field development modes are first reviewed. Various oil/gas processing systems are studied, including gas dehydration, condensate handling, acid gas removal, LPG extraction, and crude oil stabilisation. Design tasks include process simulation, preparation of process flow diagrams/ piping and instrument diagrams, HAZOP studies, and project management arrangements.

CREDITS: 2.00
EPT 4102 - Petroleum Production Systems
Tubing and packer design; hydraulic fracturing and acidising; oil and gas well performance; vertical lift and choke performance; systems analysis; production operations. Artificial lift design; sucker rod pumping, electric submersible pumping, plunger lift, and gas lift; design of surface production equipment; oil and gas separation; oil treating; gas dehydration; single and two-phase flow through pipes, fluid measurement; pipeline system design.
CREDITS: 2.00

EPT 4112 - Petroleum Economics and Risk Analysis
Provides the tool required to analyse investments in the petroleum industry and emphasises on the risk and uncertainty in petroleum investments and the stochastic nature of petroleum reservoir operations. The course also covers depletion and petroleum taxation regulation, project evaluation and case studies.
CREDITS: 2.00

EPT 4203 - Reservoir Simulation
Solution of reservoir engineering problems using reservoir simulation software with data provided by the industry. Emphasis of this course is on reservoir description, reservoir model design and calibration, production forecasting and optimisation, economic analysis and decision making under uncertainty. Use of Eclipse and other popular reservoir models.
CREDITS: 3.00

EPT 4213 - Well Test Analysis and Design
The course covers solution to the diffusivity equation and transient well testing: build-up, drawdown, multi-rate test analysis for oil and gas. Flow tests and well deliverabilities. Introduction to Type curve, Superposition, active and interference tests. Well test design. Well Test Analysis using type curve and simulators.
CREDITS: 3.00

EPT 4223 - Advanced Drilling Engineering
Rotary drilling systems with emphasis on design of drilling programs, directional and horizontal well planning Casing setting depths calculation for surface, intermediate and production casings. Casing design and selection. Introduction to offshore drilling.
CREDITS: 3.00

EPT 4233 - Geostatistics
Introduction to elementary probability theory and its applications in engineering and sciences; continuous probability distributions; parameter estimation; hypothesis testing; linear regression; spatial correlations and geostatistics with emphasis on applications in earth sciences and engineering.
CREDITS: 3.00

EPT 4243 - Natural Gas Production
This course covers reservoir and flow-line analysis and design for gas field development. Topics include material balance equation, gas condensate reservoirs, deliverability, pressure testing, separation, rate measurements, flow in pipes, and gas storage.
CREDITS: 3.00

EPT 4253 - Enhanced Oil Recovery
This course covers chemical and thermal methods of EOR. Specific topics include interfacial tension, entrapment and mobilisation of oil in porous media, residual oil, miscibility, adsorption at solid/liquid interfaces, surfactants and micro-emulsions, miscible gas flooding, polymer flooding, thermal methods, and effect of reservoir heterogeneity.
CREDITS: 3.00

EPT 4263 - Petroleum Engineering Numerical Analysis
Use of numerical methods in a variety of petroleum engineering problems; numerical differentiation and integration; root finding; numerical solution of differential equations; curve fitting and interpolation; computer applications; introduction to the principles of numerical simulation methods.
CREDITS: 3.00

EPT 4273 - Separation and Treatment of Petro Fluids
This course deals with design of separation and treatment facilities for crude oil. Topics covered include phase behaviour of water-hydrocarbon systems, flash calculations, 2 and 3- phase oil and gas separators sizing and design, oil-water emulsions and heater-treater design, treatment of oil field waters, and oil skimmers selection and design.
CREDITS: 3.00
EPT 4283 - WELL COMPLETION AND STIMULATION
The course covers completion parameters; design for well conditions. Skin damage associated with completions and well productivity. Fluid types and properties; characterisations of compatibilities. Stimulation techniques; acidizing and fracturing. Selection of fluids types, placement and compatibilities. Estimation of rates, volumes and fracture dimensions.
CREDITS: 3.00

EPT 4293 - PRODUCTION ENGINEERING
Fundamental production engineering design, evaluation, and optimisation for oil and gas wells, including well deliverability, formation damage and skin analysis, completion performance, and technologies that improve oil and gas well performance including artificial lift and well stimulation. Secondary and Tertiary recovery methods.
CREDITS: 3.00

ERK 3004 - WORK PLACEMENT
This course requires the student to gain relevant engineering experience in an actual working environment in order to provide an opportunity to develop and apply professional work ethics and practices. Transfer of engineering skills learned at college to the workplace is a major feature of this course.
CREDITS: 4.00

ETD 1022 - TECHNICAL MATHEMATICS I
Introduces the fundamental mathematical concepts necessary for further study in applied engineering technology. Course topics include whole numbers, fractions, decimals, proportions, percentages, measurement with engineering applications, data analysis and statistics, real numbers, algebraic expressions and equations, graphs of linear equations, and exponents and polynomials.
CREDITS: 2.00

ETD 1032 - TECHNICAL MATHEMATICS II
The primary purposes of this course are to encourage students to develop their understanding of algebra and to show how algebra is a modern modelling language for real-life, engineering technology problems. Course topics include basic algebraic operations, equations and inequalities, functions and graphs.
CREDITS: 2.00

ETD 1042 - ENGINEERING MEASUREMENT AND WORKSHOP
Mechanical measurement and workshop skills are introduced in this course. Safe working practices, selection of materials, use of tools, construction of a specified mechanical project, and measurements of the resulting project form a basis of assessment in the course.
CREDITS: 2.00

ETD 1051 - INTRODUCTION TO ENGINEERING TECHNOLOGY
Introduces the professional fields of Engineering Technology industries in the United Arab Emirates. Specifically, the roles, duties, responsibilities, fundamental skills, and knowledge required engineering technologists, technicians, and operators are presented. The course includes seminars on engineering technology as a profession, professional ethics, professionalism, and social responsibility.
CREDITS: 1.00

ETD 1062 - INTRODUCTION TO CAD
This course introduces the fundamentals of computer aided drafting (CAD). The student uses AutoCAD as a drafting tool to read, understand, and prepare technical drawings relevant to engineering technology. The course includes orthographic projections and the production of a dimensioned assembly drawing.
CREDITS: 2.00

ETD 1072 - APPLIED PHYSICS I
This introductory, applied physics course is essential for all engineering technology disciplines. It covers fundamental principles of physics such as units of measurement, linear motion, forces and the concepts of work and energy. Learning-by-doing activities feature prominently in this course.
CREDITS: 2.00

ETD 1203 - GENERAL CHEMISTRY
Introduces the core concepts of inorganic chemistry as it applies to chemical engineering technology technicians and engineers. This course covers the following topics: matter, atomic structure and the periodic table, chemical bonding, naming and writing formulas of inorganic compounds, mass relations in stoichiometry, empirical and molecular formula, solute concentration and dilution, balancing of chemical equations and reaction types. A strong focus is placed
on laboratory safety and techniques, measurement and troubleshooting.
CREDITS: 3.00

ETD 1213 - CHEMICAL ENGINEERING FUNDAMENTALS
Covers the essential issues of chemical engineering principles with applications to industry. Variables used in chemical processes and fundamental techniques of chemical calculations are introduced. The parameter physical properties are determined in order to calculate a new process or analyse an existing one. Ideal and non-ideal gas relationships and basic concepts of energy calculations are also introduced.
CREDITS: 3.00

ETD 1223 - INTRODUCTION TO CORROSION
Introduces the main types of corrosion and common methods used in industry to monitor and control corrosion. Topics include classification of corrosion types, corrosion measurement, and corrosion prevention (mainly cathodic protection). Laboratory sessions include investigation of common types of localised corrosion, galvanic corrosion, cathodic protection, and measurement of corrosion rate. Relevant industry case studies are used to discuss corrosion behaviour of metals and alloys in various environments and factors which inhibit and contribute to corrosion.
CREDITS: 3.00

ETD 1303 - ELECTRICAL MEASUREMENTS
This course introduces students to electrical units, basic laboratory equipment, and related measurements of voltage, current, and resistance. Students gain competency in use of the power supply, multimeter, function generator, and oscilloscope.
CREDITS: 3.00

ETD 1313 - CIRCUIT FUNDAMENTALS
Introduces students to DC linear circuit fundamentals which include common scaled-units of basic quantities, Ohm's law, Kirchhoff's laws, linear circuit theorems, and network analyses of series, parallel, and series-parallel linear circuits. Thevenin, Norton, and superposition theorems are described and used in the analyses of various DC linear circuits.
CREDITS: 3.00

ETD 1323 - DIGITAL APPLICATIONS
Introduces fundamental concepts of digital systems.

ETD 1413 - PNEUMATIC AND HYDRAULICS
Introduces the components and safe operation of hydraulic and pneumatic systems. Through the course, students learn basic hydraulic and pneumatic system diagrams, troubleshooting, and principles through applied learning in a relevant practical laboratory.
CREDITS: 3.00

ETD 1503 - CAD MECHANICAL
This course introduces the fundamentals of computer aided drafting, orthographic projections, drawing standards, drawing scales and tolerance, geometric modelling, descriptive geometry, and problem visualisation with application to mechanical components.
CREDITS: 3.00

ETD 1513 - MECHANICAL ENGINEERING FUNDAMENTALS
Presents fundamental concepts of physical science, various forms of energy, energy transformation, knowledge of basic terminology used in mechanical systems, analysis of various mechanism both mathematically and graphically, and the overall performance evaluation of mechanical systems.
CREDITS: 3.00

ETD 1523 - WELDING AND METAL CUTTING
Introduces metal cutting process through identification of the cutting tool geometry and nomenclature, and application in a practical workshop. Furthermore, the course introduces the principles and characteristics of four primary welding methods. Before application, training is provided on hazards and safety practices related to welding and metal cutting.
CREDITS: 3.00

ETD 2007 - ENGINEERING DIPLOMA WORK PLACEMENT
This course requires the student to gain relevant engineering experience in an actual working environment in order to provide an opportunity to develop and
apply professional work ethics and practices. Transfer of engineering technology skills learned at college to the workplace is a major feature of this course.

CREDITS: 7.00

ETD 2022 - TECHNICAL MATHEMATICS III
The primary purposes of this course are to continue to encourage students to develop their understanding of algebra through algebraic trigonometry, and complex numbers; and to show how algebraic trigonometry and complex numbers can be a modern modelling language for real-life, engineering technology problems. Course topics include exponential and logarithmic functions, properties of trigonometric functions, and complex numbers. Course forms the second half of engineering Pre-calculus.

CREDITS: 3.00

ETD 2032 - APPLIED PHYSICS II
This course is a continuation of Applied Physics I. It covers fundamental principles of physics such as circular motion and angular motion, momentum and impulse, and wave motion. Laboratory work and learn-by doing activities through use of simulations, physics applets and problem-based learning modules are required to reinforce and stress the importance of these principles.

CREDITS: 2.00

ETD 2042 - APPLIED DIPLOMA PROJECT
Involves the implementation and evaluation of a capstone engineering project. Though guided by faculty, a student team is primarily responsible for the completion of the project. The course requires the integration and application of technological, communication, and interpersonal skills by the student team. Safe implementation, documentation, and presentation skills form the basis for assessment.

CREDITS: 2.00

ETD 2052 - INDUSTRIAL HEALTH AND SAFETY
Introduces common industrial procedures for employee health and safety. The course covers hazards identification and control, occupational health, fire protection and prevention, safety management and ethics, safety regulations, safety inspection, accident investigation, personal protective equipment, and safety report documentation.

CREDITS: 2.00

ETD 2063 - COMMUNICATION SYSTEMS
This course introduces the major components and common channels of communication systems. Topics related to encoding, modulation, transmission, reception, and demodulation are presented and studied practically in the laboratory.

CREDITS: 3.00

ETD 2103 - GAS TURBINE ENGINE (Mod 15)
This course introduces and applies gas turbine engine concepts and designs that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 15 B1.1. Topics covered include: fundamentals, engine parts functional breakdown, engine designs, APU, protection and indication, and storage and preservation.

CREDITS: 3.00

ETD 2104 - HUMAN FACTORS (Mod 9)
Introduces human factors principles that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 9 B1 and B2. Topics covered include: human performance and limitations, social psychology, factors affecting performance, physical environment, communication, human error and hazards in the workplace.

CREDITS: 4.00

ETD 2106 - MAINTENANCE PRACTICES (Mod 7)
This course provides the student with a theoretical and practical familiarisation of maintenance practices that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 7 B2. Topics covered include: safety precautions, workshop practices, tools, test equipment, fits and clearances, electrical connectors, riveting, maintenance procedures and material handling.

CREDITS: 6.00

ETD 2112 - PROPELLERS (Mod 17)
This course introduces and applies propeller concepts that are essential for engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 17 B1.1. Topics covered include: fundamentals, construction, pitch control, synchronising, ice protection, propeller maintenance, storage and preservation.

CREDITS: 2.00

ETD 2115 - AIRCRAFT LEGISLATION (Mod 10)
Introduces and describes aviation legislation that is
essential for Engineers in the field of aircraft maintenance as required by GCAA CAR 66 Module 10 B1.1. Topics covered include: regulatory framework, certifying staff, approved maintenance organisations, commercial and private air transportation, aircraft certification, CAR M and applicable national and international requirements. CREDITS: 5.00

ETD 2119 - TURBO AERODYNAMICS: STRUCTURE AND SYSTEMS (Mod 11)
Provides information on civil aircraft systems and designs deemed essential by GCAA CAR 66 Module 11A (B1.1) for engineers in the field of aircraft maintenance. The course covers the range of airframe, electrical and avionic topics required for completion of the B1.1 Engineers licence. CREDITS: 9.00

ETD 2203 - MATERIAL AND ENERGY BALANCE
Provides a basic understanding of chemical engineering calculations involves material and energy balances around simple chemical process. CREDITS: 3.00

ETD 2213 - PROCESS OPERATIONS
Introduces basic chemical engineering unit operations. Three main areas of unit operations are covered: fluid flow, heat transfer and mass transfer. The principles of operation of major equipment and machinery often found in the chemical process industries are presented. Fundamental engineering calculations are introduced, and laboratory work is used to reinforce the understanding of certain chemical engineering phenomena. CREDITS: 3.00

ETD 2223 - PROCESS INSTRUMENTATION AND CONTROL
Provides an introduction to industrial instrumentation and process control. Instruments for the measurement of temperature, pressure, flow and level are introduced with specific reference to plant requirements. The course is supported by extensive laboratory experiments and demonstrations. CREDITS: 3.00

ETD 2233 - CHEMICAL LABORATORY EQUIPMENT
Introduces the student to key laboratory equipment routinely used in the chemical laboratory. The practical component covers the concepts of laboratory safety, scientific measurement, analytical and reporting techniques. Instrument calibration, troubleshooting and results verification are also essential components of the course. CREDITS: 3.00

ETD 2243 - TROUBLESHOOTING TECHNIQUES
Studies the operational aspects of major chemical process equipment. It emphasises the techniques and ways to improve performance, capacity and efficiency of plant equipment. CREDITS: 3.00

ETD 2253 - CORROSION INSPECTION AND MONITORING
This course will cover various techniques used in industry to measure and detect different types of corrosion. The topics include uniform corrosion, localized corrosion and methods used to monitor corrosion. Laboratory experiments will consist of measuring uniform corrosion rate with the help of various electrochemical methods and investigating pitting corrosion behaviours for different alloys. CREDITS: 3.00

ETD 2263 - CORROSION CONTROL IN INDUSTRY
Presents various techniques and practices used in industry to monitor and control corrosion. Topics include corrosion measurement, cathodic protection, corrosion inhibitors and coatings. The course provides the opportunity to identify and examine corrosion and metallurgical problems that may occur in process units. Laboratory sessions include investigation of pitting corrosion, corrosion inhibitors and cathodic protection by using sacrificial anodes. CREDITS: 3.00

ETD 2273 - PETROLEUM AND PETROCHEMICAL INDUSTRIES
Introduces the basics of the petrochemical industry, main petrochemical products, related production processes, use of natural gas, upstream processing of natural gas, and reforming of the components into alkenes. Emphasis is on types of feedstock’s, reactions and uses of end products. CREDITS: 3.00

ETD 2283 - WATER TREATMENT SYSTEMS
Water Treatment Systems introduces the theory and
laboratory procedures required to analyse water using acceptable standards. The course includes procedures for routine water sampling and testing by standard methods in order to determine compliance. An overview of water treatment methods is also included.
CREDITS: 3.00

ETD 2293 - UTILITIES SYSTEMS
Provides a basic overview of the history and present state of each of our utilities and of our building, transportation and industry infrastructure. Practical and ideal future scenarios as well as the integrative relationships between and among different utility systems are examined. Students learn how our current infrastructure came about and what it would take to make improvements to increase operational efficiency and reduce impact on the environment.
CREDITS: 3.00

ETD 2303 - PROGRAMMABLE LOGIC CONTROLLERS
Introduces advanced digital system concepts and control. Specifically, logic and sequential logic circuits are introduced with relevant applications. Then the Programmable Logic Controller (PLC) device is introduced and programmed using ladder logic techniques. Practical laboratory applications are utilised and industrial applications are discussed throughout the course.
CREDITS: 3.00

ETD 2313 - POWER SYSTEMS
This course introduces typical electrical power system structures. Topics include three-phase circuits and the components of AC power systems, such as the generator, transformer, circuit breaker, transmission line, protection equipment and load.
CREDITS: 3.00

ETD 2323 - ELECTRICAL MACHINES
Introduces the fundamentals of common machines found in the electrical power industry. Emphasis is placed on the identification of key characteristics that affect the utilisation, control, protection and maintenance of electrical machines.
CREDITS: 3.00

ETD 2343 - DISTRIBUTED CONTROL SYSTEMS
Presents the distributed control system (DCS) as applied to relevant industries of the United Arab Emirates. Specifically, the system topology, various industrial connection layers to field devices, and typical operations are introduced. The course includes simulation of DCS operations and field trips to observe a DCS implementation.
CREDITS: 3.00

ETD 2363 - THERMODYNAMICS
This course introduces thermodynamic fundamentals and principles with application to typical engineering problems. Practical laboratory procedures are included in the course delivery.
CREDITS: 3.00

ETD 2373 - MAINTENANCE OF ROTARY EQUIPMENT
The course introduces industrial rotary equipment, related components, applications, and maintenance operations. The course emphasises the practical workshop skills related to internal combustion piston engines, various pumps, gas and steam turbines, compressors, and transmission gearboxes.
CREDITS: 3.00

ETD 2383 - MOTOR CONTROLS AND DRIVES
Presents the basic principles of motor control, DC machines, and AC machines through related practical laboratories. The course covers control circuits, diagrams, and control components such as switches, contactors, relays, timers, sensors and solid state devices. Various motor starting methods, speed control, and induction motor monitoring are discussed.
CREDITS: 3.00

ETD 2413 - SENSORS AND ACTUATORS
Sensors and Actuators introduces industrial devices used for the control and measurement of various physical variables. The course presents common sensors, sensor characteristics' and typical applications. The course also presents methods of producing servo energy and the operation of servo drives. Both sensors and actuators are studied through practical laboratories.
CREDITS: 3.00

ETD 2423 - INDUSTRIAL AUTOMATION AND PROCESS CONTROL
This course introduces the diagrams, symbols, concepts, and operation of industrial based control systems in a modern automated environment. Several types of industrial control systems are presented.
including supervisory control and data acquisition systems (SCADA), distributed control systems (DCS) and programmable logic controllers (PLC). The course delivery includes practical applications and industrial field trips.

ETD 2433 - Applied Electronics
This course introduces fundamental principles of semiconductors and analogue devices commonly used in instrumentation. Students read schematic diagrams and utilise simulation and electronic test equipment to build analogue circuits, rectify faults, and measure parameters of various signal conditioning circuits.

CREDITS: 3.00

ETD 2443 - Engineering Laboratory Analysis
A laboratory course designed to acquaint the student with the basic techniques of instrumentation and measurement in both the laboratory and in engineering field measurements. Emphasis on experimental problem solving in real systems.

CREDITS: 3.00

ETD 2503 - Fabrication and Machining
This course introduces the basics of the machining and fabrication. The tools used for material removal are described and applied in a practical workshop setting within a framework of health and safety regulations.

CREDITS: 3.00

ETD 2513 - Material Testing and Selection
Introduces material identification and selection. Topics include fundamental materials properties and the selection of suitable materials for given applications. The basic laboratory methods of materials testing are also covered.

CREDITS: 3.00

ETD 2523 - Maintenance of Mechanical Systems
Provides an introduction to the basic principles of maintenance engineering. Safety hazards are discussed together with the relevant safe working procedures. Simple planning and monitoring of maintenance projects are also covered. Some of the more common practical activities that are carried out by a maintenance technician are included.

CREDITS: 3.00

ETD 2533 - Power Plant Engineering
Introduces the operation and maintenance procedures related to industrial gas and steam turbine systems through practical learning and field trips.

CREDITS: 3.00

ETD 2543 - Alternative Energy
This course introduces renewable energy sources and systems for conversion of various forms of energy into electrical power. Common energy sources such as wind, solar, and nuclear are described by operational principles, block diagrams and construction.

CREDITS: 3.00

ETD 2553 - Refrigeration and Air Conditioning (HVAC)
Covers the classification of refrigeration and air-conditioning systems and related applications. It introduces cooling loads estimation, air distribution systems and duct design. Laboratory experiments are used to support key concepts with practical examples and applications.

CREDITS: 3.00

ETD 2913 - Power Electronics
The course introduces major semiconductor components such as the diode, BJT, MOSFET and SCR that used in rectifiers, converters, and inverters. Students utilise laboratory applications to construct power electronics drive systems for AC and DC motor control.

CREDITS: 3.00

ETD 2923 - Generation and Transmission
Presents the main components of the power generation plant. Topics include the basic principles of three phase AC, control and procedures of synchronous generators, energy sources, conventional and non-conventional power plant technology, transmission, and related safety concerns.

CREDITS: 3.00

ETD 2933 - Distribution Systems
Introduces the main components of the electrical power distribution systems. Topics covered include the final distribution system, system layouts, and management. Moreover, the course introduces the distribution system components such as lines, cables and the associated voltage drop calculations.

CREDITS: 3.00
ETD 2943 - SYSTEM PROTECTION
This course introduces power system protection fundamentals and principles of operation for overcurrent, over-voltage, and under-voltage protection schemes for various power system components. Various protective devices, such as over current and earth leakage, differential, distance, over voltage, and under voltage relays, are applied as appropriate. Unit protection, back up protection, and protection coordination are also introduced.
CREDITS: 3.00

FC N230 - INTERCEPT TECHNIQUES AND PROCEDURES
Includes the Interception, Different Phases of Interception, Collision Theory, Military Types of Control, Mission Administration, 90s Theory, 80s Theory, Stranger Warnings, Emergency Procedures, ADA Interception Technique, UAE ADA Mission Description, ADA Phraseology, Interception of Civil Aircraft, FPL and Diplomatic Clearance, CAP Mission Phases, DCA and OCA Missions, ASFAO Missions, Air Support Missions.
CREDITS: 3.00

FC N232 - AIRSPACE MANAGEMENT
This course includes the Weather and Airfield Status, Rules of the Air, General Airspace Division and Classification, UAE ATC Organisation, UAE Military Airspace, Aeronautical Documentation, Civil Control Techniques, Fighters in a Training Zone, Separation Norms, Picture Building Airspace, UAE AOC Divisions, Air Tasking Orders, Airspace Co-ordination, COMPLAN and SPINS, AP Mission Brief.
CREDITS: 2.00

FC N233 - FIGHTER CONTROL SYSTEMS
CREDITS: 3.00

FC N234 - AIRCRAFT RECOGNITION SYSTEMS
Aims at providing students with the skills of recognition of different aircraft. The course includes technical and tactical aircraft recognition, the importance of aircraft recognition, how to update and find new aircraft types, practical Exercise - aircraft fact finding, recognitions of Fighter aircraft, Bombers, Reconnaissance aircraft, Training aircraft, Transport aircraft, Helicopters, Unmanned aerial vehicles (UAV) and Missiles, and Area countries aircraft including Iranian and Israeli Aircrafts, Area Countries Aircrafts (KSA/Iraqi/Oman/Bahrain/Qatar/Kuwait).
CREDITS: 4.00

FND 0010 - PRE FOUNDATIONS ENGLISH I
This is the first level of the Pre-Foundations course. Students who have a CEPA score of up to 139 can be admitted to this course which is equivalent to the beginning levels of the CEFR A1. This is a general English proficiency course with a focus on all four language skills (reading, writing, speaking and listening), grammar, vocabulary, study skills, and IT literacy.
CREDITS: 16.00

FND 0020 - PRE FOUNDATIONS ENGLISH II
This is the second level of the Pre-Foundations programme. Students with a CEPA score of 140-149 can attend this course which is at the CEFR A1+ level. This is a general English language proficiency course that focuses on all four language skills (reading, writing, listening and speaking), grammar, vocabulary, study skills and IT literacy.
CREDITS: 16.00

FND 1016 - FOUNDATIONS ENGLISH LEVEL I
This is the first of four English language courses at Foundations level. Students enter at a CEFR A1 level (CEPA 150) and exit midway CEFR A2 level (CEPA 156).
CREDITS: 16.00

FND 2016 - FOUNDATIONS ENGLISH LEVEL II
This is the second of four English language courses in the Foundations programme, with students starting at CEFR Level A2 and exiting at CEFR Level A2+.
CREDITS: 16.00

FND 3016 - FOUNDATIONS ENGLISH LEVEL III
This is the third course of a series of four English language courses in the Foundations programme, starting at CEFR level A2+ and exiting around CEFR B1.
CREDITS: 16.00

FND 4016 - FOUNDATIONS ENGLISH LEVEL IV
This is the last course of a series of four English language courses in the Foundations programme, starting at CEFR level B1 and exiting at CEFR B2- emergent.
CREDITS: 16.00
FND M010 - FOUNDATIONS MATHEMATICS I
The first of two mathematics courses in the New Foundations Studies Programme. Foundations Mathematics I (M010) focuses on basic numerical skills to provide a solid mathematical foundation for applications in subsequent courses.
CREDITS: 4.00

FND M020 - FOUNDATIONS MATHEMATICS II
The second of two mathematics courses in the Foundations Programme. Foundations Mathematics II (FND M020) focuses on developing basic mathematical knowledge and skills and proficiency in applying those concepts to practical life. The main resource for this course is an internet based course called ALEKS characterised by its ability to provide individually targeted instruction, provide adaptive learning at students’ own pace and check retention of knowledge and skills with regular individualised assessment.
CREDITS: 5.00

FT N122 - FLYING SCREENING
The aim of the course is to evaluate the flying aptitude and motor skill to Screen the cadets for qualification to undertake Basic Flying Course. Screening Course is to consist of two elements: Academic element, consisting of ground lectures and briefs to augment the flying element. Flying element, consisting of 09 dual instructional sorties with an emphasis on basic flying skills and introduction to Circuit and Landing.
CREDITS: 3.00

FT N304 - GROUND SCHOOL TRAINING
Ground school training is designed to prepare the student for his first flight in the PC-7 aircraft and includes aircraft systems and flight line and safety procedures. Aircraft system comprises aircraft description, PT-6 engine, propeller, oil system, engine fuel system, airframe, landing gear, flaps, canopy, aircraft fuel system, electrical system, flight instruments, radio/nav. equipment, limitations, aircraft performance, radio communications.
CREDITS: 6.00

FT N305 - GENERAL HANDLING GROUND SCHOOL
This course is subdivided into Basic Phase up to Mid Term Test (MTT) and Advanced Phase, from the MTT up to Final Handling Test (FHT). GH includes, but not limited to, familiarisation with PC-7 aircraft; normal operating checks and procedures; pre-flight inspections; post-flight checks; emergency procedures; Ops room and flight line procedures; effects of flight and trim controls.
CREDITS: 5.00

FT N306 - GENERAL HANDLING FLYING
This course is the flying component of the course FT 305 »General Handling Ground School«. In this course students will practice take-offs, climbing, level flight, gliding and turning procedures; circuits and landings; stalling; spinning; unusual/vertical/inverted recoveries; fly the Chandelle; fly the barrel roll; fly wingovers and solo aerobatics; manoeuvre on the buffet; Cuban-8; land from a no flap approach; Horizontal-8; vertical figure of 8.
CREDITS: 6.00

FT N307 - INSTRUMENT FLYING GROUND SCHOOL
Covers errors of the flight instruments; fly by reference to instruments without hood; unusual attitude recoveries; Basic IF emergencies: generator failure, NAV aids failures, inverted failure; VORTAC course/Radial intercepts; basic instrument flying grading sortie; vertical S A and B; fly VOR/DME let down and missed approach; holding pattern entries; Re-erect the AHRS in flight; vertical S C and D; limited panel flying; instrument approach using the Standby AI; ILS procedures.
CREDITS: 1.00

FT N308 - INSTRUMENT FLYING
This course is the flying component of the course FT 307 »Instrument Flying Ground School«. In this course students will learn flying by reference to instruments without hood; unusual attitude recoveries; Basic IF emergencies: generator failure, NAV aids failures, inverted failure; VORTAC course/Radial intercepts; basic instrument flying grading sortie; vertical S A and B; fly VOR/DME let down and missed approach; holding pattern entries; Re-erect the AHRS in flight; vertical S C and D; limited panel flying; instrument approach using the Standby AI; ILS procedures.
CREDITS: 2.00

FT N309 - NAVIGATION FLYING GROUND SCHOOL
Navigation Flying includes time check from ATC; departure and set course procedures; use of funnel features; medium level navigation techniques and procedures; track and ETA maintenance; radio aid fixing; emergencies: flameout, fuel system emergencies, radio Nav aids failure.
CREDITS: 1.00
FT N310 - NAVIGATION FLYING
This course is the flying component of the course FT 309 (Navigation Flying Ground School). It covers Navigation Flying (NAV) including time check from ATC; departure and set course procedures; use of funnel features; medium level navigation techniques and procedures; track and ETA maintenance; radio aid fixing; emergencies: flameout, fuel system emergencies, radio Nav aids failure, lost procedure; weather/ OMD-2 avoidance; in-flight divergence procedure; off track corrections.
CREDITS: 2.00

FT N311 - FORMATION FLYING GROUND SCHOOL
FORM includes close formation in the PC-7; leadership skills; formation ground procedures and hand signals; straight join up; straight and level station keeping and station changing; close formation techniques and procedures; stream landing; emergencies: Mid air collision, controllability check, radio Tx failure, radio failure, HEFOP signals, lost lead procedure; straight join up; fly emergency breaks and straight re-joins; stream take-off; turning re-joins; formation take-off and landing; manoeuvring in echelon and line astern; advanced formation techniques, brief the formation.
CREDITS: 1.00

FT N312 - FORMATION FLYING
This course is the flying component of the course FT 311 (Formation Flying Ground School). It covers close formation in the PC-7; leadership skills; formation ground procedures and hand signals; straight join up; straight and level station keeping and station changing; close formation techniques and procedures; stream landing; emergencies: Mid air collision, controllability check, radio Tx failure, radio failure, HEFOP signals, lost lead procedure; straight join up.
CREDITS: 2.00

FT N313 - NIGHT FLYING GROUND SCHOOL
NF includes, but not limited to, night flight techniques and procedures, airfield familiarisation and identification; night flying scan; glide path demonstration; instrument approaches with radar vectoring; touch and go techniques; emergencies: generator failure, R/T failure in circuit, complete electrical failure, engine flameout; night ground procedures; no flap circuits and landing.
CREDITS: 1.00

FT N314 - NIGHT FLYING
This course is the flying component of the course FT 313 (Night Flying Ground School). It covers, but not limited to, night flight techniques and procedures, airfield familiarisation and identification; night flying scan; glide path demonstration; instrument approaches with radar vectoring; touch and go techniques; emergencies: generator failure, R/T failure in circuit, complete electrical failure, engine flameout; night ground procedures; no flap circuits and landing.
CREDITS: 1.00

GAEN N201 - ENGLISH COMMUNICATIONS I
GAEN 201 Military Aviation English (Common) focuses on delivering grounding in military aviation English that will serve as a common platform of understanding prior to later role-specific military aviation English courses within the Bachelor programme. The course will also support and enhance student performance in other academic courses undertaken during Year 2 of the Bachelor programme as well as generally their expected duties as AFandAD Officers.
CREDITS: 8.00

GAEN N202 - ENGLISH COMMUNICATIONS II
This is the second course which enables learners to improve their English proficiency in support of their chosen academic programme. The course integrates listening, speaking, reading and writing in authentic general and academic contexts. Course delivery includes a range of resources and techniques to cater to individual learning styles with a balance between language accuracy and fluency. A blended learning approach incorporating online coursework is encouraged alongside more conventional language learning approaches.
CREDITS: 8.00

GAEN N203 - ACADEMIC COMMUNICATION
This course focuses on the development of communication skills needed in academic programs. Students learn to take part in academic discussions and to make presentations in a comprehensible and concise manner, appropriate to academic settings. Course delivery can include individual and group projects, as well as leadership and teamwork skills. Liaison with concurrent programme courses is recommended where feasible.
CREDITS: 4.00

GAIS N101 - ISLAMIC IDEOLOGY
This course tackles the theoretical foundation of Islamic ideology, such as; Islamic theology and ethics, and
covers the basics of the legal, economic, social, and political Islamic systems.
CREDITS: 3.00

GAIS N301 - ISLAMIC STUDIES
Covers the following: theme of our leaders’ obedience, rules of accusing others of heresy; ordering others doing good deeds and stopping others doing bad deeds, the Islamic legislation on Muslims dealing with non-Muslims, definition of Al-Jihad, its categories and sub categories, the great battles of Badr and Uhud, more studies on prayer rules on board ships.
CREDITS: 1.00

GAIT N101 - IT
This introductory course provides a basic information technology vocabulary, such as; Concepts of Information Technology, Using the Computer and Managing Files, Word Processing, Spread sheets, Database, Presentation, Information and Communication.
CREDITS: 2.00

GALW N203 - INTERNATIONAL LAW OF THE SEA
Covers jurisdictional boundaries such as territorial waters, contiguous zones, high seas, exclusive economic zones, etc. It will also study sea piracy/terrorism and spend considerable time on the 1982 Law of the Sea Treaty. Emphasis will be on the 1982 U.N. Convention on the Law of the Sea and customary international law.
CREDITS: 2.00

GAMA N101 - PRE-CALCULUS
This course is a pre-calculus course which reviews the concepts and applications of basic algebra that are commonly required by the Naval College. Emphasis is placed on problem solving and computational skills. Topics include the review of basic algebra, functions (analysis and graphs), systems of equations and inequalities. Generally, the course will introduce the students to the basic concepts of linear, quadratic and higher order equations and inequalities. The textbook will focus on graphs of functions in addition to systems of linear and non-linear equations.
CREDITS: 3.00

GAMA N102 - CALCULUS
Reviews the concepts and applications of basic differential and integral calculus that are commonly required by the naval college. Emphasis is placed on problem solving and computational skills. The utilisation of a computer system will be vital in enhancing the student’s mathematical perceptions and skills.
CREDITS: 3.00

GAMA N201 - ORDINARY DIFFERENTIAL EQUATIONS
This introductory course includes, linear and nonlinear equations, power series solutions, and Laplace transforms.
CREDITS: 3.00

GAMA N203 - PROBABILITY AND STATISTICS
Reviews the concepts of the terms: sample, population, sample space, discrete variable, continuous variable, frequency, frequency table, raw and classified data, measures of central tendency, mean, mode, median, quartiles, deciles and percentiles of raw data and calculate them. Additional concepts include probability, experiment, event, observation and outcomes, and the probability of events using probability rules.
CREDITS: 3.00

GAML N202 - MANAGEMENT AND LEADERSHIP
Explores the concept of management and leadership through experiencing uncertainty by shifting the focus to possible futures. Several tools and processes are introduced to assist with this exploration of self and uncertainty. This course also covers the theories, philosophies, and concepts of leadership through the examination of the difference between management and leadership, organisational culture, and the leader-follower relationship.
CREDITS: 3.00

GAPH N101 - MECHANICS
Mechanics is an introductory physics course for the Naval Cadets. This course focuses on basic physics concepts and connections to everyday life as well as Navy. Course topics include Newtonian mechanics such as; SI Units, Vectors, Kinematics in One and Two Dimensions Dimension, Forces and Newton’s Laws of Motion, Dynamics of Uniform Circular Motion, Work and Energy, Impulse and Momentum, Rotational Kinematics and Dynamics, and Simple Harmonic Motion, also one laboratory session every two weeks. Proportional reasoning, estimating, and graphing skills are emphasised throughout the course.
CREDITS: 3.00

GAPH N102 - ELECTRICITY AND MAGNETISM
Electricity and Magnetism is an introductory physics course for the Naval Cadets. This second semester of physics concentrates on the fundamental forces
of electricity and magnetism, such as: Electric Forces and Fields, Electric Potential Energy and Electric Potential, Electric Circuit, Magnetic Forces and fields, Electromagnetic Induction, Waves and Sound, and Electromagnetic Waves, also one laboratory session every two weeks. Proportional reasoning, estimating, and graphing skills are emphasised throughout the course.

