



كلية ليوا
Liwa College
Est 1993 منذ

Course Description

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Faculty of Business

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Faculty of Business

ACC106 Accounting Principles I (3 CH)

Prerequisites: None

This course is an introduction to the theory of accounting and the standard methods of record keeping. Generally, Accepted Accounting Principles (GAAP) and concepts are emphasized in the preparation of financial statements. In addition, this course utilizes accounting software to illustrate the practical uses of computers in a financial accounting setting. It illustrates the creation of files, setting up historical data, recording entries, producing financial statements and other necessary reports.

ACC200 Accounting Principles II

Prerequisites: ACC106

This course introduces advanced accounting concepts to students, including different forms of ownership, cash flows statement, financial statement analysis, accounting for manufacturing operations and budgeting.

ACC301 Intermediate Accounting I

Prerequisites: ACC200

This course covers the underlying principles, procedures, and reporting requirements necessary to gain an understanding of both the preparation and the use of modern financial statements. Primary topics include: the environment of financial reporting and the conceptual framework of accounting; the balance sheet and notes to the financial statements; the income statement; the statement of cash flows; accounting for receivables; valuation of inventories; accounting treatment related to property, plant, and equipment.

ACC303 Accounting Information Systems

Prerequisites: ACC200

This course is an introduction to accounting information systems and the way these systems impact how accounting data is captured and processed. Topics include the components of an accounting information system (AIS); management of information systems, database concepts, traditional flowcharting, and data-flow diagrams; and auditing of accounting information systems. Emphasis is on evaluating and developing effective internal controls for these systems.

ACC305 Governmental Accounting

Prerequisites: ACC200

This course aims to study the accounting system of government and its applications in the United Arab Emirates, concept and theory of accountability in government units, study the theory of the governmental funds, the evolution of its various stages, the foundations of recording and measurement and accounting entries in governmental accounting, the institutional framework of the accounting system of government in the UAE, the general budget of the UAE (preparation, implementation, and control) and the analysis and evaluation of the elements of the existing system.

ACC307 Intermediate Accounting II

Prerequisites: ACC301

This course is a continuation of Intermediate Accounting, and is a closer look at the theories, principles and practices underlying financial statements. Emphasis is on the measurement, valuation and reporting of liabilities and stockholders' equity and their effect on reported earnings. Topics covered include



leases, pensions and employee benefits, deferred income taxes, and earnings per share. There will also be a discussion of financial errors and full disclosure in accounting.

ACC310 Taxation

Prerequisites: ACC200

This course is an introduction to taxation concepts, rules, and techniques for both individuals and organizations. Topics include the definitions of taxation, individual income tax rules and business income taxes. Other topics are deductions and exclusions and computations of different income taxes. Tax transfer, evasion and resource planning are other topics that will be introduced. The last topic focuses on the understanding of different tax jurisdictions including aspects of taxation in UAE.

ACC401 Managerial Accounting

Prerequisites: ACC200

This course is designed to expose students to the theory and practice of selecting and analyzing managerial and financial accounting information for internal use by managers for decision-making, planning, directing, and controlling purposes. Major topics include managerial accounting concepts, cost behavior, cost analysis, budget and profit planning, cost-volume-profit analysis, measurement, and analysis of accounting data appropriate to managerial decision making, capital budgeting decisions.

ACC403 Cost Accounting

Prerequisites: ACC200

This course deals with identifying the importance of using cost information, cost concepts, cost accounting for materials,

labor, overhead and preparation of cost statements. Also, topics include job costing, process costing and activity-based costing. This course explains the importance of cost accounting as a tool for planning and managerial control by focusing on Cost budgets, cost standards and variances.

ACC405 Auditing

Prerequisites: ACC301

This course is designed to provide the student with a basic understanding of all aspects of auditing. These include accepting and planning the audit, evaluating internal controls, verifying account balances and financial statement assertions, reporting on audited financial statements, as well as auditing standards, legal responsibilities, professional and personal ethical responsibilities of auditors.

ACC413 Advanced Accounting

Prerequisites: ACC307

This course is a comprehensive study of business combinations. In addition, this course explores accounting theory as applied to special problems such as eliminating various inter-company transactions, insolvency, accounting for partnerships, and accounting for non-business entities and non-profits. Emphasis will be placed on the equity and cost methods of accounting for investments in common stock, and consolidated financial statement preparation procedures.

ACC415 Graduation Project

Prerequisites: After Completing 99 Credit Hours, ACC307



The purpose of the Graduation Project is for students who have an idea or interest that they wish to explore and further develop in the context of academic research. It will enhance student ability to identify critical questions when exploring a new issue, to parse issues, to develop reasoned positions, and to make compelling arguments. The aim of this course is to encourage students to employ academic tools and analysis techniques to research a project that is directly relevant to their majors and their future career. The Graduation Project will help develop the analytical skills of the student in a way that could prove valuable for pursuing a career in private, public, and international organizations. More focus will be on the accounting areas.

ACC419 Project

Prerequisites: After Completing 99 Credit Hours.

Students spend 160 work hours handling different assignments at an appropriate government agency, company, or business. Internships can be completed during the summer semester. The student's academic advisor approves the job assignments and supervises the interface with the employer. The academic advisor grades a written report covering the technical aspects of the work at the end of the assignment. Internships are normally done during the summer. However, it can also be approved for other semesters.

BAF301 Introduction to Financial Management

Prerequisites: ACC106

This course introduces advanced accounting concepts to students, including different forms of ownership, cash flows

statement, financial statement analysis, accounting for manufacturing operations and budgeting.

BAF305 Corporate Finance

Prerequisites: BAF301

The main purpose of this course is to teach students to make managerial decisions about capital budgeting and capital structure, as well as how to calculate the cost of capital from various sources, how to manage and minimize the use of working capital, and how to forecast capital needs. This course will enable students to relate principles and practice of corporate finance to the financing decisions of enterprises.