CREDITS: 3.00

GAPH N201 - OPTICS AND MODERN PHYSICS
Optics and Modern Physics is an introductory physics course for the Naval Cadets. This third semester of physics concentrates on the basic Geometrical and Physical Optics, and introductory Atomic and Nuclear physics, one laboratory session every two weeks. Proportional reasoning, estimating, and graphing skills are emphasised throughout the course.

CREDITS: 3.00

GCD 1022 - ENGLISH FOR SPECIFIC PURPOSES I
This course is for Applied Diploma students in their first semester and focuses on the use of English for Specific Purposes. This course is designed to improve the English communication skills of students who are studying on the Applied Diploma programme. It will benefit students in their studies and in their career. The exit level expected is approximately CEFR mid-B1.

CREDITS: 2.00

GCD 1032 - ENGLISH FOR SPECIFIC PURPOSES II
This course is for Applied Diploma students in their second semester and focuses on the use of English in their discipline. Additional Information: This course is designed to improve the English communication skills of students who are studying in semester 2 of the applied diploma. It will benefit students in their studies and in their discipline. The level expected is approximately CEFR mid-B1.

CREDITS: 2.00

GCD 2022 - ENGLISH FOR SPECIFIC PURPOSES III
This course is for Applied Diploma students in their third semester and focuses on the use of English in their classrooms and workplaces.

CREDITS: 2.00

GCD 2032 - ENGLISH FOR SPECIFIC PURPOSES IV
This course is for Applied Diploma students in their fourth semester and focuses on the use of English skills and vocabulary required for their classrooms and workplaces.

CREDITS: 2.00

GMAL N301 - ADMIN AND LOGISTICS
This subject is aimed at describing to midshipmen the complete organisation of the logistics departments and how it functions on board. They will learn military correspondence and security classifications according to each level of correspondence, types of leave and who grants leave to those on board. Then they shall learn the entire procedure for the conduct of defaulters on board and what the legal implications are.

CREDITS: 1.00

GMMK N101 - MILITARY KNOWLEDGE
This course traces the military administration principles, which include entertainment, leave, recruitment and termination of service. It also touches on military and maritime laws, crimes, maritime law, custody and investigations. Finally, some selected topics on military security, personnel, sailors, buildings and documents.

CREDITS: 1.00

GMML N301 - MILITARY INTELLIGENCE AND SECURITY
The military intelligence course is designed to train and educate cadets in the topic of military intelligence in order to create a sense of security alert, and to work in accordance to procedures set by the Armed Forces during war, crises, and at all locations. This programme includes: the skills and types of military security and intelligence, self security, the security of documentation, the security of buildings, the security of bases, and the security of computers.

CREDITS: 1.00

GMPT N101 - PARADE TRAINING I
It consists of three parts: The first part teaches the naval cadet basic drills in standing position, turning, inclining, steps in all directions, dressing ranks and saluting. Basic drill while marching is the second part. The cadet is trained in saluting, entering or leaving offices, turning, and standing guard. Finally, the cadet is trained in situations while slow marching, slow and halts, slow to quick turning and eyes right and left.

CREDITS: 1.00

GMPT N102 - PARADE TRAINING II
Basic rifle drills: standing at ease and to attention with a rifle, changing from one situation arm to another and practicing basic rifle movements. Cadets learn all
positions for saluting with rifles and finally marching with rifle and saluting.
CREDITS: 1.00

**GMPT N201 - Parade Training III**
Teaches and trains cadets in sword drills in standing position such as: attention, stand at ease with sword, draw and scabbard sword, quick march with sword and salute. It also trains them in sword drill while marching, present arms with sword, eyes left and right and saluting in both directions.
CREDITS: 2.00

**GMPT N203 - Parade Training IV**
In this course cadets train in how to stand easy and to attention with flag, shoulder arm, ground arm with flag, shoulder arm and present arm with flag and quick/slow march with flag. They are also trained in guard of honour, ceremonial guard and funeral drill. Finally, they practice rifle and sword drills.
CREDITS: 1.00

**GMSD N301 - Staff Duty**
Designed to teach cadets the basics and principles of the military language (staff writing standards and formats) and correspondence, and to develop fine thinking to find solutions for any administrative or war preparation problems that may arise in the future. This programme includes: the principles of military writing and correspondence, telegrams, orders, orders drill (internal), military symbols and abbreviations.
CREDITS: 1.00

**GND 1012 - Introduction to Critical Thinking**
Covers the basic principles of critical thinking and reasoning and their application. Students are introduced to a number of cognitive and affective strategies characteristic of the critical thinker, as well as a range of barriers that impede critical thinking, and are encouraged to examine their own habits of mind in the light of these. Students are also introduced to basic argument analysis and the key elements of the scientific method. Through learning by doing and practical skills, students will apply course concepts to real life situations.
CREDITS: 2.00

**GND 1022 - Introduction to Community Service**
Introduces the fundamental concepts of human needs, rights, and civic responsibility. Students will gather and share stories and experiences of UAE-based volunteers and information on regional NGOs. They will then identify and complete a project based on a college and/or community need.
CREDITS: 2.00

**GND 1032 - UAE Society and Islamic Culture**
This course deals with a wide range of issues related to Emirati society such as women, youth, nuclear and extended family, charity and other social and cultural networks. The course also traces new evolving changes in modern UAE society anchored in deep traditional Arab and Islamic values. It shows that despite globalisation, open access to global media, active tourism policy, and rapid economic growth in the UAE, UAE society remained deeply rooted in tradition.
CREDITS: 2.00

**GND 1052 - Preparing for your Future**
Equips students with the required workplace transferrable skills to prepare them for the competitive labour market. It is cross disciplinary and applicable to all students.
CREDITS: 2.00

**GND 1062 - Psychology I**
Students will receive an introductory study of Psychology as a science of human mind and behaviour. Students will explore various concepts such as development of memory, thinking, learning, personality, social perceptions, attitude and motivation and common mental illnesses. Students will apply the concepts in the context of the UAE.
CREDITS: 2.00

**GND 1102 - English for Applied Diploma I**
This course is for Applied Diploma students in their first semester and focuses on the use of English for General Purposes. The course is designed to improve the English communication skills of students who are studying on the Applied Diploma programme. It will benefit students in their studies, career and social interactions.
CREDITS: 2.00

**GND 1112 - English for Applied Diploma II**
This course is for Applied Diploma students in their second semester and focuses on further development of the use of English for General Purposes. The course is designed to improve the English communication skills
of students who are studying on the Applied Diploma programme. It will benefit students in their studies, career and social interactions. The desired outcome level is B1+ moving towards B2.
CREDITS: 2.00

GND 1142 - CRITICAL THINKING: ENGLISH
This course follows on from an Introduction to Critical Thinking. It seeks to assist students in applying the basic principles of critical thinking to challenging real world issues. Students apply key cognitive and affective strategies characteristic of the critical thinker and become practically aware of the range of barriers that impede critical thinking. Students will report their work using careful argument and analysis demonstrating in practice the key elements of the scientific method.
CREDITS: 2.00

GND 1202 - APPLIED MATHEMATICS I
Applied Mathematics I is the first of two maths courses in the Applied Diploma Programme. Applied Mathematics 1 focuses on basic numerical skills to provide a solid mathematical foundation for applications in subsequent courses.
CREDITS: 2.00

GND 2002 - CREATING YOUR FUTURE
This course equips students with knowledge about a range of workplaces and the skills to prepare them for the competitive labour market. It is cross disciplinary and applicable to all students.
CREDITS: 2.00

GND 2062 - PSYCHOLOGY II
Students will develop their understanding of personality and how it develops; what is social psychology and how does it impact our perceptions, attitudes, prejudices, biases and social behaviour. Students will develop an elementary understanding of mental illnesses, their causes and management.
CREDITS: 2.00

GND 2902 - COMMUNITY SERVICE LEARNING
This course builds on GND1022 to expand students knowledge of human needs, rights, and civic responsibility. Students will gather and share stories and experiences of UAE-based volunteers as well as discuss the action of regional NGOs. They will identify a community need, plan an action to fulfil that need, then carry out a service project which they will later share with the college community.
CREDITS: 2.00

HCL 1113 - SOFTWARE APPLICATIONS FOR HEALTH
This is an introductory course on software applications for health care. Basic software applications are introduced including internet, email, MS Word, MS Excel, MS PowerPoint and basic desktop publishing. Selected applications in health care are discussed and demonstrated. Correct keyboarding technique is emphasised.
CREDITS: 3.00

HCL 1413 - HEALTHCARE INFORMATION SYSTEMS
This course introduces students to the essential concepts and applications of information systems (IS) and information technology (IT) in health care environments. In this course, students will create intermediate level spread sheets and databases to query, report, analyse problems and provide solutions for health care settings.
CREDITS: 3.00

HCL 2203 - INTRODUCTION TO FINANCIAL MANAGEMENT IN HEALTHCARE
An introduction and provides an overview in accounting systems and controls in healthcare, the accounting cycle and books of original entry, accrual accounting and reporting, and interpreting financial statements. Topics include assets, liability, equity, balance sheets, income statements, cash flow, inventory, depreciation, managerial accounting, cost accounting, budgeting and decision making as related to cost control. Financial concepts are covered in terms of its applications to the healthcare industry with emphasis placed on staffing.
CREDITS: 3.00

HCL 2503 - BILLING AND REIMBURSEMENT
Introduces students to the basics of billing and reimbursement within relevant healthcare systems. On the completion of this course, students will show an understanding and appreciation of economic analysis of the healthcare market; identify and assess factors that control healthcare cost and revenue, including methods.
CREDITS: 3.00
HCL 2603 - Health Care Law and Ethics
Upon completion of this course, students will understand the principles of ethical decision making in a health care administrative environment; be able to analyse different decision possibilities; and apply decision making skills based on their understanding of the ethical issues involved. Through readings, case studies and presentations, students will examine topics such as moral and ethical reasoning, codes of ethics in health sciences, key laws in UAE health care, and specific ethical issues such as hospital organisations and staff, doctor/patient responsibilities, consent, patient information, confidentiality, autonomy, beneficence and nonmaleficence, paternalism and malpractice.
CREDITS: 3.00

HCL 2703 - Overview of Health Challenges
Provides a broad overview of common healthcare challenges experienced by clients/patients in the healthcare outcomes. It is intended to provide healthcare administrators and leaders with a working knowledge of common health promotion and prevention issues and diseases in the UAE.
CREDITS: 3.00

HCL 2713 - Workflow Management for Healthcare
Students will learn how workflow management is developed and monitored through the use of health information technology and the understanding of systems management. Students will review current workflow processes in a local government or private health care setting and recommend changes based on international standards.
CREDITS: 3.00

HCL 2773 - Health Care Customer Relationship Management
Focuses on the concepts and processes of service quality improvement and customer care and how they are applied in health care facilities. The role of the health care administrator will be linked to customer and stakeholder expectations through applying concepts of quality improvement, quality control, quality assurance, risk management and utilisation review.
CREDITS: 3.00

HCL 2803 - Introduction to Health Informatics
Upon successful completion of this course, students understand and are able to apply concepts related to strategic planning, analysis, design, evaluation, selection, and implementation of health information systems. Students are introduced to and understand new concepts in health informatics and their applications. Students understand and are able to apply knowledge related to different patient care applications and are able to understand, describe, and apply principles and concepts related to administrative, clinical, decision support, and E-health applications.
CREDITS: 3.00

HCL 3003 - Electronic Records Processing for Healthcare
Provides students with an overview of and hands-on experience with a comprehensive and integrated business and patient records processing system. Students will explore records systems commonly used in business and healthcare settings in the UAE and will become familiar with using at least two modules in the electronic records system.
CREDITS: 3.00

HCL 3903 - Health Care Preceptorship
Students are supervised in the professional set by experienced professional preceptors. Faculty are responsible to coordinate experience, visit students and preceptor on a regular basis, observe student performance, confer with preceptor on student performance. Faculty are expected to assign grade for course to student based on their observations, anecdotal data from preceptor, and student reflection and insight into performance.
CREDITS: 4.00

HCL 4003 - Research Methods in Healthcare
Introduces qualitative and quantitative research methods in healthcare. The emphasis of the course is on applying a systematic approach to the evaluation of healthcare literature.
CREDITS: 3.00

HCL 4103 - Healthcare Policies
Provides an overview to the development of healthcare policies at a legislative and institutional level. Assessment, planning, and structural development of policies are covered. Simulated experience in policy development is provided.
CREDITS: 3.00
HCL 4113 - Process Quality Management
This course will require students to analyse and evaluate existing quality improvement processes in a hospital setting in order to recommend a continuous quality improvement (CQI) programme or to meet international accreditation standards. Students will explore international models of success and will apply the theories to a local government or private healthcare setting.
CREDITS: 3.00

HCL 4203 - Biostatistics and Epidemiology
Provides students with a basic understanding of epidemiology and the use of descriptive and inferential statistics in healthcare. It describes the history and purpose of epidemiology including relevant terminology, data sources, and measures used as well as the application of epidemiological study designs.
CREDITS: 3.00

HCL 4303 - Global Trends in Healthcare Systems and Issues
Provides the opportunity to examine and analyse current healthcare system issues and trends. The course provides the foundation for a working knowledge to critically assess and appraise current health care systems and to proactively consider emerging healthcare system issues and their impact on healthcare system outcomes.
CREDITS: 3.00

HCL 4906 - Healthcare Administration Preceptorship/Capstone Project
Students are engaged in professional practice in addition to the development and implementation of an approved capstone project. This will be a substantial project with sessions and materials development included, that forms part of the graduate portfolio. The student will in agreement with the preceptor, identify a management related issue, write up a proposal with research and theoretical support and propose a set project plan with clear objectives and deliverables.
CREDITS: 8.00

HDH 1203 - Chemistry for Dental Hygiene
Introduces general concepts of chemistry including basic knowledge on the analysis of subatomic and atomic properties based on the periodic table of elements; integration of concepts of higher order of organisation of elements to molecules and polymers; molecular modelling; and practical aspects of chemical reactions and quantities. Chemical nomenclature and the analysis of molecules of organic origin is included.
CREDITS: 3.00

HDH 1303 - Organic and Bio Chemistry for Dental Hygienists
Provides an introduction to the chemistry of organic compounds, and biochemistry as it applies to the organisation, function, and regulation of living systems, especially in humans. Topics in this course include, chemical and molecular structure, functional group classification and their properties. The laboratory work covers basic organic and biochemistry laboratory techniques, including, organic modelling, functional group identification with special emphasis on differences. Safe practice within the chemistry laboratory is an important aspect of this course.
CREDITS: 3.00

HDH 2003 - Head and Neck Anatomy
Upon successful completion of this course, students will be able to recognise the basic concepts in the anatomy and physiology of the head and neck. Students will gain the foundation knowledge regarding the bones, muscles, glands, blood supply, lymphatic drainage, as well as the components of innervation to the head and neck.
CREDITS: 3.00

HDH 2006 - Preclinical Dental Hygiene
Preclinical dental hygiene emphasises the role of the dental hygienist in relation to other health care professions. Dental hygiene model, theories, and practice of care are described. Infection control procedures, principles and protocols are highlighted. Theoretical material will be applied in the dental lab. Dental professional instruments will be identified in conjunction with recognising main procedures needed in cleaning, sterilising and maintaining instruments and dental units.
CREDITS: 6.00

HDH 2103 - Oral Histology
Provides the students with the basic concepts and fundamental knowledge with regards to the histology of the oral tissues. The microscopic anatomy of the soft and hard tissues of the teeth will be discussed. The histology of the periodontium, oral mucosa, salivary glands and the tongue will be highlighted.
CREDITS: 3.00
HDH 2203 - Dental Anatomy and Occlusion
Upon successful completion of this course, students will be able to explain the major terminology used in dental anatomy, development and sequence of tooth eruption, temporomandibular joint, and inter- and intra-arch relationships. This course is a major foundational course in the education of dental hygiene students.
CREDITS: 3.00

HDH 2303 - General and Oral Pharmacology
Upon successful completion of this course, the dental hygiene students will have a satisfactory knowledge of the principles of pharmacology and the application of these principles to the dental hygiene practice. They will be able to identify the major groups of drugs they will use throughout their career, as well as the systemic drugs that have an effect on the dental hygiene practice.
CREDITS: 3.00

HDH 2403 - General and Oral Pathology
Upon successful completion of this course students will have a satisfactory knowledge of the general concepts of pathology. Students will be able to relate these concepts to the specific health conditions that affect the oral cavity. Students will learn how to do an effective visual examination and how to recognise common oral diseases.
CREDITS: 3.00

HDH 3003 - Dental Radiology Theory and Practice
This course covers the characteristics, production, and control of dental radiographs. Upon successful completion of this course students will have the skills and the knowledge to interpret extra and intra-oral radiographs identifying and recognising any significant and common discrepancies and technical errors.
CREDITS: 3.00

HDH 3103 - Community Dental Health I
An introduction to the concepts and methods used in promoting dental health and preventing oral and dental diseases. Topics include major concepts of dental health education and methods of delivering oral health to the community.
CREDITS: 3.00

HDH 3203 - Dental Hygiene Theory I
Introduces concepts related to periodontology. This includes the aetiology and pathophysiology of the periodontal diseases. An introduction to the principles and methods used in comprehensive periodontal assessment of patients is discussed in detail.
CREDITS: 3.00

HDH 3403 - Dental Hygiene Theory II
A continuation of Dental Hygiene Theory I. In this course, students will be introduced to various materials and instruments used in the dental field. Also, they will focus on the comprehensive examination of the oral cavity (extra-orally and intra-orally). They will be able to recognise the normal variations and early signs of diseases within and around the oral cavity. They will also learn how to evaluate the therapeutic implementation of different instruments used in periodontal therapy.
CREDITS: 3.00

HDH 3503 - Applied Nutrition in Dental Practice
Provides a fundamental understanding of the effect of nutrition on general and oral health. Recognition of nutritional deficiencies is covered in detail. A major aspect of the course includes the accurate and comprehensive conduction and evaluation of nutritional surveys for clients and patients in dental practice.
CREDITS: 3.00

HDH 3603 - Law and Ethics for Dental Hygiene
This course provides the knowledge of the concepts and principles of ethics and law in healthcare. Additionally, the course gives a background in the foundation of UAE laws that govern the practice of dentistry, medicine and allied health (Medical Responsibility Law and Medical Practice Law).
CREDITS: 3.00

HDH 3923 - Dental Hygiene Practice I
A clinical education practice based course for the acquisition and application of knowledge and skills related to infection control, ergonomics in the dental clinic as well as periodontal instruments. Skill acquisition and knowledge application in relation to patient and client's medical, dental, and social history is applied.
CREDITS: 4.00

HDH 3955 - Dental Hygiene Practice II
A clinical education course increasing the application of knowledge and skills in dental hygiene practice. This
course provides an opportunity under expert supervision to perform extra and intra-oral examination, dental and periodontal charting. Also, this course introduces the students to various surgical instruments used in oral surgical procedures.

CREDITS: 6.00

HDH 4003 - Epidemiology and Preventive Dentistry
Epidemiology and preventive dentistry provides the basic understanding of the scope of epidemiology and discuss the methods used to assess the oral health status of the community. Etiology and prevention of common oral conditions like caries, gingivitis, and periodontitis are outlined. Benefits of fluoride and fissure sealants are summarised. This course also prepare the students for planning oral health educating sessions.

CREDITS: 3.00

HDH 4103 - Dental Hygiene Theory III
Dental hygiene theory III will assist the students in the understanding management of intrinsic and extrinsic stains. Causes and management of oral malodour will be explained in this course. Also, they will be able to explicate the concept of periodontal maintenance and ways of establishing it. Furthermore, they will overview ways of controlling pain in dental clinic.

CREDITS: 3.00

HDH 4203 - Management and Supervision of Dental Practice
Management and supervision of dental practices allows exploration of dental hygiene clinics as a working business. Clarification of all the various types of dental hygiene treatments with particular attention to dealing with patient accounts is studied. Patient medical records and application of patient appointment systems completes the course.

CREDITS: 3.00

HDH 4403 - Scholarship and Research for Evidence Based Practice
The aims of this course are to develop a research proposal, report and literature review. The process allows the student to explore the pathway for producing the end product: a research document. The latter includes the scientific method of research, how a research topic is chosen, writing a proposal for research, types of research quantitative, qualitative, theory, hypothesis, research tools, testing, statistical analysis, and finally the ethical aspects of the research methods.

CREDITS: 3.00

HDH 4503 - Dental Hygiene Theory IV
Applied nutrition in dental practice gives students a fundamental understanding of the effect of nutrition on general and oral health. Upon successful completion of this course, students will be able to assess the nutritional status of the dental patients.

CREDITS: 3.00

HDH 4903 - Community Dental Health II
This course is a continuation of Community Dental Health I. Community Dental Health II focuses on the students role as dental health promoters and programme planners. Needs analysis for community programmes will also be examined. Critical analysis of current literature and health promotion activities in dental health form part of the curriculum.

CREDITS: 4.00

HDH 4925 - Dental Hygiene Practice III
Dental Hygiene Practice III will assist the dental hygiene students in evaluating the periodontal status of patients and producing treatment strategies using the most appropriate instruments and tips. They will also learn how to perform different preventive measures. Further, they will identify different orthodontist instruments used in dental practice.

CREDITS: 6.00

HDH 4953 - Dental Hygiene Practice IV
Upon successful completion of this course, students will have the skills and the knowledge to calculate the gingival and calculus indices, demonstrate periodontal debridement, teeth polishing, and teeth whitening techniques. They should be able to differentiate the various kinds of impression materials and should be able to professionally take impressions.

CREDITS: 4.00

HED 1103 - Understanding Diseases
The course introduces the disease processes related to selected health conditions prevalent in the UAE. Emphasis is placed on basic pathophysiology, manifestation and management. The course emphasises the strategies and healthcare and management guidelines of the World Health Organization (WHO) and the UAE.

CREDITS: 3.00
HED 1203 - INTRODUCTION TO HEALTH PROMOTION
Provides broad understanding of health promotion and its links to health education within health care systems. Students will study concepts related to the promotion of healthy lifestyles and appropriate responses to human health needs. The principles of learning, teaching methodologies and evaluation will also be introduced and applied to health education.
CREDITS: 3.00

HEM 1208 - FIRST RESPONDER
Develops the basic knowledge and skills required to assess and treat patients with medical illness or traumatic emergency. Topics include personal safety, scene management, emergency care, immobilisation, patient handling, and basic first aid skills. Opportunities to learn and practice the use of basic life support equipment (oropharyngeal airway, bag-valve-mask, stethoscope, sphygmomanometer, splints, bandages, the performance of CPR, and Automated External Defibrillator (AED)) is provided. Successful completion of course provides an internationally recognised First Responder Certificate (Harrisburg Area Community College).
CREDITS: 8.00

HEM 2104 - EMT Basic (I)
Provides the knowledge and skills required for emergency pre-hospital care involving basic medical conditions. Outcomes include the theory and practice related to a range of emergency technical skills, including medical assessment, defibrillation, suctioning, airway management and the fundamentals of competent drug administration.
CREDITS: 4.00

HEM 2204 - EMT Basic (II)
Provides the knowledge and skills required for emergency pre-hospital care and management of patients experiencing trauma to the upper and lower body including the abdomen. Theory and practice is provided related to trauma assessment, splinting, spinal immobilisation, and emergency transport.
CREDITS: 4.00

HEM 2304 - EMT Advanced (I)
Provides students with the knowledge and skills required for EMT-Basics to progress to competency as an advanced EMT. Students will understand the roles and responsibilities of the advanced EMT within the EMS system. The assessment of emergency medical patient along with pathophysiology, the roles and responsibilities of the advanced EMT, and communication in the prehospital setting will be addressed.
CREDITS: 4.00

HEM 2404 - EMT Advanced (II)
Provides students with the knowledge and skills required for EMT-Paramedic to progress to competency as a Paramedic. Students will understand the roles and responsibilities of a Paramedic within the EMS system. The management of emergency medical patients along with pathophysiology, pharmacology, proper medication administration and communication in the prehospital setting will be addressed.
CREDITS: 4.00

HEM 2508 - EMT Advanced (III)
Provides students with the knowledge and skills required for the EMT-Advanced (Intermediate) to provide competent patient care in a variety of settings. Students will understand the roles and responsibilities, medical/legal issues, and importance of communication for an EMT-Advanced within the EMS system. The management of emergency medical patients along with pathophysiology, pharmacology, proper medication administration and communication in the prehospital setting will be addressed.
CREDITS: 8.00

HEM 2902 - AMBULANCE PRECEPTORSHIP I
Provides students with the opportunity for clinical practice in the advanced life support pre-hospital and hospital setting. Clinical practice will be under the supervision of pre-hospital and hospital staff and related to the required skills of the Emergency Medical Technician
CREDITS: 3.00

HEM 2922 - AMBULANCE PRECEPTORSHIP II
Provides students with the opportunity for clinical practice in the advanced life support pre-hospital and hospital setting. Clinical practice will be under the supervision of pre-hospital and hospital staff and related to the required skills of the Emergency Medical Technician
CREDITS: 3.00
HEM 3108 - EMT Paramedic (I)
Provides students with the knowledge and skills required for the EMT-Paramedic to progress to competency in Advanced Life Support emergency medical care. Students will understand the roles and responsibilities of a Paramedic during complicated situations involving cardiovascular, pulmonary, and neurological emergencies. The management of emergency medical patients along with pathophysiology, pharmacology, proper medication administration and communication in the pre-hospital setting will be addressed.
CREDITS: 8.00

HEM 3208 - EMT Paramedic (II)
Provides students with the knowledge and skills required for the EMT-Paramedic to progress to competency in Advanced Life Support emergency medical care. Students will understand the roles and responsibilities of a Paramedic during complicated situations involving paediatric, obstetrical, gynaecological, geriatric, endocrine, urological, toxicological and traumatic emergencies.
CREDITS: 8.00

HEM 3902 - Hospital Ambulance Preceptorship I
Provides students with the opportunity for clinical practice in the advanced life support pre-hospital and hospital setting. Clinical practice will be under the supervision of pre-hospital and hospital staff and related to the required skills of the Emergency Medical Technician- Advanced.
CREDITS: 3.00

HEM 3922 - Hospital Ambulance Preceptorship II
Provides students with the opportunity for clinical practice in the advanced life support pre-hospital and hospital setting. Clinical practice will be under the supervision of pre-hospital and hospital staff and related to the required skills of the Emergency Medical Technician- Advanced (Intermediate).
CREDITS: 3.00

HEM 3944 - Summer Preceptorship
Provides students with the opportunity for clinical practice in the advanced life support pre-hospital and hospital setting. Clinical practice will be under the supervision of pre-hospital and hospital staff and related to the required skills of the Emergency Medical Technician.
CREDITS: 5.00

HEM 4003 - Advanced Pharmacology
Provides high level training for paramedic students to provide patient care using advanced pharmacological intervention. This course prepares students to utilise international EMS statistics for the introduction of new policies on pharmacological intervention in advanced emergency care. Students will follow oversight and control procedures using the QA/QI process. An opportunity will be given to develop teaching and training materials regarding advanced pharmacology in emergency care.
CREDITS: 3.00

HEM 4103 - Emergency Medical Services Management
Aims to prepare the learner to critically consider the environmental constraints and resource limitations that exist in the United Arab Emirates and similar health care systems throughout the developing world. Students are required to develop consistency in basic management, leadership and administrative skills with a clear understanding of the concepts. Students become critically aware of different theories of management and management styles.
CREDITS: 3.00

HEM 4203 - Evidence Based Medicine and Research Analysis
Covers reading and analysis of peer-reviewed scholarly papers to prepare EMS responders to make practice recommendations and decisions about all aspects of EMS in light of evidenced-based research. The topics covered include levels of evidence, detection of bias, research study designs, and statistical analysis.
CREDITS: 3.00

HEM 4303 - Advanced Clinical Practice
Provides the opportunity for paramedics to review and learn advanced level patient care in all environments. This course prepares students to provide advanced medical and trauma care by utilising student prepared workshops and audio-visual/multi media training materials. Opportunity will be given to present the advanced level training material to groups of students.
CREDITS: 3.00

HEM 4418 - Advanced Clinical Supervision
Designed to prepare the student for Advanced Clinical Supervision and Emergency Medical Services (EMS) Management. Students will engage with quality
assurance in clinical practice and in service delivery principles. They will learn and practice advanced levels team leadership skills related to the care of critically ill and injured as well as advanced clinical skills for patient care.
CREDITS: 8.00

HEM 4458 - DISASTER MANAGEMENT AND RESCUE
Explores the emergency medical function in disaster response operations. The importance of an integrated, all-hazards response will be stressed. The nature of specialised treatment and triage is examined, along with the identification of hazardous conditions and dealing with ethical dilemmas. Advanced rescue medical response teams are discussed, including their purpose and method of operation. The review of disaster response AARs will review previous disaster medical response highlighting the lessons learned from previous incidents.
CREDITS: 8.00

HEM 4478 - INTERNATIONAL TRIP OPTION FOR PARAMEDICS
Learners will be given an opportunity to travel abroad to visit Emergency Medical Services and to gain valuable experience in established systems. During these international trips, learners will have opportunities to see clinical practice guidelines being utilised, and will also be given an opportunity to learn by doing in this international setting. This course is intended to serve as a good benchmarking exercise, and encourage students to continuously strive to reach and exceed international standards of care.
CREDITS: 8.00

HEM 4944 - INTERNATIONAL PRECEPTORSHIP
Provides students with the required opportunity for Advanced Life Support (ALS) clinical practice in the prehospital and hospital setting in the United States or with an equivalent ALS provider. Clinical practice will be under the supervision of Harrisburg Area Community College or delegated to local prehospital and hospital staff. All clinical experiences are related to the required skills of the Emergency Medical Technician-Paramedic.
CREDITS: 5.00

HEM 4964 - SPECIALITY PARAMEDIC ADVANCED PRECEPTORSHIP
Provides the student with the opportunity for Advanced Life Support (ALS) clinical practice in the pre-hospital and hospital setting in the United States or with an equivalent ALS provider. This clinical practice will be under the supervision of qualified local prehospital or hospital staff. An optional international EMS work experience is available under the supervision of the Harrisburg Area Community College if the student is academically eligible and able to obtain a visa.
CREDITS: 5.00

HIM 1203 - HEALTH INFORMATION CODING I (INTRODUCTION)
Introduction to Health Information Coding covers the basics in applying appropriate codes from the latest International Classification of Diseases (ICD) to classify events of morbidity, mortality, surgical procedures and other non-surgical interventions with an emphasis on accuracy, completeness, and sequencing. It covers all body systems. Maternity, oncology, and external causes of morbidity and mortality are covered. Factors influencing health status and contact with health services are included.
CREDITS: 3.00

HIM 2003 - HEALTH INFORMATION CODING II (INTERMEDIATE)
Comprehensive approach to incorporate coding principles from theory to practice at an intermediate level as well as introducing the student to the science of pharmacology, focusing on the rational for appropriate code assignment. Students are required to apply their knowledge of pharmacology when coding case studies.
CREDITS: 3.00

HIM 2103 - APPLIED PATHOPHYSIOLOGY FOR HEALTH INFORMATION MANAGEMENT
Introduces the student to the pathophysiological processes of the body systems. The etiology, clinical features, diagnostic testing procedures and management of a selection of disorders affecting the major body systems is studied namely: gastrointestinal, respiratory, cardiovascular including blood and lymphatic, nervous and endocrine, musculoskeletal, urinary and reproductive systems. Students get an understanding of medical terminology used in describing clinical signs and symptoms, diagnostic techniques (laboratory based and radiological), surgical and medical procedures performed that comprise the patient’s record. The course emphasises the application of knowledge of pathophysiology to Health Information Management.
CREDITS: 3.00
HIM 2203 - Health Information Management Studies
Encompasses comprehensive health information management skills: categorisation and processing of patient information into indexes, registers, registries, as well as the more common nomenclatures and classification systems including the activities and functions of a typical health information management department. Introduction of computerised record processing systems, using related patient data systems as examples whilst managing data quality and maintaining patient’s confidentiality.
CREDITS: 3.00

HIM 2303 - Health Information Coding III (Advanced)
Apart from further developing knowledge on health information coding using the latest ICD version, abstracting and coding audits are covered in this unit to give the students a deeper understanding of the coding process, its intricacies and the wider implication of this into the provision of better health planning, financing and administration. The course will also introduce the link between case mix, diagnostic related groups and health funding models and how these tools contribute to the provision of better health outcomes.
CREDITS: 3.00

HIM 2403 - Introduction to Management in Healthcare
Healthcare management is a continually changing and evolving discipline. Basic understanding in organisational management, motivation, leadership and conflict management are covered in this course, alongside the functions of management from the viewpoint of a manager who is responsible for creatively solving problems as well as facilitating creative problem solving efforts in others.
CREDITS: 3.00

HIM 2903 - Health Information Management Hospital Preceptorship
A clinical education and practice course providing opportunity for the application of knowledge and skills in an active health record department. Students acquire knowledge in, and experience with the structure and responsibilities of a health record department and interdepartmental relationships. Students gain procedural experience in assembly, analysis, filing, management of master patient index, management of incomplete record processing, record-tracking, and release of health information.
CREDITS: 4.00

HIM 2923 - Coding Practicum
A practicum course where students apply the coding theory to actual patient records in an acute care practice environment. The current version of the International Classification of Diseases (ICD) is utilised in this practicum in alignment with best practice. During the practicum students are exposed to and code increasingly complex medical, surgical, obstetrical, and new-born records with an emphasis on coding speed, accuracy, completeness and sequencing. The practicum provides an opportunity to identify suggest improvements to coding practices which may not comply with best practice standards.
CREDITS: 4.00

HIM 3003 - Biostatistics
The course introduces statistical concepts applied in health information management. It emphasises the basic concepts and processes that use data to enhance understanding of health information. Topics include measures of central tendency, distributions and hypothesis testing. Emphasis is on application of knowledge.
CREDITS: 3.00

HIM 3103 - Health Informatics I
Introduces students to the essential concepts and applications of information systems (IS) and information technology (IT) in healthcare environments. Upon successful completion of this course, students are expected to assess and appreciate the appropriateness of computer hardware, software, and networking technologies in healthcare settings.
CREDITS: 3.00

HIM 3203 - Health Informatics II
Upon successful completion of this course, students understand and apply concepts related to strategic planning, analysis, design, evaluation, selection and implementation of health information systems. Students are introduced to and understand new concepts in health informatics and their applications. Students understand and are able to apply knowledge related to different patient care applications and are able to understand, describe and apply principles and concepts related to administrative, clinical, decision support, and e-health applications.
CREDITS: 3.00
HIM 3303 - EPIDEMIOLOGY
Provides the basic understanding of core and central concepts in epidemiology. The course will include historical origins, purpose and uses of epidemiology. Emphasis is on measurement as well as data interpretation. Epidemiological study designs will be used to enhance understanding of investigation of disease outbreak.
CREDITS: 3.00

HIM 3902 - WORK EXPERIENCE FOR HEALTH INFORMATION MANAGEMENT
This practicum course is designed to allow Health Information Management students to work on specific projects related to the programme goals. The supervisor for the student at the work placement site coordinates these projects. Projects will be selected from any of the major health information management functions and also in relation to the requests and needs of the host site. During this practicum, students are expected to work independently and apply work ethics and professionalism. Student submit a final project report to the host site supervisor and college instructor.
CREDITS: 5.00

HIM 4003 - INTERMEDIATE MANAGEMENT IN HEALTHCARE
An introduction to two areas of management, Financial and Human Resource Management in the Healthcare industry. For Financial Management an overview of accounting systems and controls in health care, managerial accounting, budgeting, staffing and reporting tools will be included. Human Resource Management will cover an introduction to Human Resource Management, strategy and planning. Students will examine processes such as recruitment, selection, training, performance appraisals, counselling, disciplinary action, grievance and dismissal management as well as Occupational Health and Safety in the workplace environment.
CREDITS: 3.00

HIM 4103 - HEALTH DATA ANALYSIS
In this course, students will examine the collection, interpretation and uses of health data beyond the client/patient treatment and disease/operation classification stages. Key emphases include: health data applications in management and clinical decision-making; performance indicators for health care funding, use and evaluation of coded and non-coded sources of health data for research, data management for clinical trials and regulatory and management issues surrounding registries and databases. Students will gain experience applying coded data in clinical and non-clinical studies; comparing key health classifications via analysis of historical coded data.
CREDITS: 3.00

HIM 4203 - RESEARCH METHODS IN HEALTHCARE
Designed to introduce different methods to provide health sciences students with the foundation to the process of scientific inquiry. Both quantitative and qualitative methods will be covered. Emphasis is on developing a critical scientific approach to evaluating scientific literature, developing a research proposal and data collection tool. The course provides theoretical background to the implementation of research projects in programme.
CREDITS: 3.00

HIM 4303 - HEALTHCARE ECONOMICS AND HEALTH INSURANCE
Introduces students to the basics of health economics. On completion of this course, students show an understanding and appreciation of economic analysis of the health care market, identify and assess factors that control the health care insurance industry, describe and discuss the different models of health care cost control, including case mix funding systems and managed care programs, describe and discuss the impact of adopting new technologies on cost of health care services, and finally, consider and discuss the ethical and political aspects of these new health care funding models from a global perspective.
CREDITS: 3.00

HIM 4403 - ADVANCED MANAGEMENT IN HEALTHCARE
This course focuses on strategic management and its application in health care. Topics covered in this course are strategic planning and forecasting, marketing, organisational assessment, benchmarking, quality improvement, workplace re-design and process re-engineering. On completion of this course, students develop a departmental strategic plan and manage its implementation at departmental and organisational levels.
CREDITS: 3.00

HIM 4924 - PROFESSIONAL EXPERIENCE
This is an application course at selected healthcare facilities which is affiliated with management. In
cooperation with the facility mentor and their teacher, students select, plan and present a major project. Students are guided through independent activities in which they use many of the skills they have developed throughout their entire curriculum. Special emphasis is placed on professionalism, leadership and creative problem solving in the health care setting. The course cumulates in a formal paper which is presented to invited community guests, college teachers and students.

**CREDITS:** 5.00

**HMI 1103 - INTRODUCTION TO MEDICAL IMAGING**

Introduces students to core aspects of the medical imaging profession and to the BSc Medical Imaging (MI) programme. Students will study the history of medical imaging, the roles and responsibilities of medical imaging personnel, the application of core diagnostic imaging modalities, radiation safety practices, elementary aspects of patient care and clinical ethics. This course develops knowledge and understanding of the role and responsibilities of the radiographer in modern medical imaging practice.

**CREDITS:** 3.00

**HMI 2002 - MEDICAL IMAGING TECHNOLOGY I**

Introduces the basic design and function of standard medical X-ray equipment, of X-ray image receptors and X-ray image processing. In addition, students learn to identify and explain the function of the various parts of an X-ray unit, how X-rays are produced, how X-rays interact with matter and the various factors that affect the quality and quantity of the X-rays produced. Students also learn to describe the quality of medical images in precise terms such as spatial and contrast resolution with regard to ALARA principles.

**CREDITS:** 3.00

**HMI 2403 - MEDICAL IMAGING ANATOMY AND PATHOLOGY I**

This course teaches image critique skills for diagnostic images of the upper and lower extremities, the spine, pelvis, hips, and chest. This enables students to recognise, identify and describe normal medical imaging anatomy and commonly encountered pathologies on a range of X-ray examination. Students will apply specific image interpretation terminology to evaluate image content in terms of normal and abnormal findings and to assess image quality. This course also promotes an understanding the nature of disease and the role of X-ray imaging in patient care and clinical management.

**CREDITS:** 3.00

**HMI 2001 - PATIENT CARE I**

Focuses on developing understanding in the fundamentals of patient care in medical imaging environments. Specifically the course covers infection control, manual handling, patient communication and data confidentiality. Successful course completion indicates an understanding of patient care for mobile and restricted mobility patients and clients frequently encountered in non-critical medical imaging departments.

**CREDITS:** 1.00

**HMI 2303 - MEDICAL IMAGING POSITIONING AND PROCEDURES I**

Studies the art of radiographic positioning for plain X-ray imaging focusing on the upper and lower extremities, the spine, pelvis, hips, and chest. Students will learn, through a mix of theory and simulated practice, using medical imaging terminology to develop radiographic positioning and patient care skills in for plain X-ray imaging. On successful completion of this course students will have acquired the knowledge and skills required for plain X-ray imaging of the appendicular skeleton, spine and chest in modern medical imaging practice.

**CREDITS:** 3.00

**HMI 2503 - MEDICAL IMAGING POSITIONING AND PROCEDURES II**

This course teaches students the art of radiographic positioning for plain X-ray imaging of the abdomen, skull, maxillary-facial structures and dentition. This course also examines mobile and theatre imaging and introduces the fundamentals contrast media imaging.
Students will learn through a mix of radiographic theory and simulated practice using medical imaging equipment to develop radiographic positioning and relevant patient care skills. On successful completion of this course students will have acquired further knowledge and skills in plain X-ray imaging and the role of mobile, theatre and contrast media examinations in modern medical imaging practice.

CREDITS: 3.00

**HMI 2603 - MEDICAL IMAGING ANATOMY AND PATHOLOGY II**

This course teaches image critique skills for diagnostic X-ray images of the abdomen, skull, maxillary-facial structures and dentition to include fluoroscopic, mobile and theatre images and basic contrast media studies as appropriate. Students will develop further skills in basic anatomical image interpretation, image critique and disease classification to recognise, identify and describe normal anatomy and commonly encountered pathologies. On successful completion of this course, students will have developed enhanced image critique skills in a range of diagnostic imaging examinations and an understanding of their role in modern medical imaging practice.

CREDITS: 3.00

**HMI 2904 - CLINICAL PRECEPTORSHIP I**

This introductory clinical preceptor course is the first of five clinical courses designed to translate previously taught theory of medical imaging technique and patient care into authentic clinical practice. Learning takes place within safe, supervised, clinical learning sites approved by partner health authorities. Students will be supervised by trained preceptors to develop skills in safe radiographic technique and patient care for plain X-ray imaging of the upper and lower extremities, spine and chest.

CREDITS: 5.00

**HMI 3001 - PATIENT CARE II**

This course teaches the fundamentals of patient care for ward, theatre, trauma and acute care medical imaging environments. In particular, students will develop applied understanding of the safe administration of radiological contrast agents to include precautions of use and emergency responses to adverse contrast media reactions. Students will also learn safe patient handling for therapeutic interventions such as drips, oxygen, suction and electronic patient monitoring. Successful completion of this course indicates knowledge and applied understanding of patient care in acute care medical imaging environments.

CREDITS: 1.00

**HMI 3002 - MEDICAL IMAGING TECHNOLOGY III**

Teaches the design, use and function of fluoroscopy equipment used in diagnostic, angiographic and interventional radiology to enable students evaluate radiation doses in specialist modalities to determine best clinical application. Students will study the design and use of dedicated mammography units and mammography accessories so that they can compare mammographic equipment with standard X-ray equipment. Students will establish a knowledge base in the design of equipment used to produce images in Nuclear Medicine (NM) examinations including DEXA scanning equipment used in bone densitometry.

CREDITS: 3.00

**HMI 3102 - MEDICAL IMAGING AND POSITIONING III**

Focuses on the theory and application of specialist medical imaging modalities to include paediatric imaging, mammography, diagnostic and interventional fluoroscopy, Nuclear Medicine and DEXA relating pathology to imaging practice. Successful conclusion of this course indicates knowledge and applied understanding of these specialist imaging modalities such that students will be able to evaluate their best use and discuss their role in modern medical imaging practice.

CREDITS: 3.00

**HMI 3202 - SPECIALISED IMAGING I**

Designed to ensure students develop their technical knowledge of specialised imaging modalities including an understanding of the scientific principles that form the basis of each imaging system. Students will study the design and function of specific equipment used in Computerised Tomography (CT), Medical Ultrasound (US), Magnetic Resonance Imaging (MRI) and acute trauma. Students will develop the skills to explain and evaluate the technical aspects of these advanced imaging systems and their clinical applications.

CREDITS: 2.00

**HMI 3212 - RADIATION SAFETY AND BIOLOGY**

Teaches the theory and practice of radiation protection for both patients and healthcare professionals. Students
will examine the theories of cell biology, the units of radiation dose and the biological effects of ionising radiation interaction with human tissues. Factors affecting biological response are studied, including acute and chronic effects of radiation exposure, dose limitation guidelines and radiation protection regulations and codes of practice. Successful conclusion of this course indicates knowledge and applied understanding of best radiation safety practices such that students will be able to evaluate and apply ALARA principles in modern medical imaging practice.

CREDITS: 2.00

HMI 3312 - CROSS SECTIONAL ANATOMY
Develops applied skills in recognising and describing cross-sectional anatomy and commonly encountered pathologies for CT, MRI, US and relevant multi-planar imaging modalities. Students will learn through authentic viewing and analysis of cross-sectional images relating appearances to normal anatomy and abnormal pathologies. Successful conclusion of this course indicates an ability to evaluate cross-sectional images and discuss the value of multi-planar imaging in modern medical imaging practice.

CREDITS: 2.00

HMI 3392 - CLINICAL PRECEPTORSHIP II
This clinical preceptor course is the second of five clinical courses designed to translate theory of medical imaging technique and patient care into authentic clinical practice. Learning takes place within safe, supervised, clinical learning sites approved by partner health authorities where students will build on the safe radiographic technique and patient care skills developed in Clinical Preceptorship I and develop further skills in plain X-ray imaging of the skull, facial bones and dentition, the abdomen and in elementary fluoroscopic and contrast study examinations.

CREDITS: 5.00

HMI 3934 - CLINICAL PRECEPTORSHIP III
This is the third of five clinical experiential learning courses designed to translate previously taught radiographic technique and patient care theory into authentic clinical practice. Learning takes place within safe, supervised, pre-approved clinical learning sites where students build on previously developed skills in general and mobile X-ray, and develop further radiographic and patient care skills in theatre radiography, elementary contrast media studies, fluoroscopy, mammography and nuclear medicine imaging, the theory of which has been taught in the college.

CREDITS: 3.00

HMI 3944 - CLINICAL PRECEPTORSHIP IV
This is the fourth of five clinical experiential learning courses designed to translate previously taught radiographic technique and patient care theory into authentic clinical practice. Learning takes place within safe, supervised, pre-approved clinical learning sites where students will continue to develop previously acquired radiographic and patient care skills in general X-ray, theatre and mobile imaging, mammography, nuclear medicine and fluoroscopy; and where clinically appropriate, be introduced to angiography, advanced trauma, CT, MRI and US imaging modalities.

CREDITS: 9.00

HMI 4002 - SPECIALISED IMAGING II
This course provides the opportunities to develop understanding of the theory, practice and clinical application of specific cross sectional imaging modalities to include CT, MRI, US and advanced trauma imaging. This course prepares students for advanced clinical education in specialised elective imaging courses. Specifically this course covers patient preparation care during and after cross sectional imaging and addresses relevant common clinical pathologies.

CREDITS: 2.00

HMI 4003 - QUALITY MANAGEMENT IN MEDICAL IMAGING
Develops student skills in explaining and evaluating international quality management systems that are used to maintain and improve performance in healthcare organisations and justify their application in medical imaging. Students learn to apply basic quality measurement tools and critically appraise the results they provide. Students analyse how quality management tools are used by healthcare organisations to deliver quality improvement that is timely, effective and patient centred. The course focuses on how quality standards are used to maintain and improve medical imaging services as an integral part of a total quality management programme.

CREDITS: 3.00

HMI 4103 - RESEARCH PROJECT I
This course develops applied understanding of the fundamental principles of scientific research methodology and skills in the construct of a research proposal. Students will learn how to formulate research
questions, identify a suitable method of inquiry, plan a primary research project and contemplate ethical considerations surrounding research efforts to competently construct an authentic research proposal. On successful conclusion of this course, students have the necessary applied understanding and experience to competently construct a research proposal at a novice level.

CREDITS: 3.00

HMI 4203 - Professional Practice
Builds on knowledge, understanding and skills developed in course HMI 4103 by allowing students to apply fundamental research skills in the form of a specific intended small scale research study. Students will also demonstrate competence in analysing collected data by means of appropriate software and in reporting the outcomes of their completed study. On successful completion of this course, students will have the necessary understanding and experience to successfully complete all elements involved in the execution of a small scale scientific research study.

CREDITS: 3.00

HMI 4303 - Research Project II
This course builds on knowledge; understanding and skills developed in course HMI 4103 by allowing students to apply fundamental research skills in the form of a specific intended small scale research study. Students will also demonstrate competence in analysing collected data by means of appropriate software and in reporting the outcomes of their completed study. On successful completion of this course, students will have the necessary understanding and experience to successfully complete all elements involved in the execution of a small scale scientific research study.

CREDITS: 3.00

HMI 4952 - Clinical Preceptorship V
This fifth and final clinical preceptorship course is designed to prepare students for graduate entry into professional practice. Learning takes place within safe, supervised, pre-approved clinical learning sites where students will continue to develop previously acquired radiographic and patient care skills in all areas of general X-ray, theatre and mobile imaging. Where clinically appropriate students will undertake elective learning in a specialist modality such as angiography or advanced trauma, CT, MRI, US, mammography or NM imaging modalities.

CREDITS: 9.00

HMID N402 - Legal, Bio-ethical, and Socio-cultural Issues for Midwifery
This course examines the theory of and the application of laws and legislation related to midwifery practice inclusive of scope and standards of practice, and Codes of Ethics. In addition, there is a focus on the socio-cultural aspects of health and health services in the U.A.E, trends and issues in maternal - child care, and models of midwifery practice. Understanding the cultural, and social perspectives of the UAE culture is discussed as a critical framework to the development of best practices in midwifery care in the UAE.

CREDITS: 2.00

HMID N405 - Midwifery Therapeutics I
Focuses on the requisite theory and competencies for midwives in managing the childbearing process for the low risk pregnancy from preconception to post partum. Woman and family centred care are emphasised as a framework for evidence informed midwifery practice.

CREDITS: 2.00

HMID N406 - Midwifery Therapeutics II
Focuses on the requisite theory and competencies for midwives in recognising and managing the women experiencing health challenges during pregnancy, at any point from preconception to post partum. Early detection and risk assessment are covered as well as collaborative inter-disciplinary practice. Woman and family centred care are emphasised as a framework for evidence informed midwifery practice.

CREDITS: 2.00

HMID N407 - Midwifery Therapeutics III
This course focuses on the requisite advanced theory and competencies for midwives in recognising and working with the childbearing woman and family with complex health challenges from preconception, conception, through pregnancy, birth and post partum. Specialised competencies related to both non invasive and invasive monitoring and interventional therapies are covered. Emergency and critical care health challenges are covered in detail in relation to the midwifery role.

CREDITS: 2.00

HMID N408 - Midwifery Therapeutics IV
Focuses on the consolidation of theory and competencies for midwives in recognising and working with the childbearing woman and family who are low risk, medium risk, and experiencing complex health challenges from preconception, conception, through
Appendices

pregnancy, birth and post partum. This course utilises the theoretical and competency background acquired in previous courses to the entire student to develop their base in anticipation of graduate outcomes and prepare them for their internship/precceptorship experience. CREDITS: 2.00

HMID N411 - INFORMATION LITERACY I - BIOSTATISTICS
A general overview of biostatistics with an emphasis on how to access and retrieve data; understand statistics with an emphasis on case scenarios related to research and the childbearing process. Statistical data related to births; maternal morbidity and mortality; premature birth; stillbirths and infant mortality are covered. Software tools that are particularly relevant for research analysis and discussion purposes are discussed. CREDITS: 2.00

HMID N415 - RESEARCH METHODS I
Covers research methods used in health, with particular application to midwifery. Methodologies of both quantitative and qualitative processes are covered. Students develop a research plan as an outcome of this course. CREDITS: 2.00

HMID N416 - RESEARCH METHODS II
This course builds on the two previous courses and provides students where students developed a quantitative or qualitative research plan. During this course students will implement the data gathering phase in relation to their identified methodology using appropriate data analysis techniques in relation to their research question. Students will carry out project or a mock project, if resources or other factors prevent implementation. CREDITS: 4.00

HMID N420 - PRACTICUM I
Provides the student with the opportunity to apply theoretical knowledge and skills to plan, implement and evaluate midwifery care for the low risk childbearing woman and family. The practicum occurs in a clinical placement providing clinical education with a focus on the low risk childbearing family. CREDITS: 7.00

HMID N421 - PRACTICUM II
Builds upon the experience gained in working with low risk childbearing families, to provide the student with the opportunity to apply theoretical knowledge and skills to plan, implement and evaluate midwifery care for the medium risk childbearing woman and family. The practicum occurs in a clinical placement, providing clinical education with a focus on caring for both the low and medium risk childbearing family in all phases of the childbearing experience. CREDITS: 8.00

HMID N422 - PRACTICUM III
This course builds on the experience gained in working with low and medium risk childbearing families, to provide the student with the opportunity to advance their application of theoretical knowledge and skills to plan, implement, and evaluate midwifery care for more complex groupings of childbearing women and families in all phases of the childbearing experience. Students in advancing their practice utilise previously acquired midwifery practice skills to initiate and propose recommend plan of care in an increasingly independent manner. CREDITS: 8.00

HMID N423 - PRACTICUM IV
This course builds on the three previous practicums to provide students with the opportunity to advance and consolidate their theoretical knowledge and skills to assess, plan, implement, and evaluate midwifery care an increasingly complex in all phases of the childbearing experience. Students demonstrate increasingly independent performance (within scope of practice) as they move towards programme exit competencies. CREDITS: 8.00

HMID N451 - MIDWIFERY TRANSITION TO PRACTICE
Covers the transition to professional midwifery practice. This course covers preparation to undertake criterion and competency based licensing exam, developing and maintaining currency in evidence informed practice, and exploring current legislation and trends in midwifery care in the UAE and globally. CREDITS: 2.00

HMID N455 - INTRODUCTION TO MANAGEMENT FOR HEALTH PROFESSIONALS
An introduction to management for health professionals. Students will learn the primary functions and processes as applied to organisations and to individuals in organisations. Topics include strategy and planning; organisational design and behaviour; communication theory; workplace dynamics and processes; job and
organisation design; change management; leadership; motivation; performance management.
CREDITS: 2.00

HMID N477 - MIDWIFERY COMMUNITY HEALTH AND HEALTH EDUCATION
In this course, students explore theoretical frameworks and health care policies underpinning community health and relate them to parenting and family demographics. Primary health care is the focus. Students will apply a community orientated, evidenced based approach to primary healthcare and education for maternal, infant and family care. Students will have the opportunity to prepare health education and health promotion materials with an emphasis on the postpartum period.
CREDITS: 3.00

HMID N480 - MIDWIFERY INTERNSHIP
The internship provides the opportunity for the student to advance satisfactorily meet programme exit competencies at the entry level of midwifery practice. Students under the guidance of an experience midwifery preceptor carry out the full scope of practice with the childbearing family in all phases.
CREDITS: 20.00

HML 1003 - HAEMATOLOGY I
Provides an introduction to the work carried out in a haematology laboratory and emphasises the importance of correct and complete sample collection on the quality of results. Students learn about normal haemopoietic cell production, the use of blood cell counters and data interpretation. Students will recognise normal and abnormal red cells and describe the causes and effects of various types of anaemia.
CREDITS: 3.00

HML 1103 - MICROBIOLOGY I
Introduces theoretical concepts and practical techniques used in the classification, isolation and identification of microorganisms. The course comprises study of the concepts of infection, transmission of disease, pathogenicity, body defence mechanisms, prevention and control of infections. Students learn techniques used in the diagnosis of bacterial infections. Instruction in safe working practices and the concept of and the need for quality control are an integral part of the course.
CREDITS: 3.00

HML 1203 - CLINICAL CHEMISTRY I
Covers the theory and practical aspects of clinical chemistry. Laboratory safety, mathematics, quality assurance, and analytical principles of basic clinical chemistry procedures are covered. At a novice level an introduction to normal physiology and common pathologies are discussed in relation to analysis. Theoretical learning is applied through manual techniques during laboratory exercises applying principles to the analysis of the chemical constituents of blood and other body fluids.
CREDITS: 3.00

HML 1302 - BASIC LABORATORY SKILLS
Designed to provide an overview of theory, application, and hands-on experience in a medical laboratory. It is also intended to develop the psychomotor skills needed to work safely and efficiently in the laboratory setting. Procedure recording, calculations, data acquisition, and analysis of laboratory activities are covered. Experimental techniques, including reagent preparation, filtration, centrifugation, spectroscopy, and microscopy is examined in detail appropriate to a novice laboratory scientist.
CREDITS: 2.00

HML 2003 - HAEMATOLOGY II
This course will begin with instruction on the detection, diagnosis and laboratory investigation of the haemoglobinopathies. The importance of conditions such as sickle cell disorders and thalassaemia will be discussed with particular reference to their prevalence and importance in the UAE. This will be followed by a study of normal and abnormal white blood cell formation. Subjects to be discussed will be changes in systemic and infectious diseases and in haematological malignancies. The structure and importance of the HLA system and stem cell transplantation will also be discussed.
CREDITS: 3.00

HML 2023 - HAEMATOLOGY III
This course explains normal haemostasis. The roles and interactions of the blood vessels, platelets, and coagulation and fibrinolytic systems are discussed. The inherited and acquired disorders of haemostasis will be studied and students will carry out the practical tasks needed to differentiate and diagnose these disorders. The causes and clinical effects of thrombosis will be discussed and, again, students will have the opportunity to carry out the appropriate laboratory tests involved in the diagnosis and treatment of these disorders.
CREDITS: 3.00
HML 2103 - Microbiology II
Follows up on further identification and clinical correlations of bacteria encountered in clinical specimens. This involves procedures and interpretation of microscopic, cultural, biochemical and serological techniques used in the isolation and identification of bacteria commonly encountered in the medical microbiology laboratory. There is a continued instruction in the dangers of handling bio hazardous clinical specimens and how to perform all tasks safely following accepted aseptic procedures. Performance and interpretation of antimicrobial susceptibility tests is also covered.
CREDITS: 3.00

HML 2123 - Microbiology III
This course follows up on further identification and clinical correlations of bacteria encountered in clinical specimens, mainly blood and body fluids. In addition, the course includes the study of parasitic, viral, fungal infections and their diagnosis. The student learns about and performs, as appropriate the specimen collection and processing, microscopic, cultural and immunological techniques used in the isolation and identification of fungi and parasites.
CREDITS: 3.00

HML 2203 - Clinical Chemistry II
Upon completion of this course students are able to perform a range of manual techniques for analysis in Clinical Chemistry and are introduced to automated chemistry analysers. Students understand and are able to apply the principles of enzymology along with measurement techniques. Students comprehend normal physiology and pathology related to each of the analytes including liver function tests and cardiac enzymes. Students complete laboratory exercises which reinforce application of principles in manual and automated analysis.
CREDITS: 3.00

HML 2223 - Clinical Chemistry III
Upon completion of this course, students understand advanced topics in Clinical Chemistry including: lipid metabolism and its relationship to cardiovascular disease; prostate diseases; mineral metabolism (calcium, inorganic phosphate, and magnesium); human Chronic Gonadotropin; thyroid function; introduction to therapeutic drug monitoring; and immunoassay methods, acid base balance and Ion Selective Electrodes. Students learn the inter-relationships of disease and clinical chemistry values along with related analytical techniques in assessing the previous topics. Laboratory exercises complement the concepts covered in the classroom. Proficiency in running, calibrating and trouble shooting the instruments used in the lab is an expected outcome. Students are exposed to more advanced forms of analysis in a hospital laboratory.
CREDITS: 3.00

HML 2302 - Transfusion Science I
The course begins with a discussion of the nature of antigen-antibody reactions and the inheritance and structure of blood group antigens. Laboratory exercises reinforce the students’ understanding by providing the opportunity to perform a variety of blood grouping techniques. Blood donation, screening and processing of blood and blood products, and the testing of donors and recipients to ensure safe transfusion practice will be discussed. The importance of effective quality control and quality assurance in blood transfusion centres and laboratories will be presented.
CREDITS: 2.00

HML 2342 - Transfusion Science II
This course will teach the students about the laboratory testing procedures necessary to ensure the safe provision of blood products. Students will learn in both theory and practical sessions how to carry out the required grouping and matching procedures, and how to detect and identify clinically significant antibodies. Instruction will be given about the possible adverse effects of transfusion procedures and students will learn how to investigate an alleged blood transfusion reaction.
CREDITS: 2.00

HML 3006 - Clinical Correlations
Brings together the various streams of knowledge taught in Microbiology, Haematology, Clinical Chemistry and Blood Banking in the context of the clinical case of patients. Students study a selection of diseases and disorders. The emphasis is on the correlation of the laboratory data with pathophysiology, diagnosis and treatment and biomedical ethics of major disease categories and body systems to include, renal, cardiovascular, hepatic, endocrine, respiratory, CNS, skeletal and areas of neoplasia, trauma, inheritance and pregnancy.
CREDITS: 6.00
HML 3022 - INTRODUCTION TO BASIC HEALTH RESEARCH
Students are introduced to the fundamental principles of research methodology and how these principles are applied for conducting research in health sciences. The students will learn how evidence produced through research is applied to solving problems in everyday health care. The course addresses qualitative as well as quantitative research issues. In this course students are introduced to the fundamental ethical rules on which health science research is based. The students learn how to plan and write research studies, including how understanding of the supervision process.
CREDITS: 2.00

HML 3102 - CELL PATHOLOGY I
Introduces the principles and practices of cellular pathology used in the investigation of disease and disease processes. Instruction will also concentrate on safe working and good laboratory practices. The module will introduce cell injury, tissue preservation, tissue processing, microtomy, tissue recognition and preparation of tissue samples for diagnosis. Through laboratory practical instruction, the role of the technologist in the cellular pathology laboratory will be understood.
CREDITS: 2.00

HML 3122 - CELL PATHOLOGY II
Builds on the basic principles introduced in HML 3102, Cellular Pathology I. The unit will introduce population screening, collection of cytology samples, preparation of cytology samples, staining cells for diagnosis and cell recognition. Through laboratory practical instruction, the role of the technologist in the cytology laboratory will be understood.
CREDITS: 2.00

HML 3302 - IMMUNOLOGY
This course will introduce theoretical concepts in immunology and their application in practical techniques used in laboratory medicine. Topics will include innate and adaptive immunity, development of the immune system, induction and expression of the immune response, structure and function of antigens and antibodies, antigen-antibody reactions, MHC and aspects of immunology in disease.
CREDITS: 2.00

HML 3913 - CLINICAL PLACEMENT I
A student preceptorship course in the medical laboratory field setting. Students under the supervision of professional medical laboratory technologists observe and perform routine and specialised medical laboratory procedures, and analysis of laboratory data. Competence levels in medical laboratory procedures are set at the appropriate standard for third year students and teaching, assessment, and evaluation are reflective of the indicated standard.
CREDITS: 4.00

HML 3925 - CLINICAL PLACEMENT II
A student preceptorship course in the medical laboratory field setting. Students under the supervision of professional medical laboratory technologists perform routine and specialised medical laboratory procedures, and analysis of laboratory data. Competence levels in medical laboratory procedures are set at the appropriate standard for third year students and teaching, assessment, and evaluation are reflective of the indicated standard.
CREDITS: 12.00

HML 4003 - BIOLOGY OF DISEASES
Introduces students to the biological principles of human disease and the transition from health to disease. The course will synthesise the biological (physiological and biochemical) process underlying the clinical manifestations of disease and thereby bring together material from a variety of sources. The clinical relevance, and the laboratory investigation thereof, is stressed by the inclusion of relevant case studies, particularly those prevalent within the region.
CREDITS: 3.00

HML 4004 - LABORATORY MANAGEMENT
This course will introduce students to the concepts of management in the hospital laboratory. The course will develop skills essential to quality management: individual performance; collective performance within unit of responsibility; and external stakeholders. The course will enable the student to recognise the requirements for good management, organisational excellence and monitoring to benchmark standards. The course will depend on students participating in group work (management teams) and will involve problem-solving and role-playing.
CREDITS: 4.00

HML 4005 - LABORATORY METHODOLOGIES
Introduces the students to the principles and applications of contemporary methodologies used in...
the analysis of biological materials. The course builds on previous knowledge and experience of routine laboratory methods. Laboratory exercises emphasise instrumentation as aids in diagnosis. Students will apply knowledge of instrumentation through performance of practical demonstrations and routine maintenance including near patient testing.

CREDITS: 5.00

HML 4102 - CELL PATHOLOGY III
Instruction in the classroom and laboratory will enable the student to understand the role of histochemistry in differentiating cellular diseases in the cellular pathology department. Emphasis will be placed on trouble-shooting histochemical methods and advanced techniques used in tissue diagnosis. The course will also introduce immunohistochemistry and quality assurance systems.