BAF307 Investments

Prerequisites: BAF301

The purpose of this course is to provide students with the fundamental knowledge necessary to make good investment decisions. Students will learn tools that extend their understanding of financial assets and markets and develop the foundation for debt and equity security analyses, including modeling risk and return. The course also introduces derivative securities and portfolio management approaches as a pre-requisite to higher level Banking and Finance courses.

BAF309 Quantitative Methods

Prerequisites: BUS306

The main purpose of this course is to help students recognize a financial decision situation, understand its essential features, and make a choice using modeling tools. The course will cover the basic elements of modeling, how to formulate a model and how to use and



interpret the information a model produces. This course will focus on financial modeling, but the modeling skills learned in this course are applicable in almost all aspects of business.

BAF311 Risk Management and Insurance

Prerequisites: BAF301

The main purpose of this course is to teach students the general concepts and techniques of risk management and how they can be applied to the global insurance industry. Students will learn to identify and evaluate the need for insurance, manage exposures to liabilities, and understand the effects of limited liability, theory of moral hazard, and adverse selection. Emphasis will be on different types of insurance as risk management tools.

BAF403 Financial Institutions and Markets

Prerequisites: BAF301

The aim of this course is to provide the learners with an analytical approach to financial problems encountered in the banking sector. Through an overview of the financial system within the framework of modern economic and finance theory, it enables the learners to understand how the financial system function is determined. It enables the learners to understand how the financial system function is determined; and tells them about a wide range of financial instruments that are currently used and valuation as well as pricing methodologies; the things which will be of great value to our graduates at their workplace.

BAF 409 Advanced corporate finance

Prerequisites: BAF305

This course is an advanced corporate finance course with an emphasis on corporate restructuring and mergers and acquisitions. Topics include financial analysis and planning, short-term financial planning, strategic acquisitions, due diligence, valuing acquisitions, leverage transactions and international acquisitions and corporate governance. Emphasis will be placed on what capital funds a business needs, how these funds are obtained, and how they are managed.

BAF 411 Entrepreneurial Finance

Prerequisites: BAF305

This course examines the elements of entrepreneurial finance, focusing on technology-based start-up ventures and the early stages of company development. The course addresses key questions which challenge all entrepreneurs: how much money can and should be raised; when it should be raised and from whom; what a reasonable valuation of the company is; and how should funding, employment contracts and exit decisions be structured. It aims to prepare students for these decisions, both as entrepreneurs and venture capitalists. In addition, the course includes an in-depth analysis of the structure of the private equity industry.

BAF413 Financial Derivatives

Prerequisites: BAF307

The main purpose of this course is to provide students with a framework to analyze and use derivatives in financial decision making. Students will study the fundamental principles of pricing derivatives securities and the many applications of derivative securities. Emphasis will be placed on the role that derivatives play in hedging, risk management and diversification. The use



of derivatives as speculative instruments will also be discussed.

BAF415 Graduation Project

Prerequisites: After Completing 99 Credit Hours, BUS307

The purpose of the Graduation Project is for students who have an idea or interest that they wish to explore and further develop in the context of academic research. It will enhance student ability to identify critical questions when exploring a new issue, to parse issues, to develop reasoned positions, and to make compelling arguments. The aim of this course is to enhance students to employ academic tools and analysis techniques to research a project that is directly relevant to their majors and their future careers. The Graduation Project will help develop the analytical skills of the student in a way that could prove valuable for pursuing a career in private, public, and international organizations.

More focus will be on the finance areas.

BAF 419 Internship

Prerequisites: After Completing 99 Credit Hours.

Students spend 160 work hours handling different assignments at an appropriate government agency, company, or business. Internships can be completed during the summer semester. The student's academic advisor approves the job assignments and supervises the interface with the employer. The academic advisor grades a written report covering the technical aspects of the work at the end of the assignment. Internships are normally done during the summer. However, it can also be approved for other semesters.

BAF421 Commercial Banking Management

Prerequisites: BAF301

The aim of this course is to provide students with a strong understanding of risk management in banking. The course will help students develop an approach to understand how banking institutions generate earnings, the nature of risks assumed in their operations and the banking trends and competition. This course focuses on performance analysis, interest rate risk management, credit analysis, liquidity planning, and capital management.

BAF422 International Banking

Prerequisites: BAF421

The aim of this course is to provide students with an understanding of international banking and finance in the contemporary environment and to introduce them to financial institutions that operate in this environment. Students will acquire international market perspectives on banking and be better prepared to respond to international financial reform and regulation, develop international banking strategies, assess, and manage risks related to international banking.

BIM200 Linear Algebra

Prerequisites: MTH105

This course is an introduction to Linear Algebra and some of its applications. The aim is to teach the fundamentals of linear algebra in a way that illustrates their relevance to business mathematics applications. An Introduction to Matrices and Systems of Linear Equations is given with other topics such as: Determinants, Linear Transformations, Eigenvectors and



Eigen values. Techniques and application of business mathematics of linear algebra for finance sciences, management, and economics.

BIM301 Maintenance Management

Prerequisites: BUS306

Introduction to operation and maintenance Engineering, historical background, definition and terminology in maintenance and dependability engineering, maintenance goal and strategy, organization and control of maintenance activities, outsourcing, costs of maintenance, negotiation of maintenance contract, definition of failure and failure development processes. Simple methods for analysis of maintenance problems, maintenance tools for use in negotiation, design, LCC analysis. Introduction to reliability engineering theory and application, analytical and graphical methods, risk analysis, RCM, TPM, Inventory management, CMMS, benchmarking and performance indicators, condition monitoring, etc. basic knowledge about maintenance of Building and infrastructures like road, street, and bridge etc.