CREDITS: 2.00

HML 4303 - TECHNIQUES IN MOLECULAR BIOLOGY
Designed to introduce students to a variety of current techniques in molecular biology. The focus of this course will be on analysis of nucleic acids: Polymerase chain reaction (PCR), gel electrophoresis and blotting techniques (Northern, Southern), real-time PCR, microarrays (DNA chips), recombinant DNA technology (cloning of DNA fragments), DNA sequencing and methods to study gene function. Manipulation and analysis of gene expression in prokaryotic systems, though eukaryotic tools will be briefly described. Students will become familiar with common wet-lab methods used in various fields in biology, and gain an understanding of the objectives, applicability and limitations underlying each of these methods. Upon completion of this course, each student will have resources (experience and detailed protocols) to use these molecular techniques in their own research and work environment.

CREDITS: 3.00

HML 4936 - CAPSTONE PROJECT FOR MEDICAL LABORATORY SCIENCE
This capstone project is an applied experience that integrates the principles, theories, and concepts of the student’s career concentration with problems or issues existing in the health field. The emphasis is on practical application of the student’s career concentration area. After completing the course the students will be able to work effectively in a biomedical environment, including identification of facilitative and disruptive factors to project progress.

CREDITS: 8.00

HNR 1002 - CONCEPTS AND PROCESSES OF PROFESSIONAL NURSING
Focus is on the overview of nursing practice, including historical and contemporary nursing practice and nursing theory and conceptual frameworks. Nursing as part of the collaborative health care system is examined, along with legal and ethical aspects of nursing care. The fundamentals of nursing practice and process are introduced.

CREDITS: 2.00

HNR 1004 - INTEGRATED NURSING THERAPEUTICS - FUNDAMENTALS
This course provides an introduction to the theory and practice of nursing. Professional values, nursing skills, and best practice are covered in theory, lab, and clinical practicums. Students demonstrate beginner professional practice in the lab and practicum setting, deliver consistently safe and competent care, and start to develop clinical decision making skills. Theory, lab and practicum are combined to introduce students to basic professional nursing skills and practice in relation to assessment, protection, mobility, nutrition, and hygiene competencies.

CREDITS: 4.00

HNR 1012 - INTRODUCTION TO NURSING PROFESSION
Upon completion of this course, the student will be able to discuss roles and responsibilities, medical law, ethical decision making and current trends and issues in the profession and practice of nursing. The student will begin to implement the process of clinical decision making through the utilization of the nursing process, and critical thinking skills. This course therefore aims to give students an understanding of the literature, theories, conceptual frameworks and professional values associated with the profession and practice of nursing.

CREDITS: 2.00

HNR 1101 - INTRODUCTION TO NURSING HEALTHCARE TERMINOLOGY
An introductory course covering the basics of healthcare terminology to baccalaureate nursing students. Utilises a system of recognising word components advancing to identification, analysis, spelling, and pronunciation.
of terms. Covers all body systems and specific components of selected health challenges.
CREDITS: 1.00

HNR 1102 - MEDICAL TERMINOLOGY FOR NURSES
This course covers basic medical terminology for nurses beginning with prefixes, suffixes and word roots used in the medical and health care language. Students build on this knowledge by identifying, analysing, defining, spelling and pronouncing terms and learning abbreviations related to each of the body systems as well as basic introductory principles of drug administration routes and drug classifications.
CREDITS: 2.00

HNR 1103 - NURSING FOR CHRONIC HEALTH CHALLENGES
Promotes critical thinking to assist students in developing sound clinical decision making skills in relation to the provision of nursing care and health promotion for adults experiencing chronic alterations in function across the lifespan. A variety of common and contextual chronic states are explored whilst therapeutic and pharmacological interventions for individuals experiencing such conditions are identified.
CREDITS: 3.00

HNR 1201 - HEALTH PROMOTION SKILLS ACROSS THE LIFESPAN I
An introductory course providing an overview of theory and skills related to professional nursing practice in relation to health promotion and prevention.
CREDITS: 1.00

HNR 1602 - INTRODUCTION TO PHARMACOLOGY
Introduces pharmacology and describes the differences between pharmacology, clinical pharmacology, and therapeutics. Topics covered include the basic principles of pharmacokinetics and pharmacodynamics, characteristics of an ideal drug, drug administration routes and dose calculation, relevant international and regional legislation, drug development, and classification. Also discussed are adverse drug reactions, drug-drug and drug food interactions, and the drug responses for select groups of patients/clients.
CREDITS: 2.00

HNR 1702 - MICROBIOLOGY FOR NURSING
Provides students with theoretical and practical techniques in the classification, isolation and identification of microorganisms. The course comprises study of the concepts of infection, transmission of disease, pathogenicity, body defence mechanisms, prevention and control of infections. Students acquire an understanding of the purposes of various microbes and the underlying pathophysiology pertaining to select microbial diseases. Instruction in safe work practices and the concept of the need for quality control are integrated parts of the course.
CREDITS: 1.00

HNR 1905 - INTEGRATED NURSING THERAPEUTICS I - FUNDAMENTALS
Provides an introduction to the theory and practice of nursing. Professional values, nursing skills, and best practice are covered in theory, lab, and clinical practicums. Students demonstrate beginner professional practice in the lab and practicum setting, deliver consistently safe and competent care, and start to develop clinical decision making skills. Theory, lab and practicum are combined to introduce students to basic professional nursing skills and practice in relation to assessment, protection, mobility, nutrition, and hygiene competencies.
CREDITS: 5.00

HNR 1925 - INTEGRATED NURSING THERAPEUTICS - CHRONIC HEALTH CHALLENGES
This course continues to introduce students to basic nursing clinical skills. Students are expected to acquire intermediate practitioner level skills within a laboratory/clinical setting. Newly acquired knowledge is then applied during a 3 weeks clinical practicum within a chronic care setting.
CREDITS: 5.00

HNR 2005 - NURSING FOR ACUTE HEALTH CHALLENGES
Promotes critical thinking to assist students in developing sound clinical decision making skills in relation to the provision of nursing care and management of adults with acute alterations in function across the lifespan. A variety of common and contextual acute states shall be explored - including complementary health promotion strategies whilst therapeutic and pharmacological interventions for individuals experiencing such conditions are identified.
CREDITS: 5.00

HNR 2012 - CLINICAL DRUG CALCULATION
Utilises critical thinking and pharmacological concepts
to solve the many types of problems that may be encountered in the preparation of solutions and administration of medications. The course includes information that is essential to safe, accurate drug calculation in current clinical practice. Problems addressed will move from the simple to complex. With individualised instruction, students are encouraged to progress at their own rate and to master the skills involved in calculation of dosages.

CREDITS: 2.00

HNR 2202 - HEALTH PROMOTION SKILLS ACROSS THE LIFESPAN
An introductory course providing an overview of theory and skills related to professional nursing practice in relation to health promotion and prevention.

CREDITS: 2.00

HNR 2215 - NURSING CARE OF FAMILY: MATERNAL, INFANT AND CHILD
This course encourages students to utilise a problem solving approach in the provision and promotion of women and infant health care. Concepts to be explored in this course include promotion of reproductive health, the physiology of pregnancy, management of low risk pregnancy, management of complications associated with pregnancy, labour and childbirth, and care of the newborn infant. Therapeutic and pharmacological interventions associated with health, wellness and management of conditions or disorders are identified.

CREDITS: 5.00

HNR 2905 - INTEGRATED NURSING THERAPEUTICS - MEDICAL SURGICAL NURSING
This course introduces students to intermediate clinical skills pertaining to the nursing care and management of individuals with acute health challenges. Students will be exposed to a variety of procedures including: the safe administration of oral, topical and inhalation medications, the administration of parenteral medications, wound management, and the management of casts, braces, skin and skeletal traction. This integrated course will conclude with a clinical practicum within a medical surgical clinical setting.

CREDITS: 5.00

HNR 2924 - INTEGRATED NURSING THERAPEUTICS - FAMILY, MATERNAL, CHILD
This course provides students on an intermediate advanced level with the skills for the care of newborn and pediatric clients, including the management of clients undergoing diagnostic/therapeutic procedures, care of mother and fetus during the perinatal period, application of knowledge and skills pertaining to the care and management of a newborn, and understanding and skills pertaining to the care and management of hospitalised pediatric clients. This integrated course will conclude with a clinical practicum within the newborn/pediatric setting.

CREDITS: 4.00

HNR 2934 - INTEGRATED NURSING THERAPEUTICS - MENTAL HEALTH NURSING
The course structure is designed to provide the students with the ability to examine their role within the therapeutic nurse-client relationship as they interact with infants, children, adolescents, adults, and older adults, when providing health and illness care. Students will discuss and analyse their experiences in order to better understand the various meanings patients and providers ascribe to health and illness. This integrated course will conclude with a clinical practicum within a psychiatric clinical setting.

CREDITS: 4.00

HNR 3003 - MENTAL HEALTH NURSING
Students develop fundamental knowledge, skills and attitudes relevant to the restoration and maintenance of optimal mental health and recovery from mental illness. The scientific basis of disease is presented for a collection of conditions and disorder types including anxiety, depression, mania, schizophrenia, anorexia nervosa, substance abuse and survivors of violence or abuse. Students develop introductory skills integral to the assessment of mental health disorders and the evaluation of coping abilities.

CREDITS: 3.00

HNR 3013 - LEADERSHIP AND QUALITY MANAGEMENT IN NURSING
This course is designed to introduce concepts related to leadership and quality management in nursing. Decision-making, problem finding and solving, communication, coordination, and planning will be addressed as skills needed in the current health care arena. Management of human and non-human resources is included. The focus recognises change as transformative and pervasive.

CREDITS: 3.00

HNR 3204 - PUBLIC HEALTH NURSING
Students explore theoretical frameworks and healthcare
policies that underpin community health nursing and relate them to lifestyle challenges faced by individuals, families and groups. Students are encouraged to apply a community oriented, evidence-based approach with emphasis on contextual, health promotion and disease prevention. This course is complemented by regular community visits which encompass the undertaking of community health needs assessments followed by implementation of appropriate and culturally sensitive, health promotion strategies.

CREDITS: 4.00

HNR 3603 - INTRODUCTION TO NURSING RESEARCH AND EVIDENCE BASED PRACTICE
The course provides students with an introduction to the research process and explores naturalistic (qualitative studies) and traditional scientific research (quantitative studies). Students develop skills enabling them to critically read and analyse the strength and weaknesses of sample research studies and they will be introduced to the critical steps related to the development of a quality research project.

CREDITS: 3.00

HNR 3904 - INTEGRATED NURSING THERAPEUTICS - PUBLIC HEALTH
A feature of this course is a practice component through preceptorship. The preceptorship is designed to facilitate integration of knowledge about the activities, roles, and responsibilities of community health nurses. The application experiences embedded in the course provide opportunities for students to translate theory into practice; this is primarily accomplished via assigned visits to posts related, and simulative interactions. This integrated course will conclude with a clinical practicum within a community healthcare setting.

CREDITS: 4.00

HNR 3916 - INTEGRATED NURSING THERAPEUTICS - EMERGENCY AND CRITICAL CARE
This course is designed to expand students health assessment knowledge and skills applied to care of patients who present to an emergency department or are critically ill. It will include an extensive assessment component such as arterial blood gas analysis, chest radiography, cardiac electrophysiology, cardiac monitoring and respiratory assessment. Concepts such as airway management, modes of ventilation, and management of patients on inotropes will be addressed. The course concludes with a practicum within the emergency/critical care area.

CREDITS: 6.00

HNR 4003 - NURSING SCHOLARSHIP AND EVIDENCE BASED PROJECT I
This course is a continuation of HNR 3603 Introduction to Nursing Research and Evidence based Practice. The course provides the student with the opportunity to create a research proposal which is a prerequisite for HNR 4903 Nursing Scholarship and Evidence Practice II in semester 8.

CREDITS: 3.00

HNR 4016 - NURSING CARE OF CLIENTS WITH COMPLEX HEALTH CHALLENGES
This course provides students with the opportunity to further develop their nursing knowledge and critical thinking skills whilst utilizing a problem based learning approach through exploration of common, complex health challenges. Technical, scientific, interpersonal and clinical decision-making skills are further developed whilst legal and ethical issues are debated. Students are expected to apply concepts and skills related to care and management of individuals with acute and/or complex alterations in function in the healthcare setting.

HNR 4903 - NURSING SCHOLARSHIP AND EVIDENCE BASED PROJECT II
This course is a continuation of HNR 3602, Nursing Scholarship and Evidenced based Project 1. The course provides the student with the opportunity to collect data in the clinical/health industry area. Data are processed and findings are articulated in their final research report.

CREDITS: 3.00

HNR 4910 - TRANSITION TO PROFESSIONAL NURSING PRACTICE
This course explores current factors that impact the transition from student to the licensed professional nurse. The student will have the opportunity to examine and apply leadership and management principles in acute and chronic healthcare settings with a focus on safe, ethical, and quality patient care. Students will use an inter-professional approach to coordinate care for a group of patients.

CREDITS: 10.00
HCT 1204 - Foundation Chemistry for Pharmacy
This course introduces students to subatomic/atomic and periodic properties, chemical bonding, structural features, physical chemical properties and molecular interactions; acid/base, complex formation, precipitation and oxidation/reduction chemical equilibrium reactions of pharmaceutical interest, chemical nomenclature and concepts of chemical reactions and quantities to problem solving in the laboratory.
CREDITS: 4.00

HCT 1504 - Introduction to Pharmacy
Outlines the history and evolution of pharmacy to current practice areas, drug sources and stages of development of drug products from source to final dosage form, drug classification, nomenclature, legislation, routes of administration and dosage forms, reading, interpretation, evaluation and process of prescriptions and labels for dispensing.
CREDITS: 4.00

HCT 2002 - Pharmaceutical Microbiology
Examines the nature of microorganisms and their roles in causing disease and spoilage of pharmaceuticals; microbiological laboratory procedures and assays, chemical agents and physical procedures used to control/kill microorganisms, sterilisation techniques, sterilants, disinfectants, antiseptics, preservatives; therapeutic agents and their use for major infectious diseases; resistance to antimicrobials; aseptic/sterile processing and preservation of pharmaceutical products, the use of clean rooms and the microbiology of GMP sterile manufacture.
CREDITS: 2.00

HCT 2004 - Biological Organic Chemistry
Introduces students to the analysis of structure and reactivity of alkanes, alkenes, alkynes, cyclo/aromatic hydrocarbons, alcohols, phenols, thiols, ethers, aldehydes, carboxylic acids, esters, amines and amides; molecular properties and physiological roles of carbohydrates, amino acids-proteins-enzymes-co-enzymes and co-factors; nucleic acids and lipids; cycles of transformation of the matter and energy production; bio-chemical basis of physiological functions and disorders.
CREDITS: 4.00

HCT 2103 - Immunology
Introduces students to the role and process of non-specific and specific immunity, the principles of passive and active immunisation; their benefits and risks, the fundamental immunological principles towards understanding disorders of excessive or abnormal immune responses, the process and control of Graft versus Host reactions and the principles of immunotherapy.
CREDITS: 3.00

HCT 2204 - Medicinal Chemistry I
Introduces the concepts of molecular properties of drugs which include acid-base characteristics, polarity, solubility and partition between phases, stereospecificity and selectivity; biopharmaceutical features: absorption, transport, distribution, intermolecular interactions and receptor binding, biotransformation and elimination; the dynamics and kinetics of quantitative degradation; drug classification according to sources, therapeutic use and structural features.
CREDITS: 4.00

HCT 2303 - Pharmaceutics I
Covers the fundamentals of pharmaceutical calculations: International System of units: Density, specific gravity and specific volume; Expressions of concentration; Alteration of product strength; Pharmaceutical measurement and weighing; Calculation of doses; Intravenous infusions and parenteral admixtures; Calculations in contemporary compounding.
CREDITS: 3.00

HCT 2405 - Pharmacology
This course introduces the basic principles of pharmacokinetics and pharmacodynamics, neurotransmission, chemical mediators and drug targets through the pharmacology of the autonomic nervous system, drug therapy in high risk groups.
CREDITS: 5.00

HCT 3013 - Pathophysiology and Therapeutics I
Provides essential knowledge to make judgments in regards to the effects, therapeutic rationale and selection of drugs for specific disorders. These include disorders of the central nervous system, respiratory system and drugs with important actions on smooth muscle, joints and those agents used in the management of pain.
CREDITS: 3.00

HCT 3023 - Medicinal Chemistry II
Examines the phases, technologies and methods of discovery, design and development of drugs; Natural
products; Molecular factors affecting the modes of formulation, delivery and interactions with biochemical systems, transporters, receptors and metabolism, drug stability and kinetic behaviour.
CREDITS: 3.00

**HPH 3033 - Pharmaceutics II**
Examines key physical-chemical and mathematical concepts to interpret the properties of solutions. The laboratory component provides opportunities to develop practical competencies in formulation, packaging, labelling and presentation procedures of pharmaceutical solutions. It also examines the effect of physical-chemical properties of drugs, dosage forms and route of administration on the rate and extent of drug absorption.
CREDITS: 3.00

**HPH 3103 - Pharmaceutics III**
This course examines the key pharmaceutical/biopharmaceutical and mathematical principles, which are essential to product design, development, presentation and testing of liquid, semi-solid and solid pharmaceutical dosage forms. The laboratory components helps to develop practical competence in compounding, packaging and testing dosage forms that are directly applicable to the manufacturing procedures of pharmaceuticals.
CREDITS: 3.00

**HPH 3123 - Pharmaceutical Analysis**
Covers the theory and practice of wet chemical, chromatographic and spectroscopic methods of chemical analysis; the control of quality during drug analysis (instrumentation, reagents, limit test, standard solutions, sampling, calculations of results and errors, general operations); statistical treatment and interpretation of experimental data; performing assays based on general, special, physical chemical concepts of analytical procedures.
CREDITS: 3.00

**HPH 3163 - Pathophysiology and Therapeutics II**
The focus is on pathophysiology and applied therapeutics of common chronic and acute cardiovascular conditions, including Hypertension, Heart Failure, Ischemic Heart Disease, Atherosclerosis and Vascular Obstructive Disease, Angina Pectoris, Myocardial Infarction and Acute Coronary Syndrome. The role of evidence based medicine in regard to therapeutic decisions is emphasised and builds upon basic pharmacological and pharmaceutical sciences. Developing pharmaceutical care plans that build skills on recommending therapy, evaluating and monitoring the efficacy and safety of medications for an individual patients is also emphasised. The students are as well introduced to blood drugs, i.e. platelet inhibitors, anticoagulants, thrombolytic agents with emphasis on the pharmacist’s role in selecting most appropriate drug, individualising dosages, and monitoring patients while on them.
CREDITS: 3.00

**HPH 3904 - Community Pharmacy Preceptorship I**
This course provides opportunities for students to gain experience in current professional practice in private community/retail pharmacies. Students further develop in the role of the community pharmacist. The course utilises students theoretical and lab knowledge in the evaluation of over the counter (OTC) products for the treatment of common ailments (i.e. colds, headaches etc.). Students also develop practice knowledge of dermatological conditions; ophthalmic and optic preparations; herbal and complementary medicines; vitamin and nutritional supplements.
CREDITS: 5.00

**HPH 3954 - Clinical Pharmacy Preceptorship I**
This course facilitates gaining experience in providing patient-centred pharmaceutical care in institutional outpatient and inpatient settings. Students will develop medication management and use competencies and fundamental skills in medication therapy and medication management. Technical communication with prescribing physicians and third party payers, to manage medication related problems, will be enhanced.
CREDITS: 5.00

**HPH 4003 - Bio-Technology**
This course covers the concepts of major techniques which include rDNA, Hybridoma Technology (Monoclonal Antibodies), Antisense Technology, PCR, Genomics, Proteomics, Gene Therapy, Transgenics, Glycobiology, Cloning, Peptidomimetics; specific preformulation procedures; parenteral, oral and specialised delivery procedures of biotech products and the impact of biotechnology on pharmaceutical care.
CREDITS: 3.00
HCT 2014/2015 Catalogue

Appendices

HCT Catalogue 2014/2015

HSC 1003 - INTRODUCTION TO HEALTHCARE SYSTEMS
Will explore the organisation of healthcare delivery systems in the UAE. It will examine healthcare system components and major influences on healthcare organisation. The course will explore different healthcare systems in societies around the world and presenting the findings.
CREDITS: 2.00

HSC 1004 - CLINICAL PHARMACY PRECEPTORSHIP II
This course provides opportunities to consolidate pharmaceutical practice competencies at patient-centred pharmaceutical care in outpatient and inpatient settings. Students will apply the knowledge and principles of fundamental practice skills by providing pharmaceutical care with the goal of optimising patient care and inter-professional relationships. An expansion of general ability-based and professional practice-based competencies along with advanced effective clinical decision making skills, through continuous education and practice, will be established.
CREDITS: 5.00

HSC 1012 - RESEARCH PROJECT FOR PHARMACY
Provides an opportunity for students to apply theoretical knowledge learned to demonstrate research competencies in a field of study related to pharmacy. It involves preparing a research topic, writing a research protocol, conducting the research, evaluating the data and presenting the findings.
CREDITS: 2.00

HSC 4102 - PHARMACEUTICAL CARE
Discusses the concepts, principles and functions, the general framework and the systematic method for the process of pharmaceutical care, the application of pharmaceutical care, critical thinking and problem-solving skills to the assessment, resolution of and monitoring of patients drug-therapy needs and problems and the commitment to improving patient outcomes.
CREDITS: 2.00

HSC 4112 - RESEARCH PROJECT FOR PHARMACY
Prepares students for the role of the pharmacist in providing medication therapy management services focused upon the safe, appropriate, and effective selection, use, and monitoring of non-prescription, herbal, nutritional and other alternative/complementary medication therapies as well as prevention of health risks and fostering healthy lifestyles.
CREDITS: 3.00

HSC 4203 - CLINICAL BIOCHEMISTRY AND TOXICOLOGY
Introduces the concepts of interpretation of clinical laboratory investigations of body fluids and the correlation of these results to biochemical changes of specified disorders; application of basic toxicological principles to an initial approach to the management of the poisoned patient; assessment of the degree of toxicity of selected therapeutic and non-therapeutic agents then possible treatment strategies.
CREDITS: 3.00

HSC 4303 - PATHOPHYSIOLOGY AND THERAPEUTICS III
This course introduces students to the main concepts of pathophysiology and principles of antimicrobial chemotherapy, antineoplastic and immunomodulating drugs. Students are introduced to the therapeutic management of infectious, liver and gastrointestinal tract diseases based on the pharmacological feature of drug entities.
CREDITS: 3.00

HSC 4402 - INDUSTRIAL PHARMACY PRECEPTORSHIP
This course provides opportunities where the student can learn about responsibilities of the industrial pharmacist and also about the variety of career opportunities in the pharmaceutical industry. The student observes various activities of the drug manufacturing industry, such as research and development, manufacturing quality control, clinical testing, information support, marketing, and regulatory affairs. Students with an interest in an industrial pharmacy career can use this rotation opportunity to explore, focus and refine their career goals.
CREDITS: 2.00

HSC 4504 - COMMUNITY PHARMACY PRECEPTORSHIP II
This advanced community Pharmacy Practice rotation provides opportunities for students to enhance their practical experience in various aspects of community pharmacy practice. This may include, but is not limited to, provision of products, clinical pharmacy services, and pharmacy management.
CREDITS: 5.00

HSC 4904 - CLINICAL PHARMACY PRECEPTORSHIP II
This course provides opportunities to consolidate pharmaceutical practice competencies at patient-centred pharmaceutical care in outpatient and inpatient settings. Students will apply the knowledge and principles of fundamental practice skills by providing pharmaceutical care with the goal of optimising patient care and inter-professional relationships. An expansion of general ability-based and professional practice-based competencies along with advanced effective clinical decision making skills, through continuous education and practice, will be established.
CREDITS: 5.00

HSC 4924 - COMMUNITY PHARMACY PRECEPTORSHIP II
This advanced community Pharmacy Practice rotation provides opportunities for students to enhance their practical experience in various aspects of community pharmacy practice. This may include, but is not limited to, provision of products, clinical pharmacy services, and pharmacy management.
CREDITS: 5.00

HSC 4952 - INDUSTRIAL PHARMACY PRECEPTORSHIP
This course provides opportunities where the student can learn about responsibilities of the industrial pharmacist and also about the variety of career opportunities in the pharmaceutical industry. The student observes various activities of the drug manufacturing industry, such as research and development, manufacturing quality control, clinical testing, information support, marketing, and regulatory affairs. Students with an interest in an industrial pharmacy career can use this rotation opportunity to explore, focus and refine their career goals.
CREDITS: 2.00
identify the common challenges facing healthcare systems.
CREDITS: 3.00

**HSC 1803 - Medical Terminology for Health Sciences**
This course covers basic medical terminology beginning with prefixes, suffixes and word roots used in the medical and health care language. Students build on this knowledge by identifying, analysing, defining, spelling and pronouncing terms and learning abbreviations related to each of the body systems as well as basic introductory principles of drug administration routes and drug classifications.
CREDITS: 3.00

**HSC 2503 - Microbiology**
This course will provide students with a basic understanding of concepts pertaining to microbiology with reference to the care of individuals experiencing infectious diseases, related health challenges and the prevention and control of these diseases. Students will acquire an understanding of the various microbial agents and the underlying pathophysiology pertaining to common microbial diseases.
CREDITS: 3.00

**HSD 1003 - Anatomy and Physiology I**
Provides an introduction to basic anatomy and physiological principles from cellular level to the whole organism. The focus will be on establishing a basic understanding and appreciation of the interrelationship between function and properties of selected biological molecules; cellular structure and process; mechanisms of inheritance and genetic variation; and organisation and anatomical terms related to the human body.
CREDITS: 3.00

**HSD 1013 - Introduction to Healthcare Systems**
Explores the organisation of healthcare delivery systems in the UAE. It will examine healthcare system components and major influences on healthcare organisation. The course will explore different healthcare systems in societies around the world and identify the common challenges facing healthcare systems.
CREDITS: 3.00

**HSD 1023 - Medical Terminology I (Bilingual)**
Medical Terminology I (Bilingual) covers basic medical terminology beginning with prefixes, suffixes and word roots used in the medical and healthcare language. Students build on this knowledge by identifying, analysing, defining, spelling and pronouncing terms related to the following body systems: Integumentary, Special Senses (Ear and Eye), Endocrine, Nervous, Reproductive, Obstetrics and Oncology. The course will also address the relevant abbreviations.
CREDITS: 3.00

**HSD 1032 - Health Information Systems**
Encompasses comprehensive health information processing skills, including the activities and functions of a typical health information management department. Students will be introduced to the applications and functionality of health information systems. Data confidentiality and security will be addressed. Students will be taught ethical and legal aspects relating to the release of information.
CREDITS: 2.00

**HSD 1043 - Anatomy and Physiology II**
Builds upon knowledge gained in Anatomy and Physiology I, providing students with an introduction to basic anatomy and physiological principles from cellular level to the whole organism. The focus will be on establishing a basic understanding and appreciation of the interrelationship between the following topics: Principle of homeostasis; Structure and function of the urinary, digestive and musculoskeletal systems; Structure and function of the endocrine system and Structure and function of the nervous system.
CREDITS: 3.00

**HSD 1063 - Medical Terminology II (Bilingual)**
The second course in a two semester sequence designed to build on basic medical terminology used in the medical and healthcare language. Students build on this knowledge by identifying, analysing, defining, spelling and pronouncing terms related to the following body systems: Musculoskeletal, Digestive, Urinary, Cardiovascular and Blood, Lymphatic, Immune and Respiratory. The course will also address the relevant abbreviations used as well as basic introductory principles of drug administration and classifications.
CREDITS: 3.00

**HSD 2003 - Anatomy and Physiology III**
This course provides an introduction to basic anatomy and physiological principles from cellular level to the whole organism. The focus will be on establishing a basic
understanding and appreciation of the interrelationship between the topics covered such as: Structure and function of the integumentary system. Structure, function and interdependence of cardiovascular and respiratory systems. Structure and function of the immune system and Structure and function of the reproductive system.

CREDITS: 3.00

HSD 2143 - Arabic Computing and Communication
This course develops computer skills using Arabic software. Word processing, spread sheets, presentation and email software in Arabic are used to produce a variety of letters and documents used in a health care environment. Arabic keyboarding skills and techniques are emphasised.

CREDITS: 3.00

HSD 2012 - LBD Integrative Project
This course provides the student with the opportunity to apply and integrate newly gained knowledge from all previous academic courses. Students will be required to undertake a major project within the framework of their Work Related Learning placement.

CREDITS: 2.00

HSD 2027 - Work Related Learning
Students will be provided with the opportunity to demonstrate practical application of theory. This experiential learning work is linked to HSD 2013 LBD Integrative Project.

CREDITS: 7.00

HSD 2113 - Biostatistics
This course introduces statistics within the context of health information. It will provide students with a basic understanding of descriptive and inferential statistics. Topics include measures of mean, distribution and central tendency.

CREDITS: 3.00

HSD 2123 - Software Application for Health I
This is an introductory course on software applications for health care. Basic software applications are introduced including internet, email, MS Word, MS Excel, MS PowerPoint and basic desktop publishing. Selected applications in health care are discussed and demonstrated. Correct keyboarding technique is emphasised.

CREDITS: 3.00

HSD 2133 - Software Application for Health II
This course expands on knowledge gained in HSD 2123 - Software Application for Health I. Students will be provided with additional theory and application in software applications including internet, email, MS Word, MS Excel, MS PowerPoint and desktop publishing. Selected applications in health care are discussed and demonstrated. Correct keyboarding technique is emphasised.

CREDITS: 3.00

HSD 2223 - Applied Pathophysiology I
This course provides the student with an understanding of the fundamentals of pathophysiology. The course builds on knowledge acquired in Anatomy and Physiology I, II, and III. Students will learn fundamental pathophysiology manifestation and disorders.

CREDITS: 3.00

HSD 2233 - Applied Pathophysiology II
This course provides the student with an understanding of the fundamentals of pathophysiology. The course builds on knowledge acquired in Anatomy and Physiology I, II, and III. Students will learn fundamental pathophysiology manifestation and disorders of the nervous and endocrine, musculoskeletal, urinary and reproductive systems.

CREDITS: 3.00

HSW 1003 - Introduction to Social Work
Students are introduced to values, ethics, history and theory central to social work practice. Students develop an understanding of social work methods applicable to systems of all sizes within the framework of a person in environment perspective. Social work roles and career paths are also introduced and discussed.

CREDITS: 3.00

HSW 1023 - Basic Counselling Skills
The purpose of this course is to enable students to be effective social work communicators. Students are introduced to basic techniques required for effective communication and interviewing. Topics include active listening skills, questioning and interviewing skills, empathy, the influence of culture on communication.
and the importance of self-awareness. On successful completion of this course, students will be able to analyse communication events they observe or are involved in and implement behaviours for successful responses.

CREDITS: 3.00

HSW 1033 - SOCIAL DIVERSITY AND JUSTICE
Focuses on issues of diversity and social justice. Students will learn to identify social justice issues and develop communication skills to successfully intervene with clients experiencing such issues. Students will also learn about the impact of diversity on client populations, identify strengths in these populations and examine their own values, beliefs and behaviours towards diversity.

CREDITS: 3.00

HSW 1203 - SOCIAL WORK IN THE UAE
Provides students with an opportunity to examine the roles and responsibilities of Social Workers in the UAE. Utilising a person in environment and systems perspective, students will analyse problems in living as well as intervention strategies with both Emirati and Expatriate populations.

CREDITS: 3.00

HSW 1213 - ABNORMAL AND CLINICAL PSYCHOLOGY - PSYCHOPATHOLOGY
This course introduces students to common types of behavioural disorders as well as theoretical approaches to diagnosis and treatment. Students will learn how to locate and use major classification systems for behaviour disorders. Students will also utilise a person in an environment perspective to identify mental dysfunction and its complex causes and manifestations.

CREDITS: 3.00

HSW 1243 - FOUNDATION IN CASE WORK
The first of two micro skills courses, this course introduces students to knowledge and skills necessary for professional social work practice. Student learn and apply social work methods to small system case samples. Additionally, students learn and develop written goal setting strategies, interventions and evaluate potential outcomes. Specific emphasis is given to theoretical underpinnings of systems ecological framework and the problem solving process.

CREDITS: 3.00

HSW 2023 - ADVANCED COUNSELLING IN SOCIAL WORK
This course is designed to expand student knowledge and skills of effective communication and counselling intervention skills fundamental to social work practice. Communication strategies to establish and maintain therapeutic relationships and assessment techniques are demonstrated and practiced. Additionally, in tandem with systems theory, students learn to integrate other counselling approaches as part of a planned change process.

CREDITS: 3.00

HSW 2033 - LAWS AND ETHICS IN SOCIAL WORK IN THE UAE
Students develop an increased understanding of the values and ethics that shape social work practice. They learn to recognise ethical issues, develop skills in applying an ethical legal framework to guide practice decisions and enhance use of critical thinking skills to address issues and dilemmas faced in practice. Particular attention is paid to the International Social Work Code of Ethics and its application to social work practice in the UAE. Course delivery includes some Arabic instruction to clarify specific UAE laws and components that relate to social policy and social work practice.

CREDITS: 3.00

HSW 2043 - POPULATIONS AT RISK 1: FAMILY AND CHILDREN
Offers students the opportunity to extend and apply knowledge and skills gained in earlier social work courses to specific populations. Students increase their knowledge of dynamics and risk factors unique to families and children. Students learn to apply systems theory to specific case examples and utilise systems theory/family systems theory as a way to guide practice interventions.

CREDITS: 3.00

HSW 2123 HUMAN BEHAVIOUR AND THE SOCIAL ENVIRONMENT
Introduces students to knowledge of human behaviour in the social environment. Social systems and life span approaches will be used to understand human behaviour and the impact of the environment. Students will learn to view individual, family, group, and community problems within their environmental context as well as the way people and environments reciprocally impact each other. Course will also examine societal theories of human development and human systems and their relevancy for social work practice.
HSW 2233 - Foundation in Group Work
Introduces the student to social group work, or mezzo level practice. Students identify and learn skills needed to work with both task and treatment groups and differentiate the social worker’s roles and responsibilities with each. Students gain knowledge of group development, stages, dynamics, processes and skills needed to advance the goals of individual members and group as whole within a systems ecological context.
CREDITS: 3.00

HSW 2243 - Populations at Risk II: Ageing, Special Needs
Offers students the opportunity to extend and apply knowledge and skills gained in earlier Social Work courses to specific populations. Students increase their knowledge of dynamics and risk factors unique to ageing and persons with special needs. Students learn to apply systems theory to specific case examples and utilise systems theory/family systems theory as a way to guide practice interventions.
CREDITS: 3.00

HSW 2313 - The Legal Environment in the UAE
This course assists the development of an in-depth knowledge of the application of social work theories and policies and their interaction with the law. Comprehension of social welfare policies, services and laws at local, national, regional and international levels, and the roles of social work in social change processes are discussed. An understanding of the advocacy role with disadvantaged or marginalised individuals and engagement of individuals in these groups is discussed.
CREDITS: 3.00

HSW 3033 - Advanced Group Work
Expands student knowledge of social group work or mezzo level practice. Building on knowledge of group development, dynamics and processes, students will apply knowledge and skills through in class group work and group facilitation. The impact of diversity on group dynamics and processes are discussed and explored.
CREDITS: 3.00

HSW 3043 - Advanced Case Work
The second of two micro skills courses, advanced case work builds on skills learned in Foundation of Case Work. Students expand their knowledge and skills of culturally competent interviewing techniques. Students also evaluate and practice the assessment process, goal setting and intervention implementation through role plays and group activities. On-going emphasis will be given to systems ecological framework and the problem solving process. Course delivery techniques will include use of Arabic to assist students in learning and using relevant interviewing skills with future UAE clients.
CREDITS: 3.00

HSW 3223 - Social Work Action and Advocacy
In this course, students continue to build micro, mezzo and macro practice skills needed to work with systems of all sizes. Students evaluate the impact of social policy on an individual, community, societal and global levels and learn ways to ethically advocate for options, services, resources and resource development. Particular emphasis will be given to social work tools of advocacy, negotiation, brokering and mediation as ways to promote planned change with and on behalf of clients.
CREDITS: 3.00

HSW 3513 - Family Systems and Counselling
Utilises family systems theory to explore family structure, dynamics and interactions. Structural, communication and behavioural approaches to family therapy and treatment as well as continued emphasis on the problem solving approach will be presented and applied as culturally relevant models. Course delivery techniques will include use of Arabic to assist students in learning and using relevant counselling techniques with future UAE clients and families.
CREDITS: 3.00

HSW 3913 - Social Work Practicum I
The first of four practicums, this course is an opportunity for students to integrate theory and practice learned in their coursework in social work practice placement. Students model professional social work skills, values, ethics and behaviours through placement in a college approved agency for 96 hours during the semester. Students utilise supervision and evaluate their own strengths, limitations and use of practice skills through written self-reflections completed in Arabic. Students complete a written agency assessment of the agency’s mission, structure, client base and funding sources.
CREDITS: 3.00
HSW 3963 - Social Work Practicum II
The 2nd of 4 practicums, this course is an opportunity for students to integrate theory and practice learned in their course work in actual social work practice placements. Students model professional social work skills, values, ethics and behaviours through placement in a college approved agency for 96 hours during the semester. Students utilise supervision and evaluate their own strengths, limitations and use of practice skills through written self-reflection. Written reflections will be completed in Arabic.
CREDITS: 3.00

HSW 4013 - Research Methodologies for Social Work
This course introduces students to the importance of reading, understanding and locating research to evaluate and inform social work practice. Students explore and gain a basic understanding of scientific processes involved in research. Students also learn research related concepts, terms and theory and develop an awareness of the types and sources of social work literature.
CREDITS: 3.00

HSW 4023 - Advanced Community Organisations
The second of two mezzo macro level practice courses, students extend their knowledge of community organisation and planning models and evaluate their impact on social functioning. Students analyse skills and strategies needed to successfully conduct community needs assessments, apply the problem solving process and techniques with larger system issues or problems.
CREDITS: 3.00

HSW 4213 - Capstone Research Project
The Research Project provides an opportunity for students to study a specific area of UAE social policy and its impact on client populations or client issues observed through practicum experiences. Students utilise knowledge learned in Research Methodologies and Practicum experiences to select an area of interest to investigate, choose appropriate methodology, collect and analyse data and present conclusions in a final capstone presentation.
CREDITS: 3.00

HSW 4223 - Social Work Administration
This course builds on mezzo and macro level knowledge necessary for social workers to successfully work in and provide leadership to their agency/organisational settings. Students develop knowledge of social agency structures, roles and functions of administrators and analyse the impact of social welfare policy, funding, agency mission and structure on service delivery.
CREDITS: 3.00

HSW 4233 - International Social Work-United Nations and other International Agencies
This macro practice course explores the historical development and current trends in the field of international social work. Students analyse the role of the United Nations and its impact on international social work. Students will also explore other international agencies and current and emerging roles for social workers in these organisations. Throughout this course, the impact of social policy on international agencies is emphasised within a systems context.
CREDITS: 3.00

HSW 4916 - Social Work Practicum III
The 3rd of 4 practicums, this course is an opportunity for students to integrate theory and practice learned in their course work in actual social work practice settings. Students model professional social work skills, values, ethics and behaviours through placement in a college approved agency for 192 hours. Students utilise supervision and evaluate their own strengths, limitations and use of practice skills through written self-reflection completed in Arabic.
CREDITS: 6.00

HSW 4966 - Social Work Practicum IV
The last of four practicums, this course is taken together with Research Methodologies for Social Work and Social Work Research Project. This course is an opportunity for students to integrate theory and practice learned in their coursework in actual social work practice settings, as well as select an area of interest to research and investigate. Students model professional social work skills, values, ethics and behaviours through placement in a college approved agency for 192 hours during the semester.
CREDITS: 6.00

HU N116 - Management and Supply
This course is designed to provide cadets with information on management and administration, which
is regarded as a part of the military knowledge, as well as complete knowledge of the organisation of the roles of infantry battalions for its importance to apply all skills and war preparation drills for different levels.

**CREDITS:** 1.00

**HU N117 - GOOD TRAINING TECHNIQUES**
The syllabi of good training techniques is prepared to train cadets on good military techniques in military training, and to plant self-confidence, and to seek more information in order to widen his understanding and military knowledge whether by giving the lecture, or by listening to his colleagues. The course includes: the basics and principles of training, the basic principles of military training, planning and organising lessons, giving lectures, speaking skills, using different

**CREDITS:** 2.00

**HU N118 - TOPOGRAPHY**
The topography course is aimed at training cadets to read and use maps and compasses to allow this topic to become one of the military topics that accompanies officers throughout their military careers. It is composed of: learning different types of maps, how they are read, and how they are used. It also includes system geographic coordinates, land navigation, map guidance, finding places, the exchange of visions and aerial photographs, the experience of night marching, and how to use the compass.

**CREDITS:** 2.00

**HU N119 - LEADERSHIP**
The course of leadership is aimed at developing the leadership proficiency in cadets, and how to overcome leadership problems besides the requirements throughout his roles that involve leadership. This programme includes: the general nature of leadership, human behaviour, characteristics of leadership, a guide to proper leadership, leadership obstacles and solutions, leadership in battle field, leadership in high ranks, a practical application to leadership roles.

**CREDITS:** 2.00

**JC N01 - COMMAND AND LEADERSHIP**
This course aims at displaying personal attributes and leadership skills, and demonstrating problem solving skills and command skills. The course aims also at demonstrating teamwork and participating in adventure training. The course includes an introduction to leadership and task problem solving in addition to leadership practice.

**CREDITS:** 0

**JC N02 - OFFICER QUALITIES**
This course aims to demonstrate the qualities of a UAE Armed Forces Officer and to describe the application of values and standards in armed conflict. The course includes qualities of a UAE Armed Forces Officer and the components of fighting power.

**CREDITS:** 0

**JC N03 - ORGANISATION**
This course aims at describing the UAE Armed Forces roles, organisation and history. The course describes the roles of security and ineligence, and the theories and principles employed by the UAE Armed Forces internal security operations. The course includes history of the UAE Armed Forces, organisation of the UAE Armed Forces, intelligence and security sections and tasks, self-security, and an introduction to internal security.

**CREDITS:** 0

**JC N04 - COMMUNICATION SKILLS**
Aims to teach and train cadets to communicate in a military environment by reading, writing, speaking and listening using radio, telephone and information technology. It aims also complete the International English Language Testing System (IELTS) assessments. The course includes introduction to the radio PR4G and PRR; establishing communications on a radio; use of Military phone; introduction to Military writing, correspondence and telegraphs; Military symbols, maps, traces and sketches, IELTS Test.

**CREDITS:** 0

**JC N05 - MILITARY LAW**
Aims at describing the function of military law, the principles of armed conflict, and the law of war. The course teaches and trains cadets to maintain discipline and conduct disciplinary procedures. The course includes conducting disciplinary procedures, principles of Armed Conflict, the law of war and Armed Forces, International Humanitarian Law, The Red Crescent International Committee, Red Cross/Crescent International Organisations in relation to war, control of the armed conflicts.

**CREDITS:** 0
JC N06 - Administration Training
This course aims to explain recruitment, promotion and transfers in the UAE Armed Forces, describe the salaries and allowances of the UAE Armed Forces, and describe the unit's principles of administration. The course also includes Military personal documents, Military models, decorations and badges, Military traditions, Armed Forces Flags, Military uniform, and the treatment of the prisoners of war.
CREDITS: 0

JC N07 - Physical Training
This course aims to demonstrate combat endurance, combat agility, and indoor agility; develop strength and participate in team sports. The course aims also to pass the GHQ fitness test, and achieve confidence in water. The course includes an introduction to physical fitness, endurance tests, circuit training, sports, strength exercise, Gym agility and PT assessments.
CREDITS: 0

JC N08 - Islamic Studies
This course aims at explaining Islamic Creed and demonstrating Islamic Rituals. The course includes big sins, hypocrisy and hypocrites, faith imperfections, clothing ethics, mosque ethics, Prophet Mohamed's (PBUH) immigration to Madina, Prophet Mohamed's forays, Prophet Mohamed's last pilgrimage, Abu Obeidah, A. Rahman Bin Ouf, Aeisha, mother of all believers, moral and ethical leadership.
CREDITS: 0

JC N09 - Weapons Training
This course aims at describing and conducting safe handling of M 16 Rifle and 9 mm Pistol, and conducting Immediate Action (IA) and weapon handling drills. It includes general description of Rifle, safety and iron sights, stripping and assembling the Rifle, load and unload, sight adjustment, making ready and firing positions.
CREDITS: 3.00

JC N10 - Hygiene Training
This course aims at promoting safety awareness and encouraging safe work practices on and off campus and conducting First Aid. The course includes general hygiene, individual hygiene, contiguous diseases, smoking, and nutrition and fitness theory. The course also comprises the principles of First Aid, bleeding and injuries, shocks, bruises and bandages. In addition, the course provides knowledge to deal with drowning and toxicities, burns and heat strokes, artificial respiration and heart massage, snake, spider and insect bites.
CREDITS: 1.00

JC N11 - Field Craft
This course aims at employing field craft skills. The course includes preparing and packing individual equipment, carrying out individual Field craft tasks, operating in the field as a member of a team, and maintaining clothing and identifying infantry equipment.
CREDITS: 2.00

JC N12 - Drill
This course aims to perform drill: perform foot drill at the halt and on the march, perform arms drill at the halt and on the march, deliver words of command and perform basic graduation parade. The course includes aims of drill, position of attention and stand at ease, forming up in 3 ranks and sizing, paces forward/side and rear, turnings, and saluting to the front, left and right, eyes right and left.
CREDITS: 2.00

JC N13 - Navigation
This course aims to perform navigation: display map reading principles and techniques, recognise the different types of map, apply map reading procedures, determine position and direction, and select routes. The course includes an introduction to map reading, types of grid, conventional signs and terms, contours and slopes, ground features and the shape of the ground.
CREDITS: 2.00

JC N14 - CBRN Measures
This course aims to conduct Chemical, Biological, Radiological and Nuclear (CBRN) Protective Measures: clean, maintain and use individual protection equipment mask M40 A1, react to CBRN warnings and alarms, use individual protective equipment, use the first aid injector (combo pen). The course also includes conducting individual and personal equipment decontamination, taking preventative medicines, describing chemical factors, nuclear weapons, biological factors, respirator use and maintenance, protective equipment, first aid injector, and decontamination kit.
CREDITS: 0
JC N15 - ADVENTURE TRAINING
This course aims at participating in Adventure Training in order to develop personal attributes, leadership skills, problem solving skills, and teamwork skills. The course comprises practical training at Al Shaheen Adventure.
CREDITS: 0

LOG 1003 - LOGISTICS PRINCIPLES AND SUPPLY CHAIN MANAGEMENT
The course introduces students to general understanding of logistic elements and tasks in manufacturing, trade and logistics service sectors, knowledge of the specialties in forwarding and transport business, knowledge of logistics flows and networks under cost and performance aspects. The course uses number of case studies of selected topics in logistics management to develop capabilities in collecting relevant information, analyses, problem solving and project management as well as team building.
CREDITS: 3.00

LOG 1103 - ENTERPRISE INFORMATION MANAGEMENT
This practical, hands-on course covers skills needed for study as well as for later employment. Students learn to manage enterprise data with a spread sheet software (MS-Excel®) and with a data base software (MS-Access®). Skills are developed through reading and many practical exercises using transparencies, a script, online materials and MS-Excel® and MS-Access® example files. Passing this course is a requirements for the attendance of the course “Telematics in Logistics”.
CREDITS: 3.00

LOG 1203 - BUSINESS ADMINISTRATION I
This course is a prequalifying economics course introducing the fields of macro and micro economics and explaining their relevance to Business Administration. The course focuses mainly on microeconomics and on how people make economic choices and how they behave in markets. The course cover consumer demand, price elasticity, pricing behaviour, production and costs, how suppliers and consumers interact in markets, competition, monopoly and oligopolies and cases of market failure including asymmetric information, public goods and externalities.
CREDITS: 3.00

LOG 2003 - TRANSPORT GENERAL BASICS AND TECHNOLOGIES
Introduces the student to the field of transportation engineering. It provides an overview of transportation systems characteristics, illustrates the basic interdependence between land use and transportation and describes how transportation users interact with vehicles and the transportation facilities they use. For practicality, the course focuses on highway operations, examines the fundamental uninterrupted traffic flow equation and involves the evaluation of operational performance for a segment of highway.
CREDITS: 3.00

LOG 2013 - STRENGTH OF MATERIALS
The first part of the course (L/O’s 1, 2, 3 and 4) covers the basic principles of mechanics/statics including the composition and resolution of forces. Consideration is given to the properties of cross sections of simple geometric shapes. The second part of the course (L/O’s 5, and 6) introduces the strength of materials concepts necessary for the design of structural elements. Student will be able to determine stresses and strains and apply Hooke’s law; construct shear force and bending moment diagrams for simple structural systems and determine bending stresses.
CREDITS: 3.00

LOG 2103 - GLOBAL ENERGY AND ENVIRONMENTAL TECHNOLOGY
The relevant environmental technologies, waste disposal and recycling and the co-links between energy technologies, environmental and economic effects, the fact-implies logistical technologies of supply and waste management are learned. Students have to identify the problems and the use of strategies based on structured lists of criteria. Through use of cases the latter should be analysed independently and effectively dealt with in practice.
CREDITS: 3.00

LOG 2203 - MATERIALS HANDLING TECHNOLOGIES AND AUTOMATION
This course aims to provide a basic understanding of concepts and technologies to handle materials in flow systems. Starting from an introduction to basic components of technical systems like e.g. breaks, engines, ropes and chains core elements of material flow systems are introduced. Special attention is being paid
to packaging systems, conveyors, cranes and vehicles, warehousing and order picking systems, and physical interfaces between them. Fundamentals of automation technology are applied to materials handling in order to understand how automatic materials handling systems work and when automation makes sense.

CREDITS: 3.00

**LOG 2303 - Telematics in Logistics**
Introduction to basic communication technologies, application of different methods of system analysis to real life situations and development of a simulation model for an RFID application. The course consists of three parts: An introduction to basic communication technologies, the application of different methods of system analysis to real life situations and the development of a simulation model for an RFID application. Skills are developed through reading and many practical exercises using transparencies, a script, online materials and example files.

CREDITS: 3.00

**LOG 2402 - Business Administration II**
Introduces the reasons behind and issues relating to people’s behaviour within an organisation and the processes of organisational change. The course defines organisational behaviour and its importance. It then proceeds to explore motivation, leadership, group behaviour, cultural issues, organisational change and conflict and power in organisations. These issues are looked at within the context of organisations generally and those within the UAE specifically. Applications of organisational improvement will synthesise these principles.

CREDITS: 3.00

**LOG 2502 - International Business and Commercial Law**
Provides students with an ability to understand and develop a profound knowledge of all relevant areas of legal relations in international business transactions and to transfer them into daily practice. The module will build a solid knowledge of the most important legal terms as an indispensable basis for the course Carriage of Goods by Sea and Multimodal Aspects.

CREDITS: 2.00

**LOG 3003 - Maritime Transport**
The aim of this course is to familiarise students with current maritime transportation concepts from a geographic point of view. The course will elaborate on the transportation practices of businesses in the competitive environment of EU, CR and of world markets. The goal is also to gain ability to use the knowledge effectively in an enterprise management.

CREDITS: 3.00

**LOG 3103 - Specification of Technical Systems**
This course introduces the main aspects of purchasing and selling complex technical products and services. Students will learn how to analyse, structure and describe complex technical systems. The projects are organised as a role playing game of representatives of ordering and selling companies or institutions.

CREDITS: 3.00

**LOG 3202 - International Technical Human Resource Management**
Designed to provide students with an in-depth analysis of modern record keeping requirements for the practice of HR management. This will include an assessment of legal and professional requirements for data management together with laws that regulate the collection, retention, and use of employee information. The course will also immerse students in use of a modern HRIS system. Students will gain a basic knowledge of the software. The focus of the course will be simultaneously HR management and experience with use of a modern, comprehensive, human resource management system.

CREDITS: 2.00

**LOG 3203 - ERP I Principles**
The course will introduce ERP in modern business management. The basic concepts, applications and their significance in business development. During the course students will work with reference models, acquire knowledge of possible solutions and action models for the development, adaptation and implementation of standard application systems. The course ERP 1 focuses on financial modules, reporting, materials management and sales capabilities.

CREDITS: 3.00

**LOG 3302 - Sales and Distribution in Logistics**
Deals with the management of the flow of goods
(inventory), services, and related information among members in the supply chain (i.e., suppliers, manufacturers, distributors, retailers, logistics service providers and the end customer). The course delivers the up-to-date knowledge and modern know-how on planning, designing and controlling the flow of physical goods to a market, along with the information and service necessary to meet customer demand.

CREDITS: 2.00

LOG 3403 - TRANSPORT AND ECONOMIC GEOGRAPHY

Geography and transportation intersect in terms of movement of people, goods, and information. Over time, accessibility has increased and led to a greater reliance on mobility. This trend can be traced back to the industrial revolution, although it has significantly accelerated in the second half of the twentieth-century, for various reasons. Today, societies rely on transport systems to support a wide variety of activities. These activities include commuting, supplying energy needs, distributing goods, and acquiring personal wants. Developing sufficient transport networks has been a continuous challenge to meet growing economic development, mobility needs, and ultimately to participate in the global economy. In this course students will learn to convey an understanding of location theory and the rationale for the location of industry, cities, and systems in their current location. By the end of the course, students will develop an understanding of the role played by geography and geographic barriers, and of the spatial location aspects of the solutions to economic problems devised by societies.

CREDITS: 3.00

LOG 3503 - PLANNING OF WAREHOUSE SYSTEMS

Students will be prepared to address problems in warehouse design in a holistic approach, understand specific requirements of warehouses and their design, know and apply procedure, methods, tools for warehouse design and analysis, select and apply suitable methodologies and strategies to develop a technical solution for a warehousing problem, evaluate different alternatives and select the warehousing solution to be implemented, elaborate solid arguments to convince and motivate decision makers, run and manage warehouse design projects in a market setting.

CREDITS: 3.00

LOG 3602 - ERP 2 APPLICATIONS

An Enterprise Resource Planning (ERP) system is an integrated software that runs in all business areas of an organisation including accounting and finance, HR, sales and distribution, production, purchasing and inventory. The course deals with ERP theory and practice. Course content includes the role of and significance of ERP in business process improvement, comparison of ERP and ERP2, ERP functionality and risk issues.

CREDITS: 2.00

LOG 3702 - LOGISTICS CONTROLLING

Deals with special tasks of logistics, supply chain management, logistics and controlling the supply chain controlling. Students work with case studies. You get the case studies in writing and templates, in which the solutions are to be entered automatically. To solve the problem different software products are used. In this respect, the application of methods and techniques of management accounting can be learned in the field of logistics and supply chain management.

CREDITS: 2.00

LOG 3802 - QUALITY MANAGEMENT FOR LOGISTICS

This course takes an integrated approach to total quality management (TQM). Students draw on what they have learned in courses such as marketing, economics, organisational behaviour and statistics. The class models best practice by focusing on internal and external customer requirements, continuous improvement, the use of teams, and data-based decision making.

CREDITS: 2.00

LOG 4002 - WORK EXPERIENCE

This course requires students to gain relevant engineering experience in an actual working environment in order to provide an opportunity to develop and apply professional work ethics and practices. Transfer of engineering skills learned at the college to the workplace is a major feature of this course.

CREDITS: 4.00

LOG 4003 - GIS IN LOGISTICS

Equips the students with the required knowledge and skills to use GIS technology to track daily fleet movements and maintenance schedules efficiently without compromising quality customer service. It explains how GIS can provide a platform for integrating data from existing workforce, fleet, and customer management systems so the company can get the most
out of its IT investment.
CREDITS: 3.00

LOG 4103 - DANGEROUS GOODS
Students will learn to identify and assess risks when dealing with hazardous goods and materials and to design appropriate measures of loss prevention and limitation of loss. Beyond this, students will be able to apply such measures in practice, harmonise them with modern environmental, health-protection and safety systems. The module will also explain the relation between safety and quality management systems. The course covers principles of legislation and legal norms related to transport of dangerous goods by sea, road and air.
CREDITS: 3.00

LOG 4203 - PORT MANAGEMENT
Students will learn about the business aspects of harbour-management and cargo-handling. The course covers key issues and principles of implementation of logistics planning structures in harbour areas. Beyond this, the logistics interfaces to other transport systems (rail, road, water transport, air) are included in this course. Additionally, the planning principles of ports, the cost and performance developments in ports are key issues. The practical part includes the examples of harbour infrastructures and the customer relations in different ports.
CREDITS: 3.00

LOG 4303 - AIRPORT MANAGEMENT
Provides students with the fundamental understanding of the broad aspects of managing airports and the basic logistics concepts behind air cargo systems. Beyond this the options of strategic decision-making in airport and air cargo management are included. A short introduction of the major legislation affecting aviation, the rules and regulations governing airport operations will be presented. Additional topics are air traffic control, terminal-management and ground infrastructure of airports. The introduction to planning and running of air cargo systems are included.
CREDITS: 3.00

LOG 4403 - ROAD AND RAIL FREIGHT
The main focus of the course is placed on the particularities of the transport economics and the requirements on the cost accounting in road and rail freight. The development from transport, to traffic and logistics is of great importance here. The students will gain knowledge about business impacts on the cost accounting and will learn to apply established methods to estimate operating efficiency and to measure success. The students will get the general idea of the structure of transportation markets, and the economic and ecologic challenges in these transport types.
CREDITS: 3.00

LOG 4503 - PUBLIC TRANSPORT
The main focus of the course is on the particularities of transport economics and the requirements on cost accounting in the public transport sector. Beyond this, planning, building and maintaining public traffic areas will be discussed. Further, the planning of route networks and time schedules for public transportation will be part of curriculum. Pricing, ticketing and the economics of timetables are also essential for public transport and will be explained during the course.
CREDITS: 3.00

LOG 4603 - AIRLINE MANAGEMENT
This course focuses on airline management decision processes with an emphasis on economic issues and their relationship to operations planning models and decision support tools. The application of economic models of demand, pricing, costs, and supply to airline markets and networks are covered. Other aspects include industry practice and emerging methods for fleet planning, route network design, scheduling, pricing and revenue management and interactions between the components of airline management and profit objectives in competitive environments.
CREDITS: 3.00

LOG 4703 - MANAGEMENT OF DISTRIBUTION NETWORKS
The main focus of the course is that students implement concepts, forge plans, steer and optimise global distribution networks. Students will reflect to modern collaboration concepts and assess their feasibility and consider implementation hurdles. Beyond this, they will get familiar with the conditions of distribution network transformation. The analysis and evaluation of value chains in different contexts and the current challenges of the management of global value will also be taught in this course. Practice works with SCM Systems like SAP SCM complete the course.
CREDITS: 3.00
LOG 4803 - National Transport and Planning Law
The course is based on previous law courses. Students will become acquainted with the basics of national and international transport and insurance law. The students will be able to evaluate and negotiate logistics contracts. In transport law students will be introduced to transportation legislation, contract law, contract of sale, dispatch, incomers. A key point is the discussion of obligations and rights of the sender and obligations and rights of the carrier. In the air transport rules, the students will be introduced to the Warsaw- and the Montreal-conventions.
CREDITS: 3.00

LOG 4904 - Internship
The internship counts towards the degree. There is a significant level of independence in that there are no class lectures (only scheduled but informal meetings with the instructor), there are no tests or exams, and students write assignments intended to develop their practical skills and to reflect on their study experience. The bulk of the course is built around working with a government agency, interest group, or non-governmental organization (NGO) over a specified period of time.
CREDITS: 4.00

LOG 4912 - Capstone Thesis Project
All GUCL-students must complete a capstone project during their final year. The capstone project must build on significant analytical work and consist of a comprehensive written final product. The detailed requirements are determined by the faculty member and can take a wide range of forms, like a development plan, a case study or a business plan. The capstone project enables students to apply and synthesise the material learned at GUCL-courses, develop expertise on a specific topic related to logistics. Students are required to work closely with experts in the field of study.
CREDITS: 12.00

LSC 1103 - Academic Reading and Writing 1
This course is recommended for BAS students in their first semester and focuses on developing the skills needed for understanding academic texts and for writing academic English, to approximately CEFR mid-B2 level.
CREDITS: 3.00

LSC 1203 - Creative Writing
Encourages students to respond creatively in writing to a range of stimuli, whether visual, musical, dramatic or textual. In the early sessions of the course, the instructor will guide students through a series of activities designed to give them the confidence and resources to produce a written response in whatever form they choose.
CREDITS: 3.00

LSC 1303 - Introduction to Literature
Familiarises students with basic genres of literary writing in English, such as poetry, drama and fiction. Students will be introduced to terms for discussing these genres and how stylistic effects are achieved in them.
CREDITS: 3.00

LSC 1403 - Short Stories by Women
Short Stories by Women from the world to the UAE. The aim of the course is to expose students to various cultures through an array of modern women short story writers from around the world, and to get them involved in recording the oral history of the UAE. The course covers the basic short story theory - the role of the narrator, type of narrative, plot development, the use of language. Its main objective, however, is to increase students' global awareness and build their appreciation of global and local literature.
CREDITS: 3.00

LSC 1503 - Academic Spoken Communication
This course is for BAS students in their second semester and focuses on the use of spoken English in academic and professional contexts to approximately CEFR mid-B2 level.
CREDITS: 3.00

LSC 2103 - Academic Reading and Writing II
This course is recommended for BAS students in their fourth semester and focuses on refining the skills needed for understanding longer academic texts and developing competency in writing academic English on a researched topic, to a professional standard, following APA guidelines.
CREDITS: 3.00

LSC 2113 - English for Classroom Management
This course is for BAS students in their third semester and focuses on the English needed by classroom
teachers as they manage the learning process.
CREDITS: 3.00

**LSC 2173 - ENGLISH FOR AVIATION**
All Aviation Engineering students at the Higher Colleges of Technology face a large amount of complex terminology related to Aviation Maintenance Technology in their courses. In addition the General Civil Aviation Authority (GCAA) necessitates that the student produce a high standard of essay writing related to Module 7 - Human Factors, Module 9 - Aviation Legislation and Module 10 - Maintenance Practices, in order to successfully graduate from the programme. This course focuses on supporting the rigorous lexical demands of the academic studies related to Aviation Maintenance Technology.
CREDITS: 3.00

**LSC 2183 - ENGLISH FOR SPECIFIC PURPOSES**
Designed to improve the English communication skills of students who are studying degree programs in Engineering, Health Sciences, IT, Applied Media and Business. Using a range of topics related to their programme studies, students are involved in interesting work-related discussions and decision-making tasks with a strong focus on professional language use. The level expected is approximately CEFR mid-B2.
CREDITS: 3.00

**LSC 3013 - PROFESSIONAL COMMUNICATIONS**
This course helps students with career preparation through development of students critical writing, speaking and listening skills, presentation and negotiation strategies, and cross-cultural communication.
CREDITS: 3.00

**LSEC N100 - ACADEMIC COMPOSITION**
This is one of two courses which focus on enabling learners to develop academic language skills and some basic research in preparation for the demands of their academic programme. On this course, students learn to write essays and reports using an appropriate style and register, and also to locate and use written resources appropriately.
CREDITS: 4.00

**LSF 2083 - INTRODUCTION TO JOURNALISM**
This course introduces students to the practice of journalism and helps them to understand the role journalists play in reporting, processing and production of news. The course familiarises students with the multi-platform news environment to increase their knowledge about the application of journalism to print (Newspaper), broadcast (Radio and TV) and web (online based) media.
CREDITS: 3.00

**LSF 2203 - ART APPRECIATION**
A study of the visual arts focusing on the formal elements and principles of art, the major art movements throughout history, and enabling students to develop the language and critical skills needed to explore different works of art. This is primarily an introductory course and as such students will be actively engaged in research in order to gain awareness of the processes by which visual art is created and the many ways of seeing and interpreting works of art.
CREDITS: 3.00

**LSG 1003 - ISLAM AND GLOBALISATION**
This course is divided into two parts; the introductory part, and the main course. The introductory part provides students with the background knowledge about the main themes of the course. This course prepares students to be critical evaluators and insightful thinkers as they base their arguments on factual data that is provided by the course. In the second part of the course, students will understand globalisation as a theme and as a practice on the ground.
CREDITS: 3.00

**LSG 2013 - GLOBALISATION, MASS MEDIA AND SOCIETY**
In their varied forms, mass media have come to play a prominent role in both individual and societal life in the UAE, shaping the way we think about ourselves as well as the world around us. This course will equip students with the necessary resources to critically engage the media in order to better use it to become responsible Emirati and global citizens.
CREDITS: 3.00

**LSG 2023 - GLOBALISATION AND THE ARAB GULF**
This course will endeavour to first grasp the cultural, economic, political dimensions of globalisation, after which it will then move to explore its varied impact on the Arab Gulf. The Arab Gulf is at the forefront of globalisation. In order to successfully overcome the challenges and take advantage of the opportunities posed by this multifaceted phenomenon, it must first properly be understood.
CREDITS: 3.00
LSG 2033 - Faith, Justice and Globalisation
This course takes as its fundamental thesis the importance of understanding the role of religion in the set of contemporary issues which have emerged from the phenomena of globalisation. The world’s religions contribute both to the formation of a wide array of moral visions of the global order and also to concrete policy issues from human rights to the waging of war to economic and environmental justice.
CREDITS: 3.00

LSG 2043 - An Exploration of the Petroleum Industry
Introducing the major phases in petroleum and natural gas production, the global nature of industry and its impact, the role of Gulf producers, and issues associated with the industry’s response to climate change and other environmental concerns. The course methodology focuses on data and information accessed online and through library and other sources and introduces students to assessing reliability of such sources.
CREDITS: 3.00

LSG 2453 - Global Media Trends
In this course students explore the position of the Emirati and Arab media within its global and regional context.
CREDITS: 3.00

LSH 2103 - Foundations for Reasoning
This course examines the foundations of critical thinking where a student will be able to discuss various types of arguments and evaluate the degree to which they are made responsibly or irresponsibly.
CREDITS: 3.00

LSH 2113 - Foundations of Leadership
This course provides students with an understanding of the principles of leadership as well as how they might be applied in real world situations.
CREDITS: 3.00

LSH 2123 - Introduction to Hispanic Culture, History and Language
Hispanic culture and language is rich and varied in historical, geographical and cultural scope, with many shared roots, influences and values with the Arabic speaking world. Whilst we may have some passing notion about the historical context of the Arab Al Andalus or the influence of the Levantine Arabs in countries like Argentina, Chile and Colombia, many of our learners do not have an overview of the broader context of what Hispanic really means, which is what this course aims to address.
CREDITS: 3.00

LSH 2133 - Introduction to Japanese Language and Society
This course will introduce students to the Japanese language and aspects of the society and Japanese culture. Students should be aware of different levels of language, for example, formal and informal. The course will focus on oral communicative competence, writing (hiragana, katakana and the first 100 Chinese characters) and listening skills. Students will study aspects of the Japanese culture, with a focus on traditional arts (calligraphy, tea ceremony and flower arrangement), society (anime, family structure and the home).
CREDITS: 3.00

LSH 2203 - Critical Thinking
Covers the basic principles of critical thinking and reasoning and their application. Students are introduced to a number of cognitive and affective strategies characteristic of the critical thinker, as well as a range of barriers that impede critical thinking, and are encouraged to examine their own habits of mind in the light of these.
CREDITS: 3.00

LSH 2343 - Ethical Issues
This course is an introduction to various forms of moral reasoning, ethical principles and ethical theories.
CREDITS: 3.00

LSH 2353 - The History of the Gulf and Middle East
In this course we survey the history of the Arabian Peninsula with an emphasis on its modern history, the creation of the United Arab Emirates, and the Gulf region’s wider role in the Middle East and the world economy.
CREDITS: 3.00

LSH 2813 - Modern History of the Gulf
This course examines the key political, economic, and social issues of the region in the modern period (19th century to present) in order to develop an
understanding of the origins and development of the Arab Gulf states.
CREDITS: 3.00

LSH 2823 - MODERN HISTORY OF THE MIDDLE EAST
This course surveys the major political, socio-economic, and cultural changes in the Middle East in the modern period through the investigation of the demise of the Ottoman and Qajar dynasties, the rise of new nations and nationalist identities, and the development of modern states and societies.
CREDITS: 3.00

LSH 2903 - COMMUNITY SERVICE LEARNING
Students explore theories and concepts relating to human rights and civic responsibility, identify a community need and engage in service in partnership with an existing organisation.
CREDITS: 3.00

LSH 2913 - DRAMA APPRECIATION
This course is designed to provide students with theoretical and experiential opportunities to gain a fundamental insight into drama history and practice, and also to enhance their communication skills across a range of contexts.
CREDITS: 3.00

LSM 1003 - APPLIED MATHEMATICS
This course provides the basis for using mathematics to carry out basic mathematical calculations.
CREDITS: 3.00

LSM 1053 - COLLEGE ALGEBRA
This course extends the concepts developed in Mathematics Foundation 1 and 2 and is designed for those students requiring a higher level of mathematics for entry to Bachelor programs.
CREDITS: 3.00

LSM 1103 - TECHNICAL MATHEMATICS
This course in pre-calculus mathematics develops mathematical concepts and techniques in solving a variety of typical scientific and technical problems.
CREDITS: 3.00

LSM 1113 - STATISTICAL MATHEMATICS
This is an introductory course in statistics with applications in a variety of areas. It develops the language and methods of statistics through everyday situations and introduces students to the major concepts and tools for analysing, collecting, and drawing conclusions from data.
CREDITS: 3.00

LSM 1123 - QUANTITATIVE REASONING
The course introduces students to the concepts designed to foster an appreciation of mathematics as a language of communication. The course includes topics on reasoning techniques, numeration systems, and geometry with an emphasis how these areas of mathematics are applicable to media, music, design, photography and the arts.
CREDITS: 3.00

LSN 1003 - HUMAN SCIENCES I
This course introduces the basic concepts of Human Anatomy and Physiology, together with the associated terminology. This course includes, basic chemistry, cell and tissue studies, with an overview of the body systems. This course offers students an understanding of how the various parts of the human body function. Three systems - blood, cardiovascular (heart), respiratory (lungs) are highlighted in this course. This course provides a foundation for further studies in non-clinical health majors and those with an interest in understanding the human body.
CREDITS: 3.00

LSN 1013 - HUMAN SCIENCES II
This course provides students with further understanding of the structure and function of the healthy human body. Covers body systems associated with digestion, excretion, control, movement, temperature regulation, maintenance and continuity.
CREDITS: 3.00

LSN 1023 - HUMAN BIOLOGY
This course will provide students with an understanding of human anatomy and physiology as well as cellular biology.
CREDITS: 3.00

LSN 1043 - INTRODUCTION TO GEOLOGY
This course introduces the basic concepts of Geology, together with associated terminology. This course includes, plate tectonics and earthquakes and the
effects on the built environment, composition of the Earth, geologic time, volcanism and environmental effects, weathering and sedimentation, metamorphic rocks and rock deformation, the hydrosphere, the atmosphere, the effects of climate change, mineral resources with particular emphasis on hydrocarbons, the major geologic regions of the earth, and the geology of the UAE.