BIM302 Operations Planning and Scheduling

Prerequisites: BUS309

This course gives to students an introduction to the functional area of production and operations management as practiced in manufacturing industries and the services sector. It includes decision-making, just-in-time systems, forecasting, aggregate planning, inventory management, materials requirements planning (MRP), and operations scheduling.

BIM303 Optimizing & Modeling

Prerequisites: BUS306

This course introduces concepts and techniques of operations research and management science for the modeling and solution of business decision problems. It gives broad coverage to the formulation of optimization models. The models specifically covered are linear programming, integer programming, transportation and assignment problems, network optimization models and non-linear programming. Emphasis is placed on the process of analyzing business scenarios and formulating models that address appropriate business decision problems.

BIM402 Lean Management & Six Sigma

Prerequisites: BIM401

This course will provide the student with an introduction to lean production describing the background behind its development and how evaluations and assessments of production systems are performed. Lean production tools and techniques will be described and, in some cases, demonstrated in simulation exercises. Examples of applications in manufacturing and business processes will be presented.

BIM403 Enterprise Resource Planning (ERP) Systems

Prerequisites: BIM 302

This course will introduce students to enterprise systems and show how organizations use enterprise systems to run their operations more efficiently and effectively. They will learn about the critical success factors and implementation strategies that lead to enterprise system success, and about the informational, knowledge, and decision-making



opportunities afforded by enterprise systems.

BIM401 Logistics and Supply Chain Management

Prerequisites: BUS309

This subject is a survey of the fundamental analytic tools, approaches, and techniques which are useful in the design and operation of logistics systems and integrated supply chains. The material is taught from a managerial perspective, with an emphasis on where and how specific tools can be used to improve the overall performance and reduce the total cost of a supply chain. We place a strong emphasis on the development and use of fundamental models to illustrate the underlying concepts involved in both intra and inter-company logistics operations.

BIM415 Graduation Project

Prerequisites: After completing 99 CH +BUS307

This course provides an opportunity for students to employ academic tools and analysis techniques to research a project that is directly relevant to their majors and their future career. This course can be offered as a 3-credit hour course for students who wish to pursue only the classroom portion of this course and a 6-credit hour course for those who wish to combine research with an internship. The Graduation Project will include weekly classroom sessions for all students to engage in discussions related to idea generation, research techniques and data analysis. Students will also be required to attend several smaller group sessions in which they present their ideas and progress and receive feedback. Students may work individually or in teams and

must deliver a case study or paper at the end of the course.

BIM410 Decision Science

Prerequisites: BIM303

Decision Science deals with decision making within a managerial context. It encompasses several systematic approaches to making decisions in problems often encountered by managers. In today's business world, problems are too complex to rely simply on intuition and common sense. Quantitative decision tools such as management science and statistics allow decision makers to base decisions on data-driven and scientific methods. This course prepares students to describe, gather and analyze business data, and to use statistical and management science tools to make effective business decisions in operations, finance, marketing, management, and new product development.

BIM412 Risk Management

Prerequisites: BUS409

This course will examine the way in which business and society assess control and transfer risk. It is designed for the student with no previous knowledge of risk management. The goal of this course is to engage students in active discovery of risk management principles. Students will be prepared to function in a business environment, developing an awareness of the challenges, the tools, and the process of designing and implementing a risk management program.

BIM 419 Internship

Prerequisites: After Completing 99 CHs

Students spend 160 work hours handling different assignments at an appropriate



government agency, company, or business. Internships can be completed during the summer semester. The student's academic advisor approves the job assignments and supervises the interface with the employer. The academic advisor grades a written report covering the technical aspects of the work at the end of the assignment. Internships are normally done during the summer. However, it can also be approved for other semesters.

BIT203 Management Information Systems

Prerequisites: CIT 100

This course is designed to introduce the students to MIS concepts within the context of business practice. It provides comprehensive and integrative coverage of essential new technologies, information system applications, and their impact on business models and managerial decision making. The course provides an integrated framework by showing how information systems are composed of management, organization, and technology elements.

BIT201 Introduction to Computer Programming

Prerequisites: CIT100

This is an introductory course to computer programming based on structured programming paradigm. The course presents to students the basic concepts of programming such as problem solving, data types, operators, expressions, loops, selections, arrays, and methods. Students taking this course are not assumed to have a prior background in computer programming.

BIT205 Object Oriented Programming

Prerequisites: BIT 201

This course provides the foundation and understanding of Object-Oriented Programming concepts problem solving skills using object behavior, and an understanding of the use and application of object-oriented tools, are developed through assignments. A subset of a high-level language is used to develop computer programs.

BIT207 Introduction to Web Development

Prerequisites: BIT201

This course is an introduction to Web Development using XHTML language. It covers the following elements: Hypertext Markup Language (HTML), Extensible Hypertext Markup Language (XHTML), and Cascading Style Sheets for creating web-formed Web pages that are compliant with current Web standards and how to publish students' Web sites. In addition, this course covers the application of JavaScript and DHTML as client-side programming.

BUS302 E-Business

Prerequisites: BIT203

This course develops the student's understanding of basic principles of e-business and e-commerce management, functions, technologies, and goals. The course covers e-business models, strategies, and applications with the explanation of most computer jargon and terminology relevant to e-commerce.

BIT305 Database Management Systems

Prerequisites: CIT100

This course emphasizes the design and implementation of relational database methods and their applications in business systems. The detailed steps involved in the design of databases are covered. Different



forms of normalizations, physical file organization, logical views, joined logical files, and implementation of SQL programming are taught.

BIT405 Business Intelligence

Prerequisites: BIT305

This course illustrates the applicability of Business Intelligence (BI) in the development of successful business models. In addition, students and practitioners of BI techniques are presented with hands-on, business-oriented applications. An abundant number of exercises and examples are provided to motivate learning and understanding. The course helps students to understand the beneficial relationship that can be established between BI and smart business practices and is an excellent learning tool for creating valuable strategies and making wiser business decisions.