CREDITS: 3.00

LSN 1103 - ANATOMY AND PHYSIOLOGY I
Provides an introduction to basic anatomy and physiological principles from the cellular level to the whole organism. These topics will include anatomical terms, the function and properties of selected biological molecules, cellular structure and processes, organisation of the human body, the principles of homeostasis and the structure and function of the urinary, digestive and musculoskeletal systems. A laboratory component will allow students to explore physiological concepts through a range of laboratory based activities.

CREDITS: 3.00

LSN 1113 - INTRODUCTION TO SUSTAINABILITY
This course will introduce the concept of sustainability as the efficient and environmentally responsible use of natural, human, and economic resources for the enhancement of quality of life on earth. Sustainability is the efficient and environmentally responsible use of natural, human, and economic resources for the enhancement of quality of life on earth. This course will provide students with knowledge about the basic concepts related to sustainability and sustainable development.

CREDITS: 3.00

LSN 1123 - SCIENCE, TECHNOLOGY AND CIVILISATION
This course aims for students to explore how changes in scientific thinking and method come about, how technological development can lead to scientific revolutions and also be a direct consequence of them, and how the emergence of techno-science has changed, and continues to change, life on our planet. In the initial phase of the course, students will be asked to compare scientific and non-scientific explanations for natural phenomena and explore some of the crucial developments that made civilisation and scientific thinking possible.

CREDITS: 3.00

LSN 1203 - ANATOMY AND PHYSIOLOGY II
The second course in a two-semester sequence designed to build upon certain concepts covered in the Anatomy and Physiology I course. The aim is to extend the students understanding of the workings of the body systems and the communication processes required to coordinate their activities.

CREDITS: 3.00

LSN 1213 - PERSONAL HEALTH AND PHYSICAL EDUCATION
This course aims to increase students understanding of current health and physical education issues.

CREDITS: 3.00

LSN 1223 - CHEMISTRY
This course provides an introduction to general concepts of chemistry. Focuses on the analysis of subatomic and atomic properties based on the periodic table of the elements; integration of concepts of higher order of organisation of the elements to molecules and polymers; molecular modelling; molecular level communications and practical aspects of chemical reactions and quantities.

CREDITS: 3.00

LSN 1263 - PHYSICS
This course is an introductory level physics course. It covers many of the fundamental principles of physics such as units of measurement, energy, mechanics, fluids, heat, sound, and light. Laboratory work is required to reinforce and stress the importance of these principles using the experimental method for investigating and reporting results.

CREDITS: 3.00

LSN 1303 - HEALTH AND WELLNESS
In this course students will gain an awareness of what constitutes health and wellbeing in their various aspects (including the physical, psychological, mental and social) and learn about skills and techniques for their maintenance and development. They will come to understand the basics of human anatomy and physiology, and learn about fitness, nutrition, and varying physical requirements at different life stages.

CREDITS: 3.00

LSN 2003 - ARCHAEOLOGY: PRESERVING CULTURES
This course is designed to help students explain,
value and experience archaeological heritage in the UAE and abroad in order to better appreciate its relevance to their present and future. This will be achieved through evidence-based knowledge related to basic archaeological theories and practices, whilst maintaining a strong focus on learning by doing.

CREDITS: 3.00

LSN 2313 - Scientific Principles
This is a survey course intended for students without a significant science background who intend to enrol in Science based programs, or wish to extend their scientific knowledge.

CREDITS: 3.00

LSN 2433 - Ecology
Students on satisfactory completion of this course will be able to understand and discuss basic ecological concepts including the concepts of species, communities and ecosystems.

CREDITS: 3.00

LSN 2503 - Introduction to Nutrition
Nutrition is the study of the food substances necessary for health, and how the body uses these substances for cell growth and maintenance.

CREDITS: 3.00

LSN 3013 - Environmental Studies
Environmental Studies explores the consequences of human action on the Earth’s living and nonliving elements and processes. In the course, students examine issues related to human population and overpopulation, pollution management, environmental health and the preservation of endangered species.

CREDITS: 3.00

LSS 1233 - Human Growth and Development
This course examines human growth and development across the life span.

CREDITS: 3.00

LSS 1243 - Introduction to Social Sciences
Aims to give students an introduction to the Social Sciences, in particular as they relate to the interaction between the individual and society, and how individuals are shaped by and react to societal forces. It will examine the methods that are used in coming to conclusions in the discipline as well as looking at a selection of theories in a number of social sciences, and raising questions about the potential for disruption and advancement posed by social change. Students will undertake their own research on a topic of contemporary interest in the area of the Social Sciences.

CREDITS: 3.00

LSS 2003 - Creating Your Future
This course equips students with advanced workplace transferrable skills to prepare them for the competitive labour market. It is cross disciplinary and applicable to all students.

CREDITS: 3.00

LSS 2013 - The World of Work
This course will help students to acclimatise to and thrive in ‘The World of Work’. It will do this by introducing them to the fundamental concepts of organisations as workplaces so that they may survive and thrive by gaining better understanding of their own personalities, attitudes, motivation, communication and leadership styles, then learn how to match them with the organisational environment, behaviour, culture and ethics.

CREDITS: 3.00

LSS 2053 - Cultural Diversity
This course is designed to provide students with a positive perception of cultural diversity.

CREDITS: 3.00

LSS 2063 - Culture, Climate, and Values
Focuses on the crucial importance of understanding culture and climate in a globalised, diverse and repeatedly restructured working environment. The course explores cultural issues at the national and organisational levels and the differences between culture, climate and values. The course also explores how a manager can interact effectively in different cultural settings and influence the development of a desired organisational culture.

CREDITS: 3.00

LSS 2093 - Intercultural Intelligence
Equips students with knowledge of the role of worldviews and cultural mapping in today’s globalised and diverse working environment. In particular, the course will allow students to explore and analyse sources of intercultural conflict as well as different cultural and individual approaches to resolve conflict.
in local, regional and global contexts. It will also provide students with perspectives on intra and intercultural dynamics including self reflection and research of Emirati culture. It is cross disciplinary and applicable to all students.

CREDITS: 3.00

LSS 2103 - PERSONAL FINANCE
Provides students with basic skills to understand their income and spending as an individual and as member of a family. They will learn to efficiently manage income, plan to spend sensibly, evaluate alternatives when purchasing, saving efficiently and proper planning techniques for retirement. As financially aware and educated citizens they would be able to contribute to their community and society and to the overall economy of the UAE.

CREDITS: 3.00

LSS 2203 - PSYCHOLOGY
This course aims to introduce students to psychology, providing an overview of the field.

CREDITS: 3.00

LSS 2313 - ECONOMICS
This course presents essential microeconomic concepts in English and is intended for students who have never taken a course in economics before.

CREDITS: 3.00

LSS 2323 - ECONOMICS OF THE UAE
Builds upon prior knowledge of basic micro and macroeconomic concepts, and students’ experience of working within the UAE economy to develop an analytical approach to current issues arising from the historical development of the oil-based UAE economy.

CREDITS: 3.00

LSS 2333 - SOCIOLOGY
The course is designed to provide an overview of the study of human society, groups, social processes, and sociological thinking.

CREDITS: 3.00

LSS 2533 - RESEARCH METHODS
Research Methods introduces students to primary research concepts and methods. Students develop their understanding of these primarily by engaging in research activities. This includes a campus based research project beginning with secondary research followed by a student survey and report on a topic of concern or interest. The course culminates in a research proposal for an investigation related to their major area but from a social research perspective. The course may also include a quiz or quizzes on concepts relevant to social research.

CREDITS: 3.00

LSS 3003 - SPORTS, LEISURE, AND SOCIETY
This course provides students with an understanding of the power and influence of sport in modern society.

CREDITS: 3.00

LSS 3013 - ENTREPRENEURSHIP IN THE UAE
This course introduces the concepts and skills needed to start new business ventures in the UAE. It raises awareness of some of the challenges entrepreneurs might face in the nation’s rapidly changing economic environment. It offers basic instruction of how to create a business plan and conduct a financial feasibility study. It encourages field visits to a range of local small businesses where possible.

CREDITS: 3.00

MA N111 - MATH I
Math I is a pre-calculus course designed for military pilots. The course includes review of the fundamentals of algebra; linear equations, systems of linear equations and inequalities; quadratic equations; variation; polynomial, rational, exponential, logarithmic and trigonometric functions; radian measure; right triangle solutions, vectors, and the Laws of Sines and Cosines.

CREDITS: 3.00

MA N201 - MATH II
Math II is a calculus course designed for military pilots. The course includes differentiation and integration of algebraic functions; applications to velocity, accelerations, area, curve sketching and computation of extreme values.

CREDITS: 3.00

MAR 3003 - TRANSPORT AND MARITIME LAW
The course requires the completion of previous courses in law. The students will become acquainted with the multimodal transportation and removal services. This includes the international inland transportation and the details of the CMNI/Budapest convention. One balance point is the contract management in multimodal transports and the cooperation between the ‘Maritime Law’ and the ‘Contract Law’. In the course students will learn and explain different case studies, for example cargo damage.

CREDITS: 3.00
MAR 3402 - SHIP STRUCTURES I
Provides an introduction to rationally based structural design and optimisation for ships. Loading and responses in ship structures. Bending of the hull girder and hull girder response. Application of beam theory to typical ship types, including those with open decks. Fatigue and fracture of ship structures, including an introduction to fracture mechanics.
CREDITS: 2.00

MAR 3503 - SHIP AND MACHINERY DESIGN I
This course provides an introduction to the fundamental aspects of the rational engineering approach to, and issues which influence, the design of a ship and associated machinery. CAD skills as applied to ship design, including specific commercial modelling software are introduced.
CREDITS: 3.00

MAR 3513 - NAVAL ARCHITECTURE AND SHIP CONSTRUCTION
This course is an introduction to the concepts and principles of naval architecture and ship construction. It covers practical aspects of ship design, including the purpose and names of important elements of a ship. Different ship types, the reasons for these and their principal design differences are covered. These include: general cargo vessels; dry bulk carriers; oil tankers; gas carriers; containerships; cruise ships; passenger ships; ferries; tugs; supply boats, other support vessels; and warships.
CREDITS: 3.00

MAR 3603 - MARITIME LAW I
This course is an introduction to maritime law, as required by a seagoing deck officer. It includes an introduction to the history of Admiralty Law and issues relating to: maintenance and cure; personal injuries to passengers and crew; maritime liens and mortgages; cargo claims; piracy; and marine salvage.
CREDITS: 3.00

MAR 3703 - METEOROLOGY II
This course expands on the basic concepts of meteorology introduced in Meteorology I. It covers the interpretation of information obtained from ship board meteorological instruments in a more detailed manner. The course also discusses the atmosphere, its composition and physical properties, atmospheric pressure, wind, clouds, precipitation and visibility. The influence of pressure systems over the oceans, weather services for shipping, and weather forecasting are also covered.
CREDITS: 3.00

MAR 3803 - NAVIGATION IV
This course builds on knowledge gained in the earlier navigation courses, and extends this to include: detailed voyage planning; weather routing; reporting procedures, including VTS reporting procedures; and advanced use of navigation aids. In addition, the theory and practice of Electronic Chart Display and Information Systems (ECDIS) will be introduced.
CREDITS: 3.00

MAR 4002 - AIR CONDITIONING AND REFRIGERATION
This course is an introduction to air conditioning systems and refrigeration systems on board ships. The principles and theory of operation of typical equipment is covered. This includes equipment for hotel services as well as for cargo, such as refrigerated cargo, and refrigerated containers. Examples of applications of various types of equipment are given.
CREDITS: 2.00

MAR 4010 - MARINE ENGINEERING SEA TIME III
This course is the third of the seatime courses in this program. It is conducted at sea, and is supervised by a senior officer on board. A detailed record will be kept which will be assessed by HCT staff. The material will include: marine machinery operations; practical engineering knowledge; maintenance; watchkeeping; and practical control engineering.
CREDITS: 10.00

MAR 4013 - SHIPHANDLING I
This course is an introduction to the theory and concepts of shiphandling. The course covers basic concepts such as: the forces and moments involved in manoeuvring; the use of the propeller and rudder; the centre of lateral resistance; and the pivot point. Other concepts such as: the use of tugs; the effect of windage; and the effect of shallow and confined waters, including ship interaction, are also covered.
CREDITS: 3.00

MAR 4023 - CARGO HANDLING AND STOWAGE II
The course covers the application of international regulations, codes and standards covering the safe handling, stowage, securing and transport of cargoes. Loading and unloading operations are covered,
including special regard to the transport of cargoes identified in the code of safe practice for cargo stowage and securing. General knowledge regarding cargo handling on tankers and bulk carriers, and the information regarding the carriage of dangerous cargoes are included.

CREDITS: 3.00

MAR 4033 - Leadership and Management
This course covers the principles of leadership and management for senior officers on board a ship. It includes: the concept of leadership; and the importance of vision, motivation and communication. Selected leadership theories and styles are included and examples given which apply to senior officers at sea given.

CREDITS: 3.00

MAR 4043 - Damage Stability and Stress
This course covers advanced concepts, including stability when damaged. Issues associated with: progressive flooding; transverse stability; sinkage and trim; and residual stability after damage are included. Regulations covering damage stability, including the probabilistic approach, are covered. Longitudinal bending and stress issues are discussed, and details regarding safe loading, particularly for bulk carriers and tankers, to avoid over stress are given. Other issues such as dry docking and stability when aground are also covered.

CREDITS: 3.00

MAR 4053 - Navigation V
This course covers the requirements to maintain safe navigation through the use of information from navigation equipment and systems to assist in command decision making. This includes the use of Electronic Chart Display and Information Systems (ECDIS) for command decisions. It also includes issues associated with the content, application and intent of the International Regulations for Preventing Collisions at Sea (COLREGS).

CREDITS: 3.00

MAR 4063 - Cargo Handling and Stowage III
This course covers procedures for safe cargo handling in accordance with the provisions of the relevant legislation, including: IMDG Code; IMSBC Code; and MARPOL 73/78, Annexes III and V. It covers basic principles for establishing effective communications and improving working relationships between ship and terminal personnel. It also covers the carriage of dangerous, hazardous and harmful cargoes, precautions during loading and unloading and care during the voyage of dangerous, hazardous and harmful cargoes.

CREDITS: 3.00

MAR 4073 - Shiphandling II
This course covers issues associated with emergencies, such as emergency steering and emergency towing arrangements and towing procedures, and manoeuvring in heavy weather. It includes berthing and un-berthing under various conditions of wind, tide and current, with and without tugs. It also covers information on anchoring, including: types of anchors; choice of anchorage; and procedures associated with dragging of anchors.

CREDITS: 3.00

MAR 4083 - Project I
This is the first of two linked project based final year courses. An appropriate project will be chosen by the student with guidance from relevant faculty members. Conducting the project will integrate many of the skills and knowledge obtained during the program, as well as develop independent learning. Students are expected to submit, and defend, their project in the presence of faculty members, and their peers.

CREDITS: 3.00

MAR 4102 - Engineering Knowledge: Boilers
This course covers the theory, design, operation and maintenance of marine boilers. It includes the safety issues associated with marine boilers, such as the need for a rigorous testing regime. Various boiler types, such as the scotch boiler, are included, along with applications and pros and cons. Issues associated with steam turbines are also included.

CREDITS: 2.00

MAR 4110 - Marine Transport Sea Time III
This course is the third of the seatime courses in the program. It will be conducted at sea, and will be supervised by a senior officer on board. A detailed record will be kept which will be assessed by HCT staff. The material will include: navigation; shiphandling; cargo handling and stowage; meteorology; and emergency procedures.

CREDITS: 10.00
MAR 4113 - BRIDGE RESOURCE MANAGEMENT
This course provides guidance for masters and those
in charge of an operational watch with the ability
to effectively and efficiently organise, control and
participate in the operations of the bridge team.
Issues such as: situational awareness; communication;
culture; leadership and team work; and workload are
considered. Appropriate case studies are included in
the study.
CREDITS: 3.00

MAR 4123 - NAVIGATION VI
This is the final navigation course to prepare students
for command navigation at sea. It will pull together all
the information required to safely plan a passage and
conduct a full passage plan, taking into account all
external issues such as other vessel traffic and forecast
meteorological and tidal conditions.
CREDITS: 3.00

MAR 4133 - CARGO OPERATIONS AND
TRANSPORTATION
This course covers a range of cargo operations from
the point of view of the port. Shore based issues
are covered including dry and bulk cargo, container
movement and the handling of dangerous goods
in ports. Issues associated with carriage of LNG,
passengers, cars/trucks and other specialist issues are
covered. In addition, business related aspects of cargo
operations are included.
CREDITS: 3.00

MAR 4143 - MARITIME LAW II
This course covers the important international maritime
legislation, along with the key issues associated with
the IMO processes for establishing such legislation,
including its incorporation into national law. The course
also covers a detailed discussion of the UN Convention
on the Law of the Sea, including jurisdictional boundaries
such as territorial waters, contiguous zones, high seas,
exclusive economic zones and sea piracy terrorism.
CREDITS: 3.00

MAR 4153 - PROJECT II
This is the second of two linked project based final year
courses. An appropriate project will be chosen by the
student with guidance from relevant faculty members.
Conducting the project will integrate many of the skills
and knowledge obtained during the program, as well as
develop independent learning. Students are expected
to submit, and defend, their project in the presence of
faculty members, and their peers.
CREDITS: 3.00

MAR 4163 - LEADERSHIP
This course will to prepare students for command.
The requirements of a master are covered, along
with various leadership strategies to best meet the
challenges of leading a diverse group of officers and
crew on a ship. In addition, the differences between
shipboard command and senior leadership positions
ashore are discussed. In addition to routine operations,
the leadership skills and techniques to be employed
in a variety of on board emergency situations are
covered.
CREDITS: 3.00

MAR 4173 - NAVAL ARCHITECTURE
This course covers a range of technical topics,
building on knowledge gained earlier in the program,
associated with the design and construction of different
vessel types, including: general cargo vessels; dry bulk
 carriers; oil tankers; gas carriers; containerships; cruise
 ships; passenger ships; ferries; tugs; supply boats;
other support vessels; and warships.
CREDITS: 3.00

MAR 4183 - ENGINEERING KNOWLEDGE: DIESEL
This course covers the theory, design, operation and
maintenance of marine diesel engines. Two and four
stroke diesels are included, as are low speed, medium
speed and high speed. Applications of each of these
are given, along with the pros and cons of each. In
addition, recent developments in diesel engines are
covered. Dual fuel diesel/gas engines, and gas engines
are also included.
CREDITS: 3.00

MAR 4223 - ENGINEERING CONTROL II
This course builds on the previous control course
and extends the knowledge of control theory and its
application in the marine environment in a practical
manner. In addition, specialist areas of control relevant
to different pieces of shipboard equipment are
considered, and the range of relevant control strategies
examined.
CREDITS: 2.00

MAR 4233 - ELECTRICAL SYSTEMS
This course is an introduction to the various electrical
systems that are on board ships. It includes an introduction to a variety of bridge equipment such as: electronic navigational aids; sonar; meteorological equipment and instrumentation. Electrical cardo handling equipment, including: cranes; pumps; lifts; and ramps are covered. Electrical equipment in the accommodation and engine room are also included.

CREDITS: 3.00

MAR 4243 - MATERIAL TECHNOLOGY
This course covers the theory of marine materials in a greater depth. In particular, mild steel, and the various classifications of this are dealt with. Theoretical considerations of other materials used on board ships are also covered, including: high strength steel; stainless steel; aluminium; and fibreglass. The compatibility of different materials is covered, both from a point of view of corrosion and also from load bearing considerations.

CREDITS: 3.00

MAR 4263 - ADVANCED ENGINEERING KNOWLEDGE
This is an advanced course on marine engineering application and knowledge, which brings together all the earlier courses. This is covered in a capstone manner as required for the chief engineer on board a ship who needs to have a thorough understanding of all equipment and structure on the ship, and their interaction, both in routine situations and in emergencies.

CREDITS: 3.00

MAR 4273 - MARINE MACHINERY OPERATIONS
This is a capstone course which covers all operations of the wide range of marine machinery used on board ships from the view point of a chief engineer. It includes all the processes from start up to shut down, both in routine operations and under emergency conditions. Troubleshooting and other unusual operational scenarios are included.

CREDITS: 3.00

MAR 4313 - MARINE CONTROL SYSTEMS
This is the capstone marine control course for chief engineers. The various control strategies used for a wide range of different marine engineering equipment - both common and uncommon - are discussed, along with advances in control theory which may be utilised by the marine industry in the future.

CREDITS: 3.00

MAR 4423 - COASTAL ENGINEERING AND MARITIME STRUCTURES
This course includes an introduction to the study of processes ongoing at the shoreline and within the coastal zone. Longshore and cross-shore currents are covered, including their effect on sand transport and beach erosion. It also covers the design of typical maritime coastal structures, including: breakwaters; groins; jetties; and sea walls.

CREDITS: 3.00

MAR 4433 - OFFSHORE ENGINEERING
This course is an introduction to offshore engineering, including the design of offshore platforms for oil and gas exploration and production. It will also include an introduction to subsea engineering, including subsea completions and pipelines on the seabed.

CREDITS: 3.00

MAR 4443 - SHIP PRODUCTION II
This course covers advanced ship production techniques, following on from MAR 3203, Ship Production. It focusses on efficient shipyard layout and ship production techniques, making use of international best practice, as applied in the UAE context. Economic aspects of ship production, and shipyard practices are also included, as well as project management, as applied to ship production.

CREDITS: 3.00

MAR 4453 - SHIP REPAIR
This course focusses on ship repair techniques, including regular maintenance, following on from MAR 3203, Ship Production. Ashore and afloat techniques are included, and issues associated with both are discussed in detail. Project management techniques used for ship repair are also covered.

CREDITS: 3.00

MAR 4463 - PORT ENGINEERING
This course covers the planning and engineering of ports and harbours. Ship berthing and manoeuvring aspects are covered, including the need for, and the design of, navigation aids. Engineering issues associated with the design of different types of marine terminals (container, dry bulk, and liquid bulk, including gas) are included.

CREDITS: 3.00

MAR 4703 - SHIPPING MANAGEMENT
This course is about the technical and operational
aspects of ship management. The operations that are necessary to transport cargo in a safe, efficient, and commercially viable manner are included. Nautical, commercial and cargo operations are covered in detail. The course also examines the concepts which underpin ship operations, including: asset maintenance; quality management; and risk management.
CREDITS: 3.00

MAR 4802 - MARITIME DESIGN PROJECT I
This is the first of two related capstone design courses. The course consolidates the knowledge and capabilities developed during the previous years on the program, as applied to the design of a ship and associated machinery systems. It leads directly on to MAR 4862 in the following semester.
CREDITS: 2.00

MAR 4803 - SHIP STRUCTURES II
Introduction to theories and concepts to describe and analyse the dynamic response of ship structures. Application of analytical models to the design of ship structures, and the use of simple and advanced methods to obtain internal forces and displacements, as well as buckling loads. An introduction to statistical predictions of wave-induced loads and hull girder response will also be covered. Load cases prescribed by Classification Societies, and the application of Classification Society rules to ship structures will be included.
CREDITS: 3.00

MAR 4823 - SHIP AND MACHINERY DESIGN II
This course extends the use of naval architecture specific ship design software, and includes the practical issues associated with the selection and design of a vessel's key features, structures and machinery systems, including both main propulsion and all auxiliary systems. Engine room layout, and its influence on ship design is included. The principal features of machinery design for maritime applications are covered, including a focus on a machines mechanical power transmission, vibration and control mechanisms.
CREDITS: 3.00

MAR 4833 - SEEKEEPING AND MANOEUVRING
This course includes: an introduction to ocean waves; the prediction of ship motions in regular waves (both experimentally and numerically); and statistical approaches to assessing the motions of a ship in a seaway. Motions criteria are also covered. The course also includes an introduction to ship manoeuvring in open and in restricted water, including the concepts of ship-ship interaction.
CREDITS: 3.00

MAR 4853 - MARINE SURVEYING
This course is an introduction to the principles of ship and engine surveying, as required by a marine surveyor. Issues associated with surveying for new build and/or repair in a shipyard are covered, as well as those associated with ongoing surveys, and port state control.
CREDITS: 3.00

MAR 4862 - MARITIME DESIGN PROJECT II
This is the second of two related capstone design courses, and follows on immediately from MAR 4802 in the previous semester. The course consolidates the knowledge and capabilities developed during the previous years on the program, as applied to the design of a ship and associated machinery systems.
CREDITS: 2.00

MAR 4873 - SHIP AND MACHINERY DESIGN III
This course covers detailed issues associated with ship and machinery design, including emission control measures, and concepts associated with alternative fuels both in terms of the ship and the machinery design. The impacts of proposed future legislation on ship and machinery design are included.
CREDITS: 3.00

MAR 4883 - MARITIME TRANSPORTATION
This course is an introduction to the economic principles of commercial shipping practice. It includes the basics associated with ship ownership, ship chartering, and commercial ship operation. The principles of international trade, international commerce, the key trade routes, and the role of shipping in an integrated multi-modal supply chain are introduced.
CREDITS: 3.00

MAR 4903 - MARINE SAFETY
This course covers the issues associated with marine safety, including the concepts of risk management, designing for safety, maritime safety regulations, and classifications societies. A number of case studies based on maritime accidents, and their subsequent effect on maritime regulations are discussed. Accident investigation procedures are also covered.
CREDITS: 3.00
MT N100 - DRILL
The Drill programme is aimed at the enhancement of leadership attributes, and finding a high level of military discipline, self control, and self esteem, and allowing cadets learn how to inspect and train his individuals in the future. The programme comprises military discipline and self control, self esteem, the development of leadership attributes, various military skills, military salutation, the movement in a parade using rifle from steadiness, parade movements using the sword, alert postures, personnel inspection and training, sword carrying skills and manoeuvres, honour and salutation guards.
CREDITS: 0

MT N101 - PHYSICAL FITNESS
This course is prepared to enhance cadets physical ability, endurance, and the sense of fair-play, and to cast the sense of teamwork and the desire to belong to the unit while continuing to maintain his reliability and physical fitness, as well as introducing him to the importance of fitness in improving combat skills. This programme is composed of different types of running and jogging, swimming, physical fitness and its role in the development of combat skills.
CREDITS: 0

MT N102 - WEAPONS
Designed to train cadets on light weaponry that might be needed in the future to allow him to learn how to use it, improve his skills in the field, and his ability to simultaneously interact with land and weaponry. It is composed of disassembling, assembling, maintaining, cleaning, and firing. It also includes night work, individual’s infiltration, simultaneous interaction with land and weaponry, the identification of locations, and the manoeuvre of rifles and machine guns.
CREDITS: 0

MT N103 - ORGANISATION AND FUNCTIONS OF A/F AND A/D
Designed to develop an understanding for cadets on the importance of the Air Force and Air Defence to control and manage the airspace and the ability to influence modern battles. The programme includes: the establishment and evolution of the Air Force and Air Defence, its characteristics, the basic principles of aircraft armament, the features of aircraft operations, the air threat, the types and characteristics of Air Defence weaponry, and leadership and control of the Air Force and Air Defence.
CREDITS: 1.00

MT N104 - MILITARY HISTORY
Designed to provide cadets with a historical background about the most common events of the international military history. The course includes the historical rights of the United Arab Emirates country in the three Arab islands, and the Battle of Al-Qadisiya. The course also includes the First World War (1914-1918), the Second World War (1939-1945), the Battle of Al-Alamein in 1942, and the Norman battle in (4411). The course also comprises the Arab- Israeli conflict, and the air campaign is in the Desert Storm Operation (the war of Kuwait liberation).
CREDITS: 1.00

MT N105 - MILITARY SECURITY AND INTELLIGENCE
This military intelligence course is designed to train and educate cadets in the topic of military intelligence in order to create a sense of security alert, and to work in accordance to procedures set by the Armed Forces during war, crises, and at all locations. This programme includes: the skills and types of military security and intelligence, self security, the security of documentation, the security of buildings, the security of bases, and the security of computers.
CREDITS: 1.00

MT N106 - STAFF DUTIES
This course is designed to teach cadets the basics and principles of the military language and correspondence, and to develop fine thinking to find solutions for any administrative or war preparation problems that may arise in the future. This programme includes: the principles of military writing and correspondence, telegrams, orders, orders drill (internal), military symbols and abbreviations + (exercises).
CREDITS: 2.00

MT N107 - WAR TACTICS
This course aims to develop the leadership attributes and self confidence required to overcome any problems in war preparations actions throughout the military career of cadets. It provides cadets with a strong grasp of minor war tactics actions for the section and the platoon. It covers: the basic principles of war, and different stages of war. It also includes battle skills for the section and the platoon: signals and signs, the
section battle movements, battle skill drills for the section, the platoon battle movements, the platoon battle movements, and battle skill drills for the platoon. CREDITS: 4.00

MT N108 - BATTLE SKILLS
The course aims at employing battle skills for groups and platoons. The course includes the signals and the group formation, the group movements of the battle, and the group exercise of the battle skills. The course also comprises the signals and the platoon formation, the platoon movements of the battle, and the platoon exercise of the battle skills. CREDITS: 1.00

MT N109 - GRADUATION CEREMONY
Prepares students for taking part in the military graduation ceremony at the end of the programme. It includes rehearsals, practice sessions, orientation and training instructions about all the different aspects of a high level military graduation ceremony. By the end of this course, students will master the various aspects of a typical military graduation ceremony. CREDITS: 0

MT N110 - LEADERSHIP TECHNOLOGY AND DISCIPLINE
Aims to develop the leadership attributes; display integrity and motivation; display assertiveness and effective communication; demonstrate command skills and decision making; display selfless commitment and respect for others. The course aims also to demonstrate discipline and provide the ethos of the UAE armed forces. CREDITS: 3.00

MT N200 - AIRCRAFT WEAPON SYSTEMS
A comprehensive study of aircraft weapon systems and guidance methods at the technical level including the types of homing guidance, the modifications of guns and the precision guided munitions. The course includes also electronic warfare tactics and applications. Future weapons such as anti-satellite missiles and microwave bombs are also included. CREDITS: 3.00

MTH 1103 - PRE CALCULUS
A first year mathematics course for students in Engineering Technology programmes. It provides the student with background mathematical skills essential for progression to the study of calculus and further engineering mathematics. Topics include polynomials, linear algebra, vectors, complex numbers, exponential and logarithmic functions, variation and inequalities. Software applications such as MATLAB are used as tools to solve problems. CREDITS: 3.00