BIT407 Object Oriented Systems Analysis and Design

Prerequisites: BIT305, BIT205

This course illustrates the concepts and methods used in object-oriented system development and system development life cycle (SDLC) including problem identification, object-oriented concepts & tools in problem solving, modeling, analysis, and design. The course covers currently used modeling and analysis methods such as Object-Oriented modeling based on UML (Unified Modeling Language), Use Case, Activity and Class analysis. The course also introduces students to some concepts in systems design.

BIT413 Data Communications and Networking

Prerequisites: CIT100

The course is an introduction to the fundamentals of data communication technologies and networking protocols. It covers networking issues such as client/server architectures, LANs & WANS, data switching and transmission, TCP/IP, Internet and email protocols and wireless networks.

BIT415 Graduation Project

Prerequisites: After Completing 99 Credit Hours, BIT407

This course offers students a unique opportunity to apply their learning about business technology and the entire software development lifecycle, from business needs to deployment. It amplifies classroom instruction about IT project planning and implementation. The Graduation Project will include weekly classroom sessions for all students to engage in discussions related to idea generation, research techniques and data analysis. Students will also be required to attend several smaller group sessions in which they present their ideas and progress and receive feedback. Students may work individually or in teams and must deliver a complete product (Application, website, planning designs, etc.) at the end of the course.

BIT417 Advanced Web Development

Prerequisites: BIT207, BIT305

This course introduces the concept of Active Server Pages using Microsoft ASP.NET platform as a web server-side programming. The course covers ASP.NET server controls, validation controls, Data Source controls and ADO.NET objects.

BIT419 Internship



After Completing 99 Credit Hours

The course consists of 100 hours of work in a private or public organization. The student may select to have his/her internship in any area of business administration or information technology. The choice of workplace is subject to the approval of LC.

BIT422 Advanced Database Management Systems

Prerequisites: BIT305

This course examines, in depth, databases and database management systems. Complex SQL queries are implemented and tested. The goal is to train students on PL/SQL programming in terms of syntax and examples using real databases. Topics covered will include building complex database objects: abstract data types, functions, procedures, sequences, triggers, and views; building database applications using forms and reports; optimizing PL/SQL performance using input/output data.

BIT430 Information Security

Prerequisites: BIT413

This course illustrates the basic principles of information systems security, including cryptography, identifications and authentications, access control models and mechanisms, multilevel database security, steganography, Internet security, and planning and administering security. In addition, students will gain an understanding of the threats to information resources and learn about counter measurements and their limitations.

BUS100 Introduction to Management

Prerequisites: None

This course aims to introduce students with knowledge of the principles, functions, and techniques of management to gain a solid background in business organization and management. Essential topics examined in this course include management functions, decision-making, motivation, and communication. Special attention is paid to the cultural and regional context of business organizations. This course is expected to serve as a foundation for other courses in business.

BUS201 Microeconomics

Prerequisites: None

This course provides an understanding of how society chooses what goods and services to produce through an examination of the laws of supply and demand. It also looks at how and for whom these goods and services are produced, by examining the behavior of firms, market structures, and the distribution of income.

BUS203 Organizational Behavior

Prerequisites: BUS100

This course examines the complex relationships among individuals, groups, organizations, and society. It emphasizes a dynamic systems approach to understanding and facilitating work relationships through the study of the interaction of individual needs, abilities, and traits with organizational goals and structures. Some of the contemporary organizational issues included in this course are individual and group dynamics, motivation and performance, leadership, power, organizational culture, organizational change, and development.

BUS301 Macroeconomics

Prerequisites: BU201



This course provides an understanding of the role and methodology of economics, components of the economy, and roles of government and central bank in the economy through fiscal and monetary policies. This course covers macroeconomic indicators with respect to GCC economies in general and UAE economy.

BUS302 E-Business

Prerequisites: BIT203

This course develops the student's understanding of basic principles of e-business and e-commerce management, functions, technologies, and goals. The course covers e-business models, strategies, and applications with the explanation of most computer jargon and terminology relevant to e-commerce.

BUS305 Business Law

Prerequisites: BUS 100, GEN 304

This course provides a high-level overview of key business-related legal issues. Subjects covered include legal terminology and concepts, the elements of contracts, intellectual property law, employment law, and the legal relationships between buyers and sellers. In addition, there will be a focus on how these issues apply in the context of the legal environment in the UAE.

BUS306 Quantitative Business Analysis

Prerequisites: MTH203

This course provides a comprehensive survey of the primary quantitative business techniques used in business decision making. These topics include an overview of decision methods based on linear relationships including break-even analysis, linear programming maximization and minimization applications,

transportation and assignment problems, network analysis and program evaluation and review techniques, inventory management models, queuing models, and modern probability theory and tree diagrams. Other topics including simulation and time series analysis and forecasting will be included based on time availability. The course will be deeply relied on the Excel Solver add to solve the problems.

BUS307 Research Methods

Prerequisites: BUS306

The course is designed to introduce students to qualitative and quantitative research methods, as well as commonly used statistical procedures in data analysis. Topics covered include the role of business research, scientific inquiry, the research process, proposal development, research design, hypothesis testing, primary and secondary data collection, statistical data analysis and presentation of research reports. The ethical issues of research design and data interpretation will also be discussed.

BUS309 Operations Management

Prerequisites: BUS306

This course provides a foundation in fundamental concepts, techniques and applications of contemporary production and operations management to serve as tools for improving quality, productivity, and international competitiveness. It covers a selection of quantitative tools and techniques to aid in decision making and operations management setting. Topics such as forecasting, product and service development, capacity planning, process selection, facility planning, quality management and inventory management will be introduced. The concepts for



designing, planning, and improving manufacturing and service organizations will also be examined.

BUS311 Cross Cultural Management

Prerequisites: BUS 203

This course provides an overview of international organizational behavior and human resource issues and practices in multi-national organizations. Topics covered include understanding the effects of culture on attitudes and behavior, organizational issues such as structures, systems and technology, and human resource issues such as teamwork, leadership, and negotiation, as well as different approaches for effective cross-cultural management.

BUS401 Quality Management

Prerequisites: BUS 309

This course is designed to provide students with an understanding of the principles, concepts, processes, and procedures pertaining to the issue of total quality management. Topics covered include: the origins of the modern-day quality movement, the philosophies and practices that serve as the theoretical knowledge for planning and implementing a total quality management (TQM) program, the principles that make up TQM, the implications, and benefits of introducing TQM into an organization, and the tools and techniques that could be used to support an ongoing TQM program.

BUS407 Project Management

Prerequisites: BUS 306

This course will introduce students to the concepts associated with project management and the practical application of the ideas in the day-to-day planning and execution of projects. The course covers all the essential aspects of project management, including creating the

project scope and schedule, creating a project management plan, developing communications plan, and integration of information technology tools in project management.

BUS409 Strategic Management

Prerequisites: BUS417

This course addresses the three main areas of the strategic management process: strategic positioning, strategic planning, and strategic implementation. The strategic management activities undertaken in each of these three areas will be discussed and the approaches currently used by strategic planners will be explained. This course will help students to focus on defining business goals and objectives, making strategic decisions, and managing change in complex organizations. It will examine how organizations can gain and sustain competitive advantage and how business and corporate strategies can be implemented and executed successfully.

BUS411 Change Management

Prerequisites: BUS203

This course provides an overview of change situations and the issues and methods associated with the management of change. Topics covered include identifying the need for change, planning, and communicating change, strategies for implementing change, and overcoming resistance to change. Students will also examine the role of leadership and the competencies and skills required of individuals who initiate, manage, and are affected by change.

BUS413 Leadership

Prerequisites: BUS 203



This course provides the basis for understanding what leadership is and what leaders do to be successful. This course will look at how successful leaders develop a vision for the future, align others behind their vision, and motivate them to achieve the vision. This course will review theories of leadership and analyze common strategies used by leaders, both effective and ineffective, as well as address moral and ethical responsibility of leadership.

BUS415 Graduation Project

Prerequisites: After completing 99 credit-hours, BUS307

This course provides an opportunity for students to employ academic tools and analysis techniques to research a project that is directly relevant to their majors and their future career. This course can be offered as a 3-credit hour course for students who wish to pursue only the classroom portion of this course and a 6-credit hour course for those who wish to combine research with an internship. The Graduation Project will include weekly classroom sessions for all students to engage in discussions related to idea generation, research techniques and data analysis. Students will also be required to attend several smaller group sessions in which they present their ideas and progress and receive feedback. Students may work individually or in teams and must deliver a case study or paper at the end of the course.

BUS417 International Business Management

Prerequisites: MKT 200, BUS 301

This course is an overview of managing international businesses. Topics addressed include the legal, political, and socio-cultural dimensions of international

business, how these forces impact international human resource management, ethical issues for multinational corporations, and global strategies for success.

BUS419 Internship

Prerequisites: After Completing 99 Credit hours

The course consists of 100 hours of work in a private or public organization. The student may select to have his/her internship in any area of business administration or information technology. The choice of workplace is subject to the approval of LC.

BUS421 Entrepreneurship & Small Business Management

Prerequisites: BUS 203

This course provides an overview of critical issues faced in small business and entrepreneurship. This includes an overview of how strategic planning, operations, human resources, and financial management issues are related to small business and entrepreneurs. This course also provides the student with a broad understanding of the basic issues in modern operations management in both manufacturing and service organizations. It focuses on the development of a strategic business plan and competitive business model for a small business or entrepreneurial venture. Special emphasis is placed on adapting business skills to the realistic needs of a small business owner and entrepreneur.

HRM201 Introduction to HRM

Prerequisites: BUS100

This is an introductory course presenting various areas of human resource management including its strategic role,



job analysis, training and development, HR planning and recruitment, employee selection, training and developing employees, performance management, strategic pay plans, employee relations, and employee safety & health in the workplace.

HRM301 Recruitment and Selection

Prerequisites: HRM201

This course provides an overview of the functions of human resource planning, recruitment and selection, and the associated legal and ethical considerations. Students will learn how to plan staffing needs of organizations and analyses a variety of approaches to recruit employees. The integration of HR planning, recruitment and selection with other HR and management functions is also addressed.

HRM303 Training and Development

Prerequisites: HRM201

This course focuses on the understanding of the concepts, principles and theories of human resource development and training, how the training activities improve the skills and qualifications of employees and how to select the appropriate training system for an organization. It also discusses the relationship between HRD and broader organizational issues and strategies, assessment of HR development, training needs in a practical workplace context, designing and implementation of training plans, constructing training courses, use of various latest training techniques, effectiveness, efficiency, productivity of training tasks, and return value of human capital development and training.

HRM401 Compensations

Prerequisite: HRM201

This course covers approaches to the design and management of compensation and benefits systems. Topics include the objectives of pay systems, policy decisions that provide the foundation for different pay systems, and the tools and techniques that link policies and objectives.

HRM403 Occupational Health & Safety

Prerequisites: HRM201

This course will develop knowledge in Occupational Health and safety management and will give students a critical introduction to the broad subject of (OHSM) to examine in detail some of the specific theoretical and practical issues related to the topic. Moreover, this course will integrate topical workplace health and safety issues into the context of previous studies to provide students with skills to analyze and evaluate current trends in OHS.

HRM407 Performance Management

Prerequisites: HRM301, HRM303

This course concentrates on the major contemporary theories, research and applications specifically related to the topic of employees' performance appraisal. It reviews the management and improvement of employees' performance on the job and in the organization. It examines the HR performance assessment methods, types of evaluation and appraisal systems. The relation between the performance appraisal and the succession, training, promotion, incentives systems, planning, empowering, and developing the HR is also covered in this course.