MTH 1203 - CALCULUS I
In this course, students are introduced to Calculus Mathematics and associated applications. The course includes Limits and Continuity, Differentiation of Algebraic Functions, Trigonometric Functions, Logarithmic, Exponential Functions, Applications of the Derivative, Optimisation and Newton’s Method. CREDITS: 3.00

MTH 2103 - CALCULUS II
In this course, students are introduced to Integral Calculus and associated applications. The course includes Sums, Indefinite and Definite integrals, integration techniques, Parametric equations and Polar coordinates, application of integration, and an introduction to numerical integration techniques. CREDITS: 3.00

MTH 2503 - LINEAR ALGEBRA AND DIFFERENTIAL EQUATIONS
Introduces systems of linear equations, matrices, and first order differential equations; existence and uniqueness; second order differential equations; Laplace transform and its use in solving differential equations; and simple partial differential equations. This course introduces systems of linear equations and matrices, Gaussian elimination, matrix operation, inverse, linear transformation, Eigen values and Eigen vectors. CREDITS: 3.00

MTH 3013 - CALCULUS III
The course covers topics on Hyperbolic functions and their inverse. Topics included are Taylor, Maclaurin and Fourier series, operations with vectors dot and cross products, lines and planes. Functions of several variables, partial derivatives, double and triple integrals, moments, centre of mass, volumes, double integrals in polar forms, triple integrals in cylindrical and spherical coordinates, line integrals and Green’s theorem are also covered. CREDITS: 3.00
NA IT101 - INFORMATION TECHNOLOGY I
Designed to establish foundation level theory and practical exposure to Information Technology application in academic and naval scenarios. Topics include recognising hardware and software tools, operating systems concepts, data and file management, security and data protection, internet search and information exploration, electronic communication, IT ethics and etiquettes, word-processors for electronic document formatting and inclusion of tables, shapes and external objects.
CREDITS: 2.00

NA MA101 - FOUNDATION MATHEMATICS
This course is designed to introduce basic concepts of mathematics. Topics include the real number system, inequalities, the Cartesian plane and the distance formula, linear and quadratic functions and their graphs, composite and inverse functions, polynomial and rational functions, exponential, logarithmic, trigonometric and inverse trigonometric functions and their graphs.
CREDITS: 2.00

NA PH101 - PHYSICS FOR NAVAL APPLICATIONS
Enables students to understand the fundamental concepts of physics with special emphasis on aspects important in the naval sciences. Topics include: international system of units, vectors, Newton’s law of motion, work, energy, momentum, angular momentum, conservation laws, rotational motion, Newton’s law of Universal gravitation and its applications to gravitational tides, differential force or tidal force and earth rotation theory (day/night, seasons, sunrise/sunset).
CREDITS: 2.00

NA RM201 - RESEARCH METHODS FOR NAVAL SCIENCES
In this course students will be introduced to scientific method as applied to naval and marine sciences. Students will learn how to plan, develop and produce scientific projects, collect and analyse data and will be introduced to research through electronic portals and traditional libraries. The course is designed to give the necessary basic principles for research methods of naval science, topic includes characteristic of scientific research, methods of thinking, sectors of research, research procedures, qualitative research method, writing research proposal, and writing a report.
CREDITS: 2.00

NAEN N100 - IELTS ENGLISH I
This is an integrated course with emphasis on communicative teaching methods promoting student centred learning. Instructors use technological resources such as iPads, interactive whiteboards and the independent learning centre to support pedagogical delivery. Individual, pair work, group work and whole class teaching is used as appropriate and fostering of independent learning skills is a core component of instructional delivery.
CREDITS: 14.00

NAEN N101 - IELTS ENGLISH II
This is an integrated English course intended to further develop the cadets college- and career-related language skills. The focus is on enhancing cadets listening, speaking, reading and writing skills with increased attention to professional wing programme-area needs. Through collaboration between English and professional wing programme-area instructors, cadets are assisted in the task of achieving required language competency (IELTS GT Band 5).
CREDITS: 16.00

NAEN N201 - ENGLISH COMMUNICATIONS I
This course is intended to develop and expand career oriented language skills. The focus is on developing the cadets’ listening, speaking, reading and writing skills with strong links to the professional programme subject areas. Special focus will be on integrating use of the ILC, prompting cadets to learn independently and record their progress. Effort will be made to have cross-curricular connections, with the aim of increased professional language competency for the cadets. Communicative, authentic and realistic contexts inform the instructional materials and delivery of this course.
CREDITS: 8.00

NAEN N202 - ACADEMIC COMPOSITION
Designed to reinforce essay composition skills and introduce cadets to the practice of writing for academic purposes. It will prepare cadets for work in English courses in which research writing is a requirement. It introduces basic research writing skills including: conducting research, note taking, paraphrase, summary, direct quotation, positioning, and MLA or APA style citation.
CREDITS: 2.00
NAEN N203 - ENGLISH COMMUNICATIONS II
This is an integrated English course intended to further develop the cadets college- and career-related language skills. The focus is on enhancing cadets listening, speaking, reading and writing skills. Through collaboration between English and professional wing instructors, cadets are assisted in the task of achieving required language competency (IELTS GT Band 5). The course balances accuracy and fluency while systematically developing skills that use communicative, authentic and realistic contexts. Liaison with concurrent courses is strongly encouraged.
CREDITS: 8.00

NAEN N204 - ACADEMIC COMMUNICATION
This course guides the cadets through the process of building an effective and engaging presentation and provides the cadets with the necessary skills to create and deliver their own presentation.
CREDITS: 2.00

NAIS N101 - ISLAMIC STUDIES
This course deals with Islamic moderation and focuses on the global ethical standards that can be established for humans of different races and religions to deal with. It also deals with the most virtuous behaviours that required of a Muslim. The course focuses on the love of the homeland, defence and obedience to the ruler and his leadership. It also stimulates the love of belonging to the homeland, the dissemination of good within it, helping the student to avoid hatred and emphasising respect for other religions.
CREDITS: 1.00

NAIS N102 - ISLAMIC STUDIES II
A continuation of Islamic Studies I. It deals with Islamic moderation and focuses on the global ethical standards that can be established for humans of different races and religions to deal with. It also deals with the most virtuous behaviours that required of a Muslim. The course focuses on the love of the homeland, defence and obedience to the ruler and his leadership. It also stimulates the love of belonging to the homeland, the dissemination of good within it, helping the student to avoid hatred and emphasising respect for other religions.
CREDITS: 1.00

NAIS N401 ISLAMIC STUDIES III
This course covers the following: theme of our leaders' obedience, rules of accusing other of heresy; ordering others doing good deeds and stopping others doing bad deeds, the Islamic legislation on Muslims dealing with non-Muslims, definition of Al-Jihad, its categories and sub categories, the great battles of Badr and Uhud, more studies on prayer rules on board ships.
CREDITS: 1.00

NAIT N101 - INFORMATION TECHNOLOGY I
To provide cadets with theoretical knowledge and practical exposure enabling the cadets to independently operate and manage computer resources. On completion of this course, the cadets are expected to be familiar with computer system configuration and common application packages and utilities, and in addition to be able to take decisions with regard to choice of hardware, software, and system environment.
CREDITS: 2.00

NAIT N102 - INFORMATION TECHNOLOGY II
A course of study to provide expertise in the application of spreadsheet, database and presentation tools in performance of tasks. Topics include creating presentations incorporating text, images, external objects, multimedia, graphs and charts; creating spreadsheets and workbooks, spreadsheet formulae, functions, macros, and graphs; developing database projects comprising of tables, user interface forms, data extraction queries and reports.
CREDITS: 2.00

NALM N101 - INTRODUCTION TO NAVAL LEADERSHIP AND MANAGEMENT I
To start the Naval Leadership programme students will be given an introduction to concept of leadership. As building block for better understanding of the subject in the following terms, they will study factors of leadership, the importance of vision, motivation and communication in leadership.
CREDITS: 1.00

NALM N201 - NAVAL LEADERSHIP AND MANAGEMENT I
In this course the students will study the Islamic concept of leadership with special emphasis on life of Hazrat Muhammad as a leader. They will also study leadership in a naval context.
CREDITS: 1.00
NALM N202 - Naval Leadership and Management II
Students will study the difference between a leader and a manager. They will be introduced to selected leadership theories and styles, giving special attention to how each theoretical approach can be applied in the naval environment, and will study importance of individual attributes and competences of a leader in effective problem solving and performance. The course will also equip students with the necessary guidelines and tools to practice leadership in a changing environment and with varying skill levels of subordinates.
CREDITS: 2.00

NALW N201 - International Law of the Sea
This course deals with jurisdictional boundaries such as territorial waters, contiguous zones, high seas, exclusive economic zones and sea piracy/terrorism. Emphasis will be placed on the 1982 U.N. Convention on the Law of the Sea and customary international law. Cadets will study the status of warships/military aircraft, navigation in and over national/international waters, introduction to protections of persons, rescue, safe harbour, quarantine, asylum and temporary refugees.
CREDITS: 1.00

NAMA N101 - Foundation Mathematics
This course is designed to introduce the basic concepts of mathematics. Topics include the real number system, inequalities, the Cartesian plane and the distance formula, linear and quadratic functions and their graphs, composite and inverse functions, polynomial and rational functions, exponential, logarithmic, trigonometric and inverse trigonometric functions and their graphs, the limit of a function, properties of limits and limits at infinity and continuity.
CREDITS: 2.00

NAMA N102 - Mathematics for Naval Sciences
Provides the cadet with background mathematical skills essential for progression to the study of calculus and further naval courses. It deals with the following topics: differentiation of algebraic and transcendental functions, integration and its applications, including integration of the polynomial, exponential and trigonometric functions, plus integration by parts. As an application, the definite integrations, area and volumes will be introduced.
CREDITS: 2.00

NAMO N201 - Maritime Meteorology and Oceanography
The course is designed to introduce the basic concepts of meteorology and oceanography and their importance in naval operations and warfare. Students will become acquainted with meteorological measurements and weather chart features, and will learn how to derive and predict associated weather conditions. In oceanography the structure of the ocean basins, the physical properties of seawater and their impact on underwater acoustic propagation will also be studied.
CREDITS: 1.00

NAMO N202 - The Regional Maritime Environment
Focus will be on the maritime environment of the Arabian Gulf and northern Indian Ocean: Regional meteorology and oceanography, and their impact on the operations of the UAE Navy, will form fundamental components of the course. Topics include pressure systems, air stability, local weather effects, monsoons and tropical cyclones, radar propagation, temperature and salinity profiles in local waters, fronts, currents and sonar propagation.
CREDITS: 1.00

NAPH N101 - Physics for Naval Applications
This is an introductory level physics course aimed at enabling the cadets to understand the fundamental concepts of physics, with emphasis on those aspects important in naval science and technology. It covers many of the fundamental principles of physics such as units of measurement, linear motion, circular and angular motion, forces and Newton’s laws of motion, work, energy and universal gravitation.
CREDITS: 2.00

NAPH N102 - Principles of Naval Sensors I
This course will introduce cadets to the theory and physical sciences which determine the design and operation of ship-borne sensors. Topics will include: waves and oscillation, simple harmonic motion, types of waves, acoustics and properties of sound waves (reflection, refraction, interference and diffraction), attenuation of waves (spreading, scattering, and absorption) and the relationship between speed, frequency and wavelength, analogue and digital signals, basic communication theory and the basic principles and types of sonar and radar.
CREDITS: 2.00
NAPH N201 - PRINCIPLES OF NAVAL SENSORS II
An introductory level course designed to provide knowledge and understanding of the principles of above water sensors and communication systems, and to develop practical skills in presenting and analysing the operational characteristics of such systems.
CREDITS: 2.00

NAPR N201 - MODERN NAVAL SCIENCE AND TECHNOLOGY PROJECT
Focuses on the design and delivery of an original research project relevant to modern naval science and technology. The project will, in addition to developing scientific research skills, give students an opportunity to utilise and apply the knowledge and skills gained in other science and technology courses.
CREDITS: 2.00

NARM N201 - RESEARCH METHODS FOR NAVAL SCIENCES
Designed to inculcate the necessary basic principles for scientific research methods. Topics include characteristics and methods of scientific research, approaches to thinking, types of research, research procedures, the writing of a research proposal, and writing a scientific project report.
CREDITS: 2.00

NAST N101 - SHIP ELECTRICAL TECHNOLOGY
This course is designed to introduce the basic principles of electrical and electronic circuits as applied to modern naval ships. Topics include circuits, network theorems, three-phase power systems, semiconductors, transistors, power amplifiers and machines.
CREDITS: 2.00

NAST N102 - MECHANICS AND FLUIDS FOR NAVAL APPLICATIONS
Aimed at enabling the cadets to understand the fundamental concepts of fluids and mechanics, with special emphasis on those aspects important in naval sciences. Cadets should develop an understanding of the principles of fluid mechanics and the application of these to practical problems. Primary emphasis is on fluid properties, the measurement of pressure, density, viscosity and flow, fluid statics and the flow of fluid in pipes and open channels.
CREDITS: 2.00

NBNB 101 NBCD
This course will provide cadets with basic theoretical knowledge about NBCD. On completion of subject, the cadets are expected to gain the basic knowledge about NBCD, states and conditions and damage control in case of flooding, fundamentals of fire and principles of fire extinction, portable and fixed fire-fighting equipment, protective clothing and basic fire preventive measures onboard ships.
CREDITS: 0.00

NMDO N101 - DISC AND ORG
Composition of organisation and discipline needed for the manning of naval sea services with emphasis on departments, routines, divisions, orders, organisation of commissioned ships, allocation of hands for work, special duty men and special parties, CPO’s and PO’s special duties, watch and deck organisation, ammunition, air bedding, landing parties, darken ship and fumigation.
CREDITS: 1.00

NMNI N101 - MILITARY KNOWLEDGE
Traces the military administration principles, which include entertainment, leave, recruitment and termination of service. It also touches on military and maritime laws, crimes, maritime law, custody and investigations. Finally, some selected topics on military security, personnel, sailors, buildings and documents.
CREDITS: 1.00

NMPO N101 - PASSING OUT PARADE I
This course consists of three parts: The first part teaches the naval cadet basic drills in standing position, turning, inclining, steps in all directions, dressing ranks and saluting. Basic drill while marching is the second part. The cadet is trained in saluting, entering or leaving offices, turning, and standing guard. Finally, the cadet is trained in situations while slow marching, slow and halts, slow to quick turning and eyes right and left.
CREDITS: 2.00

NMPO N102 - PARADE TRAINING II
This course covers basic rifle drills - standing at ease and to attention with a rifle, changing from one situation arm to another and practicing basic rifle movements. Cadets learn all positions for saluting with rifles and finally marching with a rifle and saluting.
CREDITS: 1.00

NMPO N201 - PARADE TRAINING III
Teaches and trains cadets in sword drills in standing position such as: attention, stand at ease with sword,
draw and scabbard sword, quick march with sword and salute. It also trains them in sword drill while marching, present arms with sword, eyes left and right and saluting in both directions.

CREDITS: 1.00

NMPO N202 - Passing Out Parade III
Cadets train in how to stand easy and to attention with flag, shoulder arm, ground arm with flag, shoulder arm and present arm with flag and quick/slow march with flag. They are also trained in guard of honour, ceremonial guard and funeral drill. Finally, they practice rifle and sword drills.

CREDITS: 2.00

NMPO N203 - Parade Training IV
Cadets train in how to stand easy and to attention with flag, shoulder arm, ground arm with flag, shoulder arm and present arm with flag and quick/slow march with flag. They are also trained in guard of honour, ceremonial guard and funeral drill. Finally, they practice rifle and sword drills.

CREDITS: 1.00

NMPO N301 - Passing Out Parade V
This course prepares students for the final military graduation. The course consists of three parts: The first part teaches the naval cadet drills in standing position, turning, inclining, steps in all directions, dressing ranks and saluting. Basic drill while marching is the second part. The cadet is trained in saluting, entering or leaving offices, turning, and standing guard. Finally, the cadet is trained in situations while slow marching, slow and halts, slow to quick turning and eyes right and left.

CREDITS: 2.00

NPAD N401 General Naval Administration and Operations
Navy General module will provide the students with theoretical and practical knowledge necessary to contribute to UAE Navy administration and general operations at sea.

CREDITS: 2.00

NPCM N101 - Naval Communication
Aims to develop an understanding of flag work in naval communication and knowledge of alphabetical and numerals flags and pennants with their international meaning. Cadets are also taught basic manoeuvring definitions used in tactical communication.

CREDITS: 1.00

NPCM N201 - Naval Communication (Practices) II
Aims to introduce the flashing procedure for naval communication. Practical exercises are included to teach Morse Codes. By the end of course cadets are expected to be able to transmit and receive/read message through flashing procedure.

CREDITS: 2.00

NPCM N202 - Naval Communication (Practical)
Aims to consolidate the tactical communication skills acquired in term II and III through repeated practical exercises. The curriculum will mainly focus on flashing exercises with some emphasis on other aspects of naval tactical communication.

CREDITS: 1.00

NPCM N401 - Advanced Naval Communications I
The course trains Junior Officers to meet STCW and naval communications officer requirements. The SCTW focus is on visual signaling skill (i.e. flashing light and flags). This skill also addresses naval visual signaling requirements. Going beyond this, the course teaches how to encode and decode complex maneuvering, admin and operational codes. In addition to this, the course prepares the student to perform Communications Officers duties through instruction on Message Writing and Communications Management.

CREDITS: 2.00

NPCM N402 - Advanced Naval Communications II
The course trains Junior Officers to meet STCW and naval voice communications requirements. The Short Range Certificate is designed to meet the SCTW
Global Maritime Distress and Safety System (GMDSS) requirements for Sea Area 1 operation, as well as provide an introduction to Sea Areas 2 through 4.
CREDITS: 2.00

NPNB N101 - NBCD
This course will provide cadets with basic theoretical knowledge about NBCD. On completion of subject, the cadets are expected to gain the basic knowledge about NBCD, states and conditions and damage control in case of flooding, fundamentals of fire and principles of fire extinction, portable and fixed fire-fighting equipment, protective clothing and basic fire preventive measures on-board ships.
CREDITS: 1.00

NPNV N101 - NAVIGATION I
Provides cadets with elementary theoretical knowledge of general navigation. Upon completion of the course, the cadets are expected to have knowledge of basic definitions, familiarisation with navigational charts, theoretical knowledge of basic methods of fixing, different navigation publications, tides and tidal streams theory, use of navigational aids including various navigational lights and lastly knowledge of various types of instruments used in navigation.
CREDITS: 3.00

NPNV N201 - RULES OF THE ROAD I
This course will provide cadets with in-depth theoretical knowledge of Rules of the Road (ROR) essential for any seaman. On completion of this course, the cadets are expected to gain knowledge of ROR and should be able to apply these rules at sea correctly in all circumstances. In order to achieve the said standards, cadets are taught International Regulations for Preventing Collisions at Sea 1972 (with amendments in force from 1995). During this term, cadets are taught Rules 1-18.
CREDITS: 1.00

NPNV N202 - NAVIGATION II
This course will provide cadets with in-depth theoretical knowledge of navigation. Upon completion of the course, the cadets are expected to be familiar with coastal navigation, passage planning, execution of anchoring, satellite navigation, blind pilotage and the significance of meteorology. In addition, the cadets will be familiar with the terms of astro-navigation.
CREDITS: 3.00

NPNV N203 - CHARTWORK I
This course will provide cadets with basic theoretical/practical knowledge of chart work. On completion of this course, the cadets are expected to gain practical knowledge of chart work techniques/procedures and their correct application at sea.
CREDITS: 1.00

NPNV N204 - NAVIGATION III
Cadets will be provided with an in-depth theoretical knowledge of astro-navigation in preparation for practical application at sea: the course will teach the use of navigational publications, the prediction of the times of rising and setting of heavenly bodies and the use of astronomical methods for gyro compass correction. It will cover the derivation of latitude by meridian passage and an observed position by means of the reduction of sun, star and planet sights.
CREDITS: 2.00

NPNV N205 - RULES OF THE ROAD II
This course will provide cadets with in-depth theoretical knowledge of Rules of the Road (ROR) essential for any seaman. On completion of this course, the cadets are expected to gain knowledge of ROR and should be able to apply these rules at sea correctly in all circumstances. In order to achieve the said standards, cadets are taught International Regulations for Preventing Collisions at Sea 1972 (with amendments in force from 1995). During this term, cadets are taught Rules 19-38 prior going to Sea Training.
CREDITS: 1.00

NPNV N206 - CHARTWORK II
This course will provide cadets with in-depth theoretical knowledge of chart work. On completion of this course, the cadets are expected to gain practical knowledge of chart work techniques/procedures and their correct application at sea.
CREDITS: 1.00

NPSE N101 - SEAMANSHIP I
The course is aimed at the introduction of basic seamanship knowledge and general sea terms so as to provide underpinning for further learning. The topics include hull and hull surfaces, various parts of ship, docks, jetties and units of measurements. On completion of this course the cadets are expected to be familiar with basic seamanship definitions, various parts of ship and various types of ropes and their usage.
CREDITS: 1.00
NPSE N102 - SEAMANSHIP II
Course covers the theoretical knowledge rigging and anchor work practical training on handling of boats and anchoring. Anchor work includes various parts of anchor, its types, cable markings, deck fittings, maintenance of anchors and cables, procedure of anchoring and weighing anchor, and a sea trip on-board naval vessel for practical anchoring.
CREDITS: 3.00

NPSE N201 - SEAMANSHIP III
Course covers the theoretical knowledge rigging and anchor work practical training on handling of boats and anchoring. Anchor work includes various parts of anchor, types, cable markings, deck fittings, maintenance of anchors and cables, procedure of anchoring and weighing anchor, and a sea trip on-board naval vessel for practical anchoring. Rigging work includes various hawsers, bends and hitches, various parts of sailing and pulling boats followed by rigging of boats and practical power boat handling drills like making approach to the jetty and buoy, and casting off from jetties and buoys.
CREDITS: 2.00

NPSE N202 - SEAMANSHIP IV
Provides underpinning knowledge to cadets for duties on-board ships during their sea training as Midshipmen. The topics include Replenishment at Sea in which the procedures of light and heavy jack stay and fuelling rig are taught. The course also includes the authority and responsibilities of OOW in detail. The cadets are also taught about duties and responsibilities of OOD in harbour and other members of gangway staff thus enabling them to perform the duties as Midshipmen on-board ships.
CREDITS: 1.00

NPSE N203 - SEA TRAINING
This is a practical training time for cadets on board ships. During this time they practically perform various duties like Quartermaster, navigation and direction Yeomen, lookouts, marine engineering and weapon electrical watch keepers. They also learn about practical professional activities such as towing, replenishment, and the duties of various parties on the decks. Learning about these duties is of particular interest for them and it enhances their confidence level for performing efficiently thereafter in their professional assignments.
CREDITS: 3.00

NPSE N301 - MIDSHIPMEN (6 MONTHS)
This is the practical term of 6 months for Midshipmen to learn all aspects of sea service and duties on-board ship. During this period they undergo rigorous training on equipment and gears fitted on-board with particular emphasis on the basic naval and professional matters.
CREDITS: 8.00

NPST N101 - MATERIAL SCIENCE FOR NAVAL APPLICATION
This course will provide cadets with basic theoretical knowledge about materials science for naval applications. On completion of subject, the cadets are expected to gain the basic knowledge about materials and their classifications, metals and their treatments methods, common materials used on board naval warships, hull corrosion, prevention and preservation methods.
CREDITS: 2.00

NPST N201 - SHIP PROPULSION I
This course will provide cadets with basic theoretical knowledge about propulsion plants. On completion of subject, the cadets are expected to possess basic knowledge about the functions and purpose of engineering systems on-board naval warships. The organisation and responsibilities of the marine engineering department on-board warships, basic layout and components of propulsion transmission systems, working principles and basic parts/construction, configuration of various types of propulsion prime movers along with their advantages/disadvantages on-board naval warships.
CREDITS: 2.00

NPST N202 - THERMODYNAMICS
This course will provide cadets with basic theoretical knowledge about thermodynamics. On completion of course, the cadets are expected to gain the basic knowledge about thermodynamics and its practical applications, forms of energy, thermodynamic properties, understanding of the basic concepts regarding heat and work, the first and second laws of thermodynamics, problems related to work, power and efficiency of engines, problems related to heat and efficiency of refrigeration.
CREDITS: 2.00

NPST N203 - SHIP PROPULSION II
This course is a continuation of Ship Propulsion I and
aims to provide cadets with basic theoretical knowledge about various auxiliary systems fitted on-board naval warships. On completion of syllabus, the cadets are expected to gain knowledge about purpose, types and basic components of the fire main system, requirements of distilled/fresh water on-board warships, concept of reverse osmosis and their applications on-board.

CREDITS: 2.00

NPST N204 - SHIP STABILITY
This course will provide cadets with basic theoretical knowledge about ship stability. On completion of the syllabus, the cadets are expected to gain knowledge about the basics of ships transverse and longitudinal stability, effect of addition, removal, and shifting of weights on stability of warships and simple stability calculations, damaged stability when hit during war, loss of stability due flooded compartments and use of carpet plots.

CREDITS: 2.00

NPWO N101 - NAVAL WARFARE AND OPERATIONS I
An introduction to various naval platforms, their weapon/sensors fit and the basics of naval communication. The aim is to develop an understanding of different types/categories of naval surface warships, submarines and aircraft and to introduce various weapons and sensors used on these platforms. Basic principles of naval communication are introduced with a view to develop an understanding of the various means of communication.

CREDITS: 1.00

NPWO N201 - NAVAL WARFARE AND OPERATIONS II
This course is aimed at establishing a knowledge base in AIO, roles of naval platforms, electronic communication methods and employment of weapons and sensors. The course includes an introduction to Action Information Organisation, its sources of information, and roles and limitations of various platforms in naval warfare. The course also covers the characteristics and employment tactics of radars, sonars, missiles, torpedoes and guns.

CREDITS: 2.00

NPWO N202 - NAVAL WARFARE AND OPERATIONS III
The course is intended to develop understanding of AAW, ASW, ASuW and Mine Warfare and to introduce electronic warfare and latest trends in technology.

Cadets are introduced to the tactics involved in underwater and above water warfare and defence against three dimensional threats. The course prepares cadets for further learning of amphibious warfare through establishing a knowledge base in amphibious warfare. Cadets are also familiarised with ship to shore and shore to ship communication procedures including distress communication and basic fleet formations.

CREDITS: 2.00

PCJ 2003 - LAW AND PROCEDURE OF EVIDENCE
This course will cover the police and the prosecutors, the suspect or the accused, and the court system. The course will discuss main principles such as presumption of innocence, proper arrest, protection and gathering of evidence, accessibility of court, the criminal justice system, jurisdiction of criminal courts, private prosecution, search and seizure, arrest, indictments and charges, the conduct of criminal proceedings and the presentation of case.

CREDITS: 3.00

PCJ 2013 - CRIME SCENE MANAGEMENT
The student will learn how to handle a crime scene with topics in basic forensics; identification, documentation, and processing of evidence; justice administration and more. The course will develop students skills needed to photograph various types of crime scene situations, trace evidence, proper use of photographic equipment for crime scene investigations, and photographing post mortem injuries.

CREDITS: 3.00

PCJ 2023 - PROJECT MANAGEMENT FOR LAW ENFORCEMENT
This course introduces the student to project management principles and their application to law enforcement projects. The course will discuss law enforcement case studies from Abu Dhabi Police and the associated project cycle including Initiation, Planning, Execution, and Closing. The course will also cover issues related to working with internal and external teams and agencies.

CREDITS: 3.00

PCJ 2033 - CRIME PREVENTION
This course covers the causes and consequences of crime, as well as ways to reduce the costs of crime to society. Emphasis will be placed on trying to understand the causal effects of different policy
interventions on crime, and exploring what can be learned about the benefits and costs of such efforts. Among the topics covered in the course are the costs and benefits of criminal justice programs and policies related to incarceration, policing, and the regulation of drugs, and firearms.

CREDITS: 3.00

**PCJ 2043 - Community Policing**
The course will integrate the theories and practices of contemporary community policing through analysis of various police case studies. Problem solving models and crime prevention strategies will be researched, developed and applied. Through practical exercises, students will analyse community issues related to crime and disorder, design and implement strategies to resolve the issues, and develop an analysis in order to evaluate success.

CREDITS: 3.00

**PCJ 2103 - Criminal Investigations**
The course explores the fundamental components of interviewing and investigations. Covers investigative practices in apprehending suspects and preparing criminal cases. Includes an examination of the science and art of criminal investigations, and gathering and analysing evidence. The course prepare students to implement the processes of criminal investigations to include an overview of the science of physical evidence and interview and interrogation techniques, identify profiles of various crimes and the benefit and risk of using profiles.

CREDITS: 3.00

**PCJ 2113 - Criminology and Victimology**
This course aims at providing student with essential knowledge and skills related to the criminal science and its applications, as well as analysing the consequences of the criminal behaviour in the victims who directly or indirectly are affected by the criminal acts. The course covers the framework for understanding criminology, current theories, and major forms of criminal behaviour. The concept of victimisation is also studied, as well as theories of victimisation, the impact of crime on victims, and explores various processes and procedure to help victims.

CREDITS: 3.00

**PCJ 2123 - Work Experience**
This course is designed as a framework within which a range of work related learning activities can be accommodated to meet defined learning outcomes. Students are required to work at different units in Abu Dhabi Police with joint supervision from HCT and ADP. This course gives students opportunity to practice what they have learned during the programme at a professional work environment.

CREDITS: 12.00

**PH N112 - Physics I**
It is a course in elementary physics. Stress will be placed on basic physics principles. Problem solving logic will be an important integral part of this course. Topics will include measurements, vectors, linear motion, Newton's laws of motion, work and energy theorem, linear momentum and collisions, rotational motion, and fluid mechanics.

CREDITS: 3.00

**PH N202 - Physics II**
It is a course in elementary physics. Stress will be placed on basic physics principles. Problem solving logic will be an important, integral part of this course. Topics will include oscillations and waves, heat and thermodynamics, electrostatics, current, electricity, magnetism, elementary circuits, and electromagnetic waves.

CREDITS: 3.00

**PHY 1103 - Physics I**
This course is an introductory level physics that is essential for all engineering programs. It covers many of the fundamental principles of physics such as units of measurement, linear motion, circular motion and angular motion, forces and Newton’s laws of motion, work and energy, collisions and conservation laws, momentum and mechanical waves and oscillations. Laboratory work is required to reinforce and stress the importance of these principles using the experimental method for investigating and reporting results.