HRM409 Labor Relations

Prerequisites: HRM301, HRM303



This course introduces the student to the main issues in Human Resource Management and integrates learning material with examples from the UAE and GCC, covering all the practical issues in human resources management. Areas covered include labor relations, Emirates labor laws, bargaining issues, the process of negotiations, contract administration and organizational conflict. The course equally surveys the effects of employment dynamics, collective bargaining and negotiation, grievance, and arbitration processes. Also, it examines the labor laws and governmental agencies regulating labor practice, along with contemporary issues on labor-management relations in the public and private sectors of the workplace.

HRM 410 Strategic Human Resources Management

Prerequisites: HRM 401

Making the balance between theoretical approaches in SHRM and their reflection in the key practical issues that the HR managers face, this course provides the students with the necessary knowledge about the strategic dimension of HRM and the necessary skills for its implementation to the different HRM practices and policies.

HRM 415 Graduation Project

Prerequisites after completing 99 CH, BUS307

The purpose of the Graduation Project is for students who have an idea or interest that they wish to explore and further develop in the context of academic research. It will enhance student ability to identify critical questions when exploring a new issue, to parse issues, to develop reasoned positions, and to make

compelling arguments. The aim of this course is to encourage students to employ academic tools and analysis techniques to research a project that is directly relevant to their majors and their future career. The Graduation Project will help develop the analytical skills of the student in a way that could prove valuable for pursuing a career in private, public, and international organizations.

More focus will be on the Human resource areas.

HRM 419 Internship

Prerequisites: After Completing 99 CHs

Students spend 160 work hours handling different assignments at an appropriate government agency, company, or business. Internships can be completed during the summer semester. The student's academic advisor approves the job assignments and supervises the interface with the employer. The academic advisor grades a written report covering the technical aspects of the work at the end of the assignment. Internships are normally done during the summer. However, it can also be approved for other semesters.

MKT200 Introduction to Marketing

Prerequisites: BUS100

This course introduces the students to basic marketing concepts and terminology and integrates learning material with real world examples. Areas covered include: the marketing concept, marketing mix, the marketing environment, marketing information and research, consumer behavior, pricing strategies, and market segmentation.

MKT202 Consumer Information



Prerequisites: MKT200

This course covers the role of marketing research in consumer behavior and decision making. Emphasis is placed on both the establishment of theories of consumer behaviors, together with their practical application and how these behaviors and theories are researched in practice. In all cases the cultural significance of the UAE will be paramount. At the heart of this course is an independent research project, which will take the Concentration Electivity of the semester to complete. It will be based on some aspects of current consumer behavior and will be fully defined and researched during the time the course is taking place. By the time it is completed, the student will have mastered an array of extremely valuable skills and knowledge bases. Some of the indicative types of projects might include:

MKT203 Service Marketing

Prerequisites: MKT200

The purpose of this course is to introduce services marketing as a separate and distinct area of marketing thought and practice and assist in understanding its powerful influence in competitive markets. During this course we focus our attention on marketing services based upon an in-depth understanding of the service customer realizing that there can be various types of customers in a service environment. We also discuss an overarching philosophy that stresses the importance of the integration of marketing, human resources, and operations within the service system. All course activities are intended to help students become proficient in analyzing and judging the merits of services marketing strategies and assist in making

strategic decisions in both business and consumer services industries. Throughout the course an emphasis is placed on marketing's role within the total organization.

MKT 204 Personal Selling

Prerequisites: MKT200

This course focuses on the application of behavioral and persuasive communication theories and techniques necessary to develop effective personal selling skills within an organization. Emphasis on personal and professional development, interpersonal skills, verbal, and written presentation skills, understanding business prospects, selling, and buying processes, and developing and maintaining customer satisfaction.

MKT301 Consumer Behavior

Prerequisites: BUS 200

This course helps students to gain knowledge of consumer behavior and provides them with an understanding of the breadth of the field and its importance to marketers, advocacy groups, public policy makers and consumers themselves.

MKT302 Market Research

Prerequisites: MKT202

This course covers the role of marketing research in marketing decision making. Emphasis is placed on market research within the context of the UAE business environment and the use of the internet as a research tool. The course covers definition of research problems, selection of research methodologies, design of research projects, interpretation of research results, and translation of research results into action. The heart of this course is an independent research project, which will take the entire semester



to complete. By the time it is completed, the student will have mastered an array of extremely valuable skills.

MKT304 International Marketing

Prerequisites: MKT200

This course is designed to provide the student with an overview of the international marketing arena. The course deals with all aspects of marketing from the international perspective and prepares the students to deal with foreign competitive situations and internal opportunities. It offers practical exposure to marketing challenges faces by the multinational businesses through case studies and scenarios which relate to several areas of marketing (market research, marketing management, sales-force management, and marketing communications...) and international marketing.

MKT305 Consumer Communications

Prerequisites: MKT200

To enable students, develop a thorough understanding of brand development and IMC management theory including key concepts such as brand positioning and movement, measurement of brand values and translation of brand benefits into tangible outputs. This course will help students understand the opportunity and threats posed by brand development and IMC management including the study of relevant buyer behavior concepts, brand creation and development, media messages, resources and budgets, creative translation of brand values, and effectiveness measurements as they relate to the management tasks of developing, implementing, and evaluating promotional strategies.

MKT351 E-Marketing

Prerequisites: MKT200

The internet and other information technologies have created many interesting and innovative ways to provide customer value since its inception in 1969. For example, websites for marketing communication and customer support, one-to-one communication to many different receiving devices; consumer behavior insights based on offline and online data combination; inventory optimization through CRM-SCM integration; a single-minded focus on ROI and associated performance metrics are all important strategies. In addition, social media provide perfect platforms for connecting with today's consumers: High readership blogs, social networks (such as Facebook and LinkedIn), and online communities (such as YouTube, Twitter, and Second Life) allow consumers to be heard in large numbers, and smart marketers have learned how to tap into these "citizen journalists" for improving products and marketing communication.

MKT400 Strategic Marketing

Prerequisites: MKT202, MKT302

The course builds on other Marketing courses and seeks to develop a deeper understanding of the relationship between the marketing function and the general business strategy of the organization. In so doing, accounting of the emerging new trends in the field will be taken.

MKT401 Current Issues in Marketing

Prerequisites: MKT351

This course will of necessity be "fluid", on the basis the corpus of knowledge and the changes to that corpus will be constantly shifting, whilst the person delivering the



module will have specialist interests and insights into the knowledge, which will be a unique reflection of the current issues. So, whilst the outline and other elements of the course may appear undefined this will be by nature of the discipline. What is current, and what is perceived to be cutting edge will vary by individual and by time. Therefore, what is presented here is a personal reflection of what might be included.

MKT419 Internship

Prerequisites: After Completing 99 CHs

The course consists of 200 hours of work in a private or public organization. The student may select to have his/her internship in any area of business administration or information technology. The choice of workplace is subject to the approval of LC.

MKT451 Advanced Content Marketing

Prerequisites: MKT305

This course is built on an introductory content marketing course and dives deep into advanced marketing concepts and strategies from a brand perspective. It will demonstrate how to set up a marketing team, build and maintain a content hub, and establish an organization as an authority in your industry using Digital workflows for multi-touch, multi-channel campaigns using personalized communications software.

MKT473 Social Media Marketing

Prerequisites: MKT351

In the era of social media and technology, the social media marketing course aims to develop students' ability to explain the different marketing methods through social media accurately. Creating posts,

followers, and managing your accounts on social networks, in addition to obtaining a comprehensive of practical experiences and best practices, you will develop your skills in promoting and creating marketing campaigns using modern social media. In addition, you will learn how to evaluate the results of your marketing efforts, and you will practice your new skills through practical projects.

MTH203 Business Statistics

Prerequisites: **MTH105**

This course will introduce the learner to some techniques in descriptive and inferential statistics. Topics included are data presentation using different tools, central measures, dispersion measures, introduction to probability, estimation, hypothesis testing, correlation and regression, and computer applications.

THM301 Introduction to Hospitality Management

Prerequisites: None

The course focuses on hospitality operations while offering a broad, comprehensive view of the Hospitality Industry. It provides an understanding of hospitality and Tourism industry major aspects and its operational aspects. The course is structured in areas of Hospitality and lodging, Tourism attractions, Recreations, and Events and its operations. The purpose of the course is to enable students explore the workings of hospitality segment, including hospitality and lodging; beverages, restaurants, and managed services; tourism, recreation, attractions, clubs, and gaming; assemblies, events, and attractions; and managerial areas of the hospitality industry.



THM302 Tourism Management and Development

Prerequisites: None

The course traces the history and evolution of tourism concerning the changing tourism demand and travel motivations over some time. The course also provides valuable information on tourism sector components and linkages with accommodation, transportation, and tour operators. Special focus is laid on visitor attractions and events. As a foundation course, this course introduces participants to the fundamentals of tourism with a global focus. The students will be enlightened on the need to develop and manage tourism with a focus on the role of the private and public sectors in effectively managing the resources.

THM311 Tourism and hospitality marketing

Prerequisites: THM301, MKT200

The goal of the course is to help students comprehend marketing management from a tourism perspective. The course focuses on the methods and techniques through which tourism organizations examine and evaluate marketing trends. The course also covers defining and choosing target markets, planning and executing marketing strategies, and implementing marketing control plans. Students will develop the skills to analyze and address marketing challenges and opportunities in tourism products, services, and destinations. They will also understand the components that make tourism marketing successful and gain both the theoretical and practical skills necessary for success.

THM400 Business Economics in Tourism and Hospitality

Prerequisites: BUS201

Course Description: This course provides necessary skills and knowledge of Business Economics in Tourism and Hospitality through a comprehensive analysis of the market forces, demand and supply, firm behavior & strategy, and transaction and institution.

THM401 Event management

Prerequisites: BUS100

The purpose of the course is to make students understand the significance of events in developing and promoting tourism. This course focuses on the theories and practices of conceiving and organizing successful events. The course contents include event design and management, outcomes, event experiences and their associated meanings, dynamic processes shaping events, and why people attend them. The course introduces the functional and operational aspects of event management, emphasizing cultural and heritage events and sustainability. They will learn how to derive tourism potential of a destination through events and festivals.

THM410 Operation Planning and Scheduling

Prerequisites: BUS309

This course equips students with essential skills, and techniques for the operation management in the service industry with an emphasis of hospitality industry. The course is designed to provide knowledge regarding the structure of decision-making and organizational management of a service with an emphasis on technical methods in forecasting, inventory management, material requirement planning and operations scheduling. The



purpose of the course is to develop the ability to apply analytical and managerial methods for the management of a service. It includes techniques based on forecasting, supply chain, organization and MRP applications, quality evaluation and continuous improvement methods. The student will be able to manage, evaluate and monitor different aspects of the service industry.

THM411 Information Technology in Tourism

Prerequisites: CIT100

The course examines the challenges of using information technology in the tourism business. The contents cover IT applications in various industries, such as airlines, travel intermediates, lodging, food service, destinations, attractions, events, and entertainment. With the help of examples and cases, the course examines how travelers use technology for decision-making before, during, and after their trip. This course aims to offer a thorough range of important trends, opportunities, and issues in hotel and travel information technology. The students will have the chance to learn about novel topics like big data, robotics, crowdsourcing for sustainability, intelligent destinations, disruptive innovation, and augmented and virtual reality.