CREDITS: 3.00

**PHY 1203 - Physics II**
This course is a continuation of introductory level physics that is essential for all engineering programmes. It covers many of the fundamental principles of physics such as electric charge and electrostatics fields, Coulomb’s law and electric potential, electric current and magnetic fields, Ampere’s law and Faraday’s law of induction, optics, and sound. Laboratory work, utilising
experimental methodology and written reports, is used to reinforce these principles.
CREDITS: 3.00

**PLE 2003 - PRINCIPLES OF MANAGEMENT**
This course provides cadets with an overview of relevant management principles and practices as applied in contemporary formal and informal organisations. The course focuses on management theories, philosophies, and functions. Case studies with Abu Dhabi Police management are included: index files, incoming and outgoing mails, Records in the Police, and Police administrative procedure.
CREDITS: 3.00

**PLE 2033 - HUMAN RESOURCE MANAGEMENT**
The course focuses on the application of computerised human resources information systems (HRIS) in the work of human resource professionals. An understanding of how an HRIS increases the effectiveness of the human resource function in an organisation and enables HR to become a strategic partner in the company will be covered. The course provides a hands-on opportunity to use HRIS software and case studies from Abu Dhabi Police.
CREDITS: 3.00

**PLE 2043 - STRATEGIC MANAGEMENT**
This course introduces students to strategic management to develop their knowledge and understanding of the nature, scope, principles and processes of strategy. The course discusses the current Abu Dhabi Policy strategy as a case study from development to implementation. The course covers the formulation, implementation and control of strategy as carried out by the senior management and functional management of an organisation, within its internal and external environments.
CREDITS: 3.00

**PLE 2103 - PROTECTIVE SECURITY - THEORY AND APPLICATION**
This course concentrates on those strategic management and operational topics and concepts, which are necessary to ensure the protection of society, and the corporate business of the UAE. The course reflects the issues protective security personnel deal with. The subject areas covered in the course are relevant to students operating in Abu Dhabi Police.
CREDITS: 3.00

**PLE 2113 - LAW ENFORCEMENT**
The course covers principle of project management and its application to law enforcement. Also, the course will cover patrol procedures to psychomotor skills on defensive tactics, firearms procedures, driving skills and officer-violator contacts.
CREDITS: 3.00

**PLE 2123 - WORK EXPERIENCE**
This course is designed as a framework within which a range of work related learning activities can be accommodated to meet defined learning outcomes. Students are required to work at different units in Abu Dhabi Police with joint supervision from HCT and ADP. This course gives students opportunity to practice what they have learned during the program at a professional work environment.
CREDITS: 12.00

**PNCW N201 - CHARTWORK I**
Basic chartwork like plotting, drawing and laying of track, plotting of fixes and alteration of courses, transit, running fixes, clearing marks, finding the course to steer and finding the tidal stream. Exercises are provided for all levels of chart work.
CREDITS: 1.00

**PNCW N203 - CHARTWORK II**
This course introduces the cadet to some advanced topics of chart work and its techniques.
CREDITS: 1.00

**PNDO N102 - DISCIPLINE AND ORGANISATION**
Composition of organisation and discipline needed for the manning of naval sea services with emphasis on departments, routines, divisions, orders, organisation of commissioned ships, allocation of hands for work, special duty men and special parties, CPO's and PO's special duties, watch and deck organisation, ammunition, air bedding, landing parties, darken ship, and fumigation, etc.
CREDITS: 1.00

**PNLW N203 - NAVAL LAW**
Studies topics of Naval Warfare law, such as, military justice, court-martial, non judicial procedure, military crimes, government ethics, search and seizure, self-incrimination, military investigations, apprehension and restraint, international law, the law of armed conflict and war crimes.
CREDITS: 2.00
PNMD N301 - Midshipmen (6 Months)
This is the practical term of 6 months for Midshipmen to learn all aspects of sea service and duties on-board ship. During this period they undergo rigorous training on equipment and gears fitted on-board with particular emphasis on the basic naval and professional matters.
CREDITS: 8.00

PNMT N102 - Navigation
A comprehensive study designed to introduce the theory and practical applications of marine navigation. Topics include defining position and direction, projections, charts and chart folios, navigational publications, fixing of ships, chart work, visual and audible aids to navigation, tides and tidal streams, navigational instruments and uniform time systems.
CREDITS: 3.00

PNMT N201 - Navigation II
Cadets develop practical skills in navigation in coastal waters. Execution of passage plans, vertical and horizontal danger angles, turning circles, passage in fog and thick weather, planning for anchoring, planning for danger and safety swinging circles, navigational instruments, metrology, radar, blind piloting techniques, planning and execution. Finally, ASTRO theory, the celestial sphere, altitude and zenith distance, the hour angle, solar time and marine sextant.
CREDITS: 3.00

PNMT N203 - Navigation III
Based upon the knowledge of their previous term the cadets are taught about the calculation of astronomical navigation. In this they are taught calculations for the rising and setting of heavenly bodies, sun run sun, and sun run merpass procedures. They are also taught the art of calculating a ship's position with the help of astronomical observations for practical use during their future assignments on board ships.
CREDITS: 2.00

PNMT N301 - Navigation and Chartwork
The purpose is to familiarise midshipmen with all the navigation equipment, and the publications and responsibilities pertaining to Officer of the Day (OOD) and Officer of the Watch (OW) duties, chart work, Astro and Tide calculations. They are also taught ships organisation pertaining to the blind and visual safety aspects of navigation, various duties of OOD and OOW, occasions for calling the captain onto the bridge, fixing the ship, manoeuvring, calculation of gyro error, bridge emergencies, etc.
CREDITS: 5.00

PNMT N302 - Astro-Navigations
To acquaint the officers with advanced levels of astrophysics, practical chart work, astro, ship handling and OJT on bridge simulator, general navigation involving basic definitions, theory and practical chart work, astronavigation, the tide and its calculation, ship handling, meteorology, ship bridge simulator and sea phase.
CREDITS: 5.00

PNMT N303 - Navigation: Tides and Simulator
This course is designed to develop some advanced practical training of navigation and related topics such as; tide, ship handling, pilotage, and ship bridge simulator (SBS)
CREDITS: 5.00

PNNB N201 - NBCD
An introductory course to cover the basic concepts of nuclear biological and damage control such as; theoretical and practical knowledge of shipboard firefighting.
CREDITS: 1.00

PNNC N102 - Naval Communication
This subject is aimed at imparting knowledge to the cadets about the communications systems held on board ships, such as; Alphabetical Flags and Numeral Pennants, Manoeuvring definitions.
CREDITS: 2.00

PNNC N201 - Naval Communication (Practices) II
This subject is aimed at imparting the practical knowledge to the cadets about the communications systems held on board ships, such as; Flashing Alphabetical Morse, Flashing Numeral Morse, and some Flashing Exercise.
CREDITS: 2.00

PNNC N301 - Naval Communications
To acquaint officers with fleet work, message processing, communications instructions, cryptography and ceremonial messaging followed in the service. In addition, the module is also used to give practical communications exercises in ASTT fleet work as per
ATP which includes formations and its practical implications, the role of the military communication with the procedures for drafting and releasing messages. Communications equipment used in the UAE navy and various communications instructions followed worldwide, and voice procedure and cryptographic details are also covered.
CREDITS: 5.00

PNNS N201 - Material Science for Navy
This introductory course of chemistry and material science explores the concepts of general inorganic chemistry, Corrosion (electrochemical oxidation of metals-Corrosion, Galvanic corrosion, Resistance to corrosion, Passivation, Microbial corrosion, and Methods of protection from corrosion), and principles of structure and properties of materials for Navy.
CREDITS: 3.00

PNNW N102 - Naval Warfare and Operations I
The course will enable the cadets to understand the introduction to naval warfare and operations and will be introduced to basic ship submarine and aircraft. The course will follow the introduction to the regional and UAE navy.
CREDITS: 1.00

PNNW N201 - Naval Warfare and Operations II
Familiarises cadets with the concepts of Naval Operations, maritime warfare and the three dimensional threat from the air, anti-surface and subsurface which exists at sea and how to counter it. To impart basic knowledge of various weapons, equipment and sensors fitted on-board ships, submarines, missiles, aircrafts and helicopters, the tactics involved and how and when to use these tactics, to educate cadets about the importance and effects of electronic warfare on naval operations.
CREDITS: 2.00

PNNW N203 - Naval Warfare and Operations III
This course broadens and develops the cadet’s understanding of the basic concepts anti-surface, anti-air, mine warfare, radar theory, radio waves and target detection. In addition, the concept of electronic warfare, EW tree, definition, CHAFF and equipment, action information organisation, presenting information, AIO team and systems, submarines, submarine warfare, sonar, sound profiles in water, mines, missiles and torpedoes are presented.
CREDITS: 2.00

PNOW N301 - Operations and Electronic Warfare
To acquaint the officers with an advanced level of electronic warfare so as to enable them to understand practical EW on-board ships. To cover radio theory, radar theory, radar parameters, missile guidance, ESM, ECM, EPM, electro optics, and anti-submarine warfare practical exercises.
CREDITS: 5.00

PNRR N201 - Rules of Road (ROR) I
Study of the road rules, applications, responsibility and general definitions (Rules 1,2 and 3), in depth discussion of steering and sailing rules. Conduct of vessels in any visibility conditions and range, including safe speed, risk of collision, narrow channels and traffic separation schemes. Vessels in sight of one another including applications and sailing vessels, overtaking, head-on and crossing situations, action by give way vessel, action by stand on vessel and responsibilities between vessels.
CREDITS: 1.00

PNRR N203 - Rules of Road (ROR) II
In the ever more crowded waters of the world it is essential that master and watch keeping officers all have detailed knowledge of the rules. As professional naval officers, they should be able to apply these rules correctly. Therefore, the cadets are taught international regulations for preventing collisions at sea (1972 with amendments in force from 1995). In this term cadets are taught rules 19-38 prior to going for sea training. These rules cover conduct of vessels in restricted visibility, light signals, and exemption.
CREDITS: 1.00

PNSE N101 - Seamanship I
Introduces cadets to general sea terms, basic definitions and provides an introduction to sea life. The topics include hulls and hull surfaces, positions on a ship, compass bearings, clocks, piers and jetties, slips and basins. It also includes anchor types and parts, cable markings, deck fittings, cable calculations, maintenance of anchors/cables, anchoring and weighing anchor, mooring/unmooring and buoy work.
CREDITS: 1.00
PNSP N201 - Seamanship II
Prepares the cadets for their duties on-board ships during their sea training and during their Midshipman term. The topics include replenishment at sea, light and heavy jack stay methods and fuelling rig, OOW, his authority and responsibility, reports to captain, placing of lookouts and OOW/OOD duties in harbour.
CREDITS: 3.00

PNST N203 - Sea Training
This is a practical training time for cadets on board ships. During this time they practically perform various duties like Quartermaster, navigation and direction Yeomen, lookouts, marine engineering and weapon electrical watch keepers etc. They also learn about practical professional activities such as towing, replenishment, and the duties of various parties on the decks. Learning about these duties is of particular interest for them and it enhances their confidence level for performing efficiently thereafter in their professional assignments.
CREDITS: 3.00

PNSW N301 - Surface Warfare
Cadets are provided the opportunity to learn characteristics of working the basic tactics and procedures used for the development of surface warfare weapons and sensors. They shall know what duties are performed by the principal warfare officer and what the organisation is under him. Then they shall learn the raid reporting organisation and the procedures involved therein. Complete firing procedures of all weapons shall be learnt by all midshipmen with particular emphasis on the characteristics of each and the safe guards involved in the firing procedures.
CREDITS: 5.00

PTNA N203 - Naval Architecture
This course is an introduction to principles of naval architecture, ship geometry, hydrostatics, structural analysis, stability, calculation and drawing of curves of form. It also explores concepts of intact and damaged stability, hull structure strength calculations and ship resistance. Projects include analysis of ship lines drawings and ship model testing.
CREDITS: 3.00

PTPE N301 - Naval Engineering
Cadets are provided with a practical opportunity to learn the working and operations of the machinery fitted on-board (Marine propulsion engineering). They are also taught the use of auxiliary machinery, the working principles of diesel engines and generators, the transmission system, the main gear box, marine engineering department organisation, main machinery, machinery emergencies, fire fighting and damage control, NBC, steering system, main air conditioning systems, power generation and the distribution of high pressure air system.
CREDITS: 2.00

PTPM N203 - Electrical Power and Machines
The course aims to cover electrical power systems and machines related to ships including simple AC generators, AC motors; EM induction and Hysteresis are discussed in detail. It also covers three-phase systems, EMF equations, parallel operations, loading, voltage control, power measurements and power factor, torques, losses, and protective devices.
CREDITS: 3.00

PTPP N201 - Propulsion Plant
In this course, more advanced engineering topics are discussed, including layouts of transmission systems, lubrication, pumps and hydraulic and pneumatic braking systems. In addition, the internal combustion engine, their types, application and operation, steering system operation, fire main systems, and engine room organisation are also covered.
CREDITS: 4.00

PTSD N102 - Statics and Dynamics
A study of basic concepts of static and dynamics, multi-dimensional forces on rigid bodies in equilibrium and in motion, structured analysis, systems of particles and Kinematics of Rigid Bodies are all covered in the course.
CREDITS: 3.00

PTTH N203 - Thermodynamics
An introductory course that presents the basic concepts of thermodynamics, including definitions and applications of thermodynamics, form of energy, systems, states, equilibrium, processes, paths and cycles, thermodynamic properties, Zero'th law of thermodynamics, empirical and absolute temperatures, work definition and displacement, heat transfer processes, first and second thermodynamic laws, definition of pure substances, and finally thermodynamic diagrams: P-T, T-S, H-S.
CREDITS: 3.00
SO 305 Air Defence Weapons
This course is intended to provide cadets with an understanding of the basic principles of modern Air Defence Weapons. The course includes surface launch missiles, description of missiles guidance methods, anti-radiation missiles, anti-aircraft guns, radars and EW applications, and recent energy weapons.

SO 309 Advanced Professional Logistics
In the advanced professional logistics course, a heavy emphasis is placed on the analysis of the Systems Engineering, Integrated Logistics Support and other previously learned business logistics theories and concepts so as to determine their appropriate application. A secondary emphasis is placed on the horizontal integration of these theories and concepts in a practical framework, which will serve as professional guidance for the business logistics manager.

SO 310 Unmanned Aircraft Systems and Operations
This course is a basic study of Unmanned Air Vehicle (UAV) including a survey of unmanned aircraft systems (UAS), and emphasising the military and commercial history, growth, and applications of UAS’s. The course provides an understanding of the core technologies of unmanned aircraft systems. It will include examinations of the design concepts, power plants, control systems, and communication technologies utilised in current unmanned aircraft systems and/or likely to be used in the next few years.

SO 315 Flight Planning and Operations
This course is designed to provide cadets with an in depth knowledge of all aspects of modern Flight Planning and Flight Operations. The flight planning operations include calculation of fuel, time and distance, relationship between limiting weights (ZFW, LAW, TOW) and fuel requirements, planning of critical routes optimising payload, route comparison and random track selection, building routes and library saving, Dynamic Route Construction, maintaining alternate and aircraft performance database, airway and navpoint database, relationship between routes, navpoints, airways and airports, and departure distance and approach time. The flight operations management teaches students the workflow processes and protocols of an International Airline Operations Centre (AOC). Students learn about the duties and responsibilities of the flight operations officer (dispatcher) and other positions within the AOC. strategies, management and administration, role and corporate relationships. JAA/ EASA, and quality management are also included.

SO 326 Human Resource Management
This course will examine the functions to be accomplished in effectively managing human resources. An in-depth study of the interrelationship of managers, organisational staff, and/or specialists will assist the student in understanding and applying management theories to real-world human resource planning. The course focuses on human resource planning, recruitment and selection, training and development, compensation and benefits, safety and health.

SO N217 - Radar Systems
This course is designed to provide cadets with the basic concepts of the radar theory and the operating principles of the ground and airborne radar systems. The course includes the nature of radar, radar frequencies, electromagnetic wave propagation and antenna radiation, and various types of radar such as Pulse radar, Doppler radar, FM-CW radar and MTI radar.
CREDITS: 3.00

SO N218 - Air Defence Systems
The Air Defence forces have provided effective air protection for the Armed Forces formations and the Nation’s vital targets. The combat studies of the Air Defence System have proved of great importance in preparing military persons to accomplish the ideal usage of different Air Defence elements in an outstanding way. This course aims at providing cadets with the basic knowledge, skills and general structure of Air Defence Systems.
CREDITS: 3.00

SO N219 Logistics Management for Aviation
This course is designed to provide cadets with an opportunity to examine ways to optimise the physical flow of goods and materials within a firm from acquisition through production, and movement through channels of distribution. The course focuses on applying logistics theory to aviation management problems in materials handling, managing inventory, planning capacities, and locating distribution centres. Case studies with Military logistics and supply applications are included.
SO N304 - Air Traffic Control I
This course is an entry-level course that provides students with a fundamental knowledge of air traffic control system. The course also provides essential information that is useful for pilots and other aviation professionals. It is designed to provide exposure to procedures and operations consistent with those found in Federal Aviation Administration air traffic control facilities.
CREDITS: 3.00

SO N306 - Command and Control Centres I
The command and control centre plans, organises, and directs operation of command posts, operations centres, and control centres, and ensures positive control of assigned forces and weapon systems using command, control, and communication systems. Also provides the principal information, communications, and operations from which all aircraft, antiaircraft operations, air defence artillery, guided missiles, and air warning functions of a specific area of air defence responsibility are supervised and coordinated.
CREDITS: 3.00

SO N307 - Human Factors
This course is intended to provide cadets with a solid understanding of the basic principles of Human Factors Psychology. The course focuses on the research, principles, and methods that are beneficial and essential in optimising the interaction between people and machine elements of a system, while taking the environment into account. Cadets will learn how to detect, prevent and manage various human factors issues as part of a system safety culture.
CREDITS: 3.00

SO N308 - Combat Use and Air Defence Operations
This course describes the organisation and the operation of the combat mission of Air Defence. The course includes the organisation and mission of air defence forces, which implies the general organisational structure of air defence and the basic principles of the organisation in peace time and war.
CREDITS: 3.00

SO N309 - Air Traffic Control II
This course is designed to strengthen and enhance the basic concepts of Air Traffic Controlling gained in the ATC I course. The course provides the student with an introduction to the manuals, procedures, maps, charts, and regulations used by pilots and air traffic controllers in the National Airspace System (NAS). Included is an examination of FAA Orders, the Aeronautical Information Manual (AIM), and Federal Air Regulations (FARs).
CREDITS: 2.00

SO N313 - Aviation Weather
The course is an expansion of Meteorology I and Meteorology II courses with a focus on aviation weather hazards, including convective hazards (thunderstorms, hail, high winds), non convective weather hazards (fog, icing, turbulence, wind shear, winter weather), and special weather hazards (volcanic ash and space weather). Emphasis is on the interpretation and application of advisories, coded weather reports, forecast, observed and prognostic weather charts, and satellite imagery.
CREDITS: 2.00

SO N318 - Air Defence Tactics
This course is designed to provide cadets with the main principles of Air Defence Tactics involving the early warning units, strategic air defence units, and cooperation of air defence units. The course discusses the early warning units according to organisation, tasks and radar field mapping of early warning units. The strategic air defence units are discussed according to organisation, fire support responsibilities, fire support tactics, fire support techniques and procedures. Also included is the cooperation of air defence units attached to Armed Forces units.
CREDITS: 3.00

SO N319 - Missile Guidance and Control
This course is designed to provide cadets with basic concepts and fundamental knowledge of guidance and control of guided missiles. The course describes the four sequential stages of guidance and control: dynamic modelling, guidance, control, and target motion estimation. The course includes an introduction about the guided missiles, factors affecting missile flight, missile propulsion systems, missile models, principles of missile guidance, command guidance, beam-rider guidance, homing guidance, active and semi-active radar guidance, and other guidance systems.
CREDITS: 3.00

SO N321 - Electronic Warfare Systems
The course of Electronic Warfare Systems (EWS) aims at providing cadets with the basic knowledge and skills...
of electronic warfare related positions with the history, fundamentals, doctrine, policy, components, and equipment of electronic warfare. The course includes four main sections starting with an introduction about the EWS fundamentals, policy and components.

**CREDITS:** 3.00

**SO N323 - SATURN COMMUNICATIONS AND NAVIGATION SYSTEMS**
A comprehensive study of satellite communication and navigation systems to include their design, operation, and applications. Satellite communication provides an introduction to communications satellite technologies, services, orbital mechanics to satellite design and launch, configuration and installation of earth stations, the implementation of communications links, the set-up of the satellite network, the capabilities, and limitations of current satellites, and an introduction to satellite-based radio navigation and the Global Positioning System (GPS).

**CREDITS:** 4.00

**SO N327 - PROJECT**
This course covers the basic air traffic control (ATC) procedures for instrument flight rules (IFR) in terminal ATC facilities in National Airspace System (NAS). Knowledge and skill requirements for air traffic control specialists (ATC) in the current ATC system are studied in the classroom and practiced in a realistic, performance-based laboratory environment.

**CREDITS:** 6.00

**SS N120 - ISLAMIC CULTURE**
This topic introduces the concept of education from its Islamic perspective, illustrates the importance and the need for religion, explains the main characteristics of the Islamic religion, discusses the sources of legislations especially the Quran and Sunna, explains the six pillars of Iman and the concepts related to them, debates the main problems facing the youth and their solutions, bonds cadets with the Quran through a simplified teaching of some short chapters.

**CREDITS:** 2.00

**SS N121 - SOCIETY OF THE UAE**
This course aims at introducing the human and social features and characters of the UAE society; the social, political and economic homogeneity of the UAE Society; the history, advancement of technology, and the social development of the United Arab Emirates.

**CREDITS:** 2.00

**SS N122 - ART OF CEREMONY, PROTOCOL AND ETIQUETTE**
This course aims at providing the necessary information and practical experiences of the assets of ceremony and protocol for officers, leaders and VIP’s, as well as the art of etiquette during official ceremonies and visits in military units, and inside and outside UAE.

**CREDITS:** 1.00

**UAS N330 - PRIVATE PILOT OPERATIONS**
Develops the aeronautical knowledge required for certification as a Private Pilot with an Airplane Single Engine Land rating. Topics include; regulations, safety, pre-solo operations, cross-country planning, airspace, chart use, communications, weather, performance, weight and balance, aerodynamics, and decision-making.

**CREDITS:** 5.00

**UAS N331 - INSTRUMENT PILOT OPERATIONS**
This course develops aeronautical knowledge required for the addition of an Instrument Airplane rating to a Private Pilot certificate. Topics include instrument flying, regulations, safety, operations, navigation systems, chart use, weather, flight planning, decision-making, and crew resource management.

**CREDITS:** 3.00

**UAS N332 - UNMANNED AIRCRAFT SYSTEMS**
This unmanned aircraft systems course is a survey of the various unmanned aircraft systems (UAS), emphasising the military and commercial history, growth, and application of Unmanned Aircraft Systems. The course will cover the basic acquisition, characteristics, use, and operation of Unmanned Aircraft Systems, with a clear emphasis on operations.

**CREDITS:** 3.00

**UAS N333 - OPERATIONAL ASPECTS OF UNMANNED AIRCRAFT**
This course will prepare the student to differentiate the applicable needs of civil aviation for UAS. It will examine each of the particular needs and address how to implement UASs to fill that need within the constraints of the current national airspace and federal aviation regulation restrictions. Particular attention will be given to skill sets and tools used to mitigate restrictions, and to create a flight operation that can successfully employ UASs.

**CREDITS:** 3.00
UAS N334 - Unmanned Aircraft Systems Robotics
Prepares students to integrate robotic technology into the hardware and software regimes of unmanned aviation. It will include examinations of control and system programming in the context of specific missions through guided discussions, simulation and the operation of actual unmanned aircraft robotic systems.
CREDITS: 3.00

UAS N335 - Unmanned Sensing Systems
This is the capstone course of the Unmanned Aviation minor, aimed at giving students direct experience with the planning and effective conduct of complex missions involving the proper use of the complex sensing systems on unmanned aircraft. Through discussions, students will address complex mission assignments by determining the proper sensing system to use, assessing alternate courses of action, selecting and/or designing appropriate unmanned aircraft equipped with the sensing system appropriate to the mission, and by performing other tasks as required to achieve mission success.
CREDITS: 3.00

UASH N336 - Basic Training General Aviation Subjects
CREDITS: 3.00

UASH N337 - Schiebel S-100 System
This course covers in detail the functioning of the Schiebel S-100 System. System overview, Cube, Pilot Control Unit (PCU), mission Planning and Control Workstation (MPCW) and payload Control Workstation (PLCW), Tracking Antennas, Secondary Link Module, Ground GPS / IMU Modules, Payloads, AV dimensions, Flight Modes and Indications, Main and Tail Rotor System, Electronic Box (E-box), E-box Modules.
CREDITS: 3.00

UASH N338 - Flight Simulation Training
Covers the flight simulation training for UASH. Simulation: MPCM - System setup, establish communication link, loading missions, system shutdown. Mission Planning - Remap procedures, creating missions. Simulated Flight Procedures - Flight modes, dynamic mission updating/editing. BFF: Checklist - Step by step run through of checklist BFF procedure, Refuelling Procedures - Procedure to replenish AV with Fuel and Oil. Weight and Balance - Procedure to weigh AV.
CREDITS: 3.00

UASH N339 - Flight Training
System Setup: Components correctly connected and suitably positioned prior to flight. Conducted by trainee, supervised by instructor. BFF: Procedure correctly exercised and steps correctly followed. Conducted by trainee, supervised by instructor. PCU Training: PCU functions, changing flight modes, AV control, flight mode limitations, manual flight, communication with CSO. CSO Training (MPCM): MPCM functions, flight mode indications, mission updating/editing, limitations, communication with PCO.
CREDITS: 7.00

VET 1103 - Veterinary Anatomy and Physiology I
Provides an introduction to basic anatomy and physiological principles from cellular level to the whole organism. The focus will be on establishing a basic understanding and appreciation of the interrelationship between the different topics covered. These topics will include an Introduction to Anatomy and Physiology: the Chemical Basis of Life; Cellular Structure and Processes.; Tissues; The Integumentary System; Skeletal System; Muscular System; Cardiovascular System and Blood, Lymph and Immunity. A laboratory component will allow students to explore physiological concepts through a range of laboratory based activities.
CREDITS: 3.00

VET 1203 - Veterinary Anatomy and Physiology II
The second semester of Anatomy and Physiology will encompass the respiratory system structure and processes, the digestive system, accessory digestive organs, the reproductive systems, the urinary system, the nervous system, the sensory organs and the endocrine system. Differences in animal and avian anatomy is also covered. This course covers histology.
CREDITS: 3.00
VET 1303 - Animal Husbandry
This course includes aspects of animal husbandry, management and production in the livestock industries as well as companion animals, (dogs, cats and horses) and wildlife. Students are introduced to principles of animal husbandry for most large and small animal species. These include, but are not limited to, behaviour, housing, feeding, restraint and handling. Beef and dairy cattle, horses, sheep, poultry, aquaculture, dogs, cats and wildlife will be addressed.
CREDITS: 3.00

VET 1403 - Veterinary Terminology
Covers basic medical terminology beginning with prefixes, suffixes and word roots used in the animal care and veterinary language. Students build on this knowledge by identifying, analysing, defining, spelling and pronouncing terms and learning abbreviations related to each of the animal systems, as well as basic introductory principles of drug administration routes and drug classifications.
CREDITS: 3.00

VET 1503 - General, Organic and Biochemistry
Provides fundamental concepts in general chemistry, organic and biochemistry. The course mainly focuses upon the atoms, elements, micromolecules, and major macromolecules and chemical properties of living systems. Primary topics include the principles of atomic theory, bonding theory, physical states of substance, concentration and pH, chemical reaction equilibrium and balance, physical and chemical properties of organic molecules and functional groups, the structures, properties and functions of amino acids, proteins, carbohydrates, enzymes, lipids and nucleic acids.
CREDITS: 3.00

VET 1603 - Microbiology and Parasitology
Teaches basic microbiology and parasitology. This is an introduction course where basic principles of both microbiology and parasitology will be discussed. Identifying pathogenic bacteria and parasites that are commonly encountered in veterinary medicine are covered. Comparing the pathogenesis, treatment, and control of various microbes will be discussed. The practical sessions demonstrate the techniques for collection, handling, processing, and identification of specimens.
CREDITS: 3.00

VET 1703 - Wildlife and Aquaculture
Provides general knowledge about wildlife and aquaculture including husbandry, handling, welfare, etc. Also, providing health care of these unique animals will be discussed. Conservation of endangered species and related national and international regulations will be covered.
CREDITS: 3.00

VET 1904 - Veterinary Practicum I
Provides workplace experience in a real working environment both in veterinary laboratories and clinic. It should give students the opportunity to develop professional and work skills, ethics, habits, and practices as observed in real work situations. Combining knowledge obtained at the college to the practice they will do in workplace will improve students’ professional skills. This course will enable students to apply and practice skills, knowledge, and techniques gained during their first year in the veterinary programme in real work placement
CREDITS: 4.00

VET 2103 - Clinical Pathology
This course introduces laboratory tests of various samples (mainly blood in addition to urine, and other body fluids) that are commonly used in veterinary clinical pathology. The value of these tests as a diagnostic tool of animal diseases (disorders) will be demonstrated. Understanding and interpretation of results obtained from each test will be emphasised and correlated to clinical cases. Hands-on laboratory experiences will emphasise the common clinical pathological tests and how tests are performed.
CREDITS: 3.00

VET 2203 - Surgical and Obstetric Preparation
Provides theoretical and practical information about veterinary surgery, anaesthesiology, and obstetrics. Students will be able to prepare animals for surgery and assist in performing surgical operations and obstetric procedures in an aseptic way. Also, post-surgical clean-up will be administered.
CREDITS: 3.00

VET 2303 - Veterinary Medicine and Therapeutics
Students will be introduced to the fundamentals of veterinary pharmacology. This course will provide knowledge about the common veterinary drugs in terms
of: classification, mode of action, effects, and side (adverse) effects. Also, clinical calculation of proper dose, drugs dispense, and methods of administration will be emphasised. Additionally, safety issues related to drug usage will be discussed.
CREDITS: 3.00

VET 2403 - ANIMAL PRODUCTION AND MANAGEMENT
This course will demonstrate animal contribution to human needs. It will provide essential information about livestock (mainly cattle, sheep and goats, camels, and poultry) production, feeding, and management. The importance of animal health and diseases prevention will be discussed. Also the course discusses how different animal products are produced and their characteristics.
CREDITS: 3.00

VET 2503 - PREVENTIVE MEDICINE AND VETERINARY PUBLIC HEALTH
Introduces students to the fundamentals of veterinary preventive medicine in relation to public health. It will discuss zoonotic diseases transmitted to humans including bacterial, viral, fungal, and parasitic diseases. Each disease will be described in terms of the causative agent, signs, diagnosis, and methods of prevention. Common food-borne diseases of animal origin will be covered. Safety issues to prevent disease transmission from animals to veterinary technicians from the perspective of public health will also be discussed.
CREDITS: 3.00

VET 2603 - VETERINARY EMERGENCY AND CRITICAL CARE
Provides theoretical and practical information about veterinary emergency and critical care (haemorrhage, trauma, shock, emergency surgery, diarrhoea, vomiting, etc.). It demonstrates skills and techniques to handle critical animal cases.
CREDITS: 3.00

VET 2904 - VETERINARY PRACTICUM II
Provides workplace experience in a real working environment both in veterinary laboratories and clinic. It should give students the opportunity to develop professional and work skills, ethics, habits, and practices as observed in real work situations. Combining knowledge obtained at the college to the practice they will do in workplace will improve students’ professional skills. This course will enable students to apply and practice skills, knowledge, and techniques gained during their second year in the veterinary programme in real work placement
CREDITS: 4.00

WORK DH008 - WORK EXPERIENCE (8 WEEKS)
This course provides students with work experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations and will enable the student to transfer vocational skills learned at the college to the workplace.
CREDITS: 12.00

WORK N1110 - WORK EXPERIENCE (8 WEEKS)
This course will allow access to a real working environment and will provide the opportunity to develop good work ethics, habits and practices observed in real work situations. Transfer of skills learned at college to the workplace is a major feature of this course.
CREDITS: 8.00

WORK N2200 - WORK EXPERIENCE (4 WEEKS)
This course will allow access to a real working environment and will provide the opportunity to develop good work ethics, habits and practices observed in real work situations.
CREDITS: 4.00

WORK N2245 - WORK EXPERIENCE (6 WEEKS)
The course provides work experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations and will enable the student to transfer vocational skills learned at the college to the workplace.
CREDITS: 6.00

WORK N2250 - WORK EXPERIENCE I (4 WEEKS)
This course provides work experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations and will enable the student to transfer vocational skills learned at the college to the workplace.
CREDITS: 4.00

WORK N2251 - WORK EXPERIENCE II (4 WEEKS)
This course provides work experience in a real working environment. It will provide the student the opportunity
to develop good work ethics, habits and practices observed in real work situations and will enable the student to transfer vocational skills learned at the college to the workplace.
CREDITS: 4.00

WORK N2260 - WORK EXPERIENCE (6 WEEKS)
This course provides workplace experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations.
CREDITS: 6.00

WORK N2470 - IT DP WORK EXPERIENCE (4 WEEKS)
This course provides workplace experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations.
CREDITS: 4.00

WORK N2471 - IT DP WORK EXPERIENCE (7 WEEKS)
This course provides workplace experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations.
CREDITS: 8.00

WORK N265 - WORK EXPERIENCE (4 WEEKS)
This course will allow access to a real working environment and will provide the opportunity to develop good work ethics, habits and practices observed in real work situations. Transfer of skills learned at college to the workplace is a major feature of this course.
CREDITS: 4.00

WORK N275 - INTEGRATED WORK EXPERIENCE I
This course provides workplace experience in a real working environment. It will provide students the opportunity to develop good work ethics, habits and practices as observed in real work situations. The transfer of vocational skills learned at the college to the workplace is a major feature of this course.
CREDITS: 4.00

WORK N350 - WORK EXPERIENCE - AIRLINES (4 WEEKS)
This course provides work experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations and will enable the student to transfer vocational skills learned at the college to the workplace.
CREDITS: 4.00

WORK N352 - WORK EXPERIENCE (8 WEEKS)
This course provides work experience in a real working environment. It will provide the student the opportunity to develop good work ethics, habits and practices observed in real work situations and will enable the student to transfer vocational skills learned at the college to the workplace.
CREDITS: 8.00

WORK N368 - WORKPLACE ROTATION
This practicum course is designed to allow Health Information Management students to work on specific projects related to the programme goals. The supervisor for the student at the work placement site coordinates these projects. Projects will be selected from any of the major health information management functions and also in relation to the requests and the needs of the host site. During this practicum, students are expected to work independently and apply work ethics and professionalism. Students submit a final project report to the host site supervisor and the college instructor.
CREDITS: 4.00

WORK N375 - INTEGRATED WORK EXPERIENCE II
Students gain workplace skills according to an individualised work plan with students experiencing a real working environment. It will provide students the opportunity to develop good work ethics, habits and practices as observed in real work situations. The transfer of skills acquired in the college setting is a major learning outcome in this course.
CREDITS: 4.00

WORK N395 - IT HD WORK EXPERIENCE (8 WEEKS)
This course provides workplace experience in a real working environment. It provides the student the opportunity to develop good work ethics, habits and practices observed in real work situations.
CREDITS: 12.00

WRCO N1100 - COMPUTER SKILLS
This course forms part of an integrated approach, complementing all other Work Readiness courses.
The course is designed to develop the following Computer Skills required in the workplace with the ability to perform within specific industry sectors: word-processing, spread sheets, database entry skills, presentations, file-management, email, internet and dtp. The course includes fundamentals of touch-typing in both Arabic and English.
CREDITS: 5.00

**WREN N1100 - ENGLISH COMMUNICATION SKILLS**
The aim of this course is to provide students with the English language skills and workplace knowledge to perform within specified industry sectors. This course forms part of an integrated approach, complementing all other Work Readiness courses.
CREDITS: 6.00

**WRIS N1100 - ISLAMIC EDUCATION**
This curriculum document outlines the framework for the required student learning outcomes. The teaching document is a working document, which allows for flexibility so that it can be adapted and extended according to student needs and specific contexts.
CREDITS: 2.00

**WRJS N1100 - JOB SPECIFIC SKILLS**
The aim of this course is to provide students with the work skills and workplace knowledge to perform within specified industry sectors. This course forms part of an integrated approach, complementing all other Work Readiness courses.
CREDITS: 2.00

**WRMA N1100 - MATHEMATIC SKILLS**
This is a two year vocationally oriented course. It forms part of an integrated approach, complementing all other Work Readiness Programme courses. The purpose of this course is to develop a range of basic mathematical skills applicable to a variety of work related situations in specific industry sectors. Emphasis will be on developing problem solving, critical thinking, team building and independent learning real life skills required at the workplace. Bilingual course delivery ensure effective learning for students with diverse language skill.
CREDITS: 2.00

**WRWK N1100 - WORK SKILLS**
This course is designed to develop the basic work skills required at the work place in the six major skill areas detailed below. These areas may involve extension and consolidation according to the job specific requirements. This course forms part of an integrated approach, complementing all other Work Readiness courses.
CREDITS: 3.00