THM412 Tour Leadership and Management

Prerequisites: BUS100, THM302

The course aims to equip students with relevant knowledge and skills, enabling them to perform functions and operations of tour management successfully. The students will learn the essentials of tour management, including pre-tour, on-tour, and post-tour operations. The course will

follow a practice-oriented approach focusing on tour management and guiding, such as planning tour itineraries, handling large groups managing cultural differences, grievances, emergencies, and such. The contents will also cover a tour manager's responsibilities towards tourists, destinations, and other tourism stakeholders.

THM415 Graduation Project

Prerequisites: After Completing 99 CHs, BUS307

This course provides an opportunity for students to employ academic tools and analysis techniques to research a project that is directly relevant to their majors and their future career. This course can be offered as a 3-credit hour course for students who wish to pursue only the classroom portion of this course and a 6-credit hour course for those who wish to combine research with an internship. The Graduation Project will include weekly classroom sessions for all students to engage in discussions related to idea generation, research techniques and data analysis. Students will also be required to attend several smaller group sessions in which they present their ideas and progress and receive feedback. Students may work individually or in teams and must deliver a case study or paper at the end of the course.

THM419 Internship

Prerequisites: After Completing 99 CHs

The course consists of 200 hours of work in a private or public organization. The student may select to have his/her internship in any area of business administration or information technology. The choice of workplace is subject to the approval of LC.



THM421 Financial Accounting in Hospitality

Prerequisites: BAF301

This course demonstrates and explains the significance of financial management aspects within the hotel and tourism businesses and provides many examples and is mainly based on practical implementation more than theoretical aspects. The main purpose for this course is to discuss the following: The concept of Relationship Between Return and Risk; the concept of purchasing power of money and time value of money; Financial assets with Fixed Income such as preferred stock & bonds; Common equity; Cost of Capital; Capital Budgeting and Cash Flow Estimation and Capital Budgeting Decision approaches for those in hotel and tourism professions.

THM422 Managing sustainable tourism.

Prerequisites: BUS306, THM301

The purpose of the course is to introduce students to a range of crucial topics such as mass tourism, alternative tourism, human capital management, and sustainable development. The course bridges the gap between theoretical perspectives of sustainable tourism and their application in the commercial and non-commercial arena; this course facilitates comprehensive learning of sustainable tourism development. The course provides a comprehensive introduction to sustainable tourism, crucially combining theoretical and practical approaches to successfully equip students with the tools to manage a sustainable tourism business or destination.



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Faculty of Engineering

AS200 Physics I

Pre-requisites: MTH110

This course is a calculus-based introduction to classical Newtonian mechanics. It includes discussions on vectors, translational and rotational kinematics, work, energy, impulse, linear and angular momentum.

BAS201 Physics Lab I

Pre-requisites: BAS200

The laboratory illustrates the fundamental concepts in Physics I. It explores the concepts of Kinematics and Kinetics (position, velocity, and acceleration, force, momentum, and energy). It emphasizes skills such as sensor instrumentation, simple data acquisition, and uncertainty. Pre/Co-requisite: BAS200.

BAS210 Physics II

Pre-requisites: BAS200

The course introduces the physics of electricity and magnetism. It focusses on the physics of electric and magnetic fields and their effects on electric charges. Topics include the relations between charges, forces, fields, potentials, and currents, as well as the physics of resistors, capacitors, and inductors.

BAS211 Physics Lab II

Pre-requisites: BAS210

The laboratory illustrates the fundamental concepts in Physics II. It emphasizes the practical study of electric potential and electric current, as well as the fundamental circuit elements: resistors, capacitors, and inductors.

CHEM100 General Chemistry

The course is intended to introduce the fundamental concepts and applications of chemistry. Topics including chemical nomenclature, periodic table, atomic structure are presented. Chemical reactions, reaction stoichiometry, bonding, and equilibrium. Applied topics include corrosion, batteries, and fuel cells.

CHEM101 General Chemistry Lab

Pre-requisites: CHEM100

This laboratory course introduces students to fundamental techniques and provides hands-on experience in conducting chemical reactions that accompany the course BAS 100. It emphasizes the skills of data collection and evaluation.

CVE125 Engineering Geology

Pre-requisites: CHEM100

This course introduces basic and general geology to civil engineering, it includes origin and development of Earth, rock minerals, different types of rocks, engineering properties of rocks, structural geology and deformations, groundwater, slope stability and ground subsidence, earthquake and geophysics, and engineering geology.

CVE200 Sustainability and Green Buildings

Pre-requisites: ENGR101

This course introduces everything about green buildings, including building site, shape, electricity and water consumption, thermal properties, heating, and cooling, and building materials and design.

CVE225 Surveying

Pre-requisites: ENGR135

This course deals with a discussion and application of the fundamental concepts



of: Introduction to measuring units; direct distance measurement with tapes; tape corrections; electronic distance measurement; levels and leveling; longitudinal profiles and cross sections; contouring; area and volume computations; the theodolite and angular measurements; optical distance measurements; rectangular coordinates; traverse surveys and computations; mapping; introduction to GPS and GIS.

CVE230 Mechanics of Materials

Pre-requisites: ENGR140

This course deals with a discussion and application of the fundamental concepts of normal and shear stress; normal and shear strain; stress and deformation of axially loaded members; thermal stresses; pressure vessels; torsion of circular and thin-walled sections; shear and bending moment diagrams in beams; bending in beams; transverse shear; combined loadings; stress/strain transformation; bending moment-curvature equation; deflection of beams.

CVE310 Civil Engineering Materials

Pre-requisites: CVE230

This course covers the following topics: cement (types, manufacture, properties and hydration), aggregates, fresh concrete, hardened concrete (strength, strength development, shrinkage, creep), concrete in severe environment, durability, mix design, use of masonry, metals, and hot mix asphalt design.

CVE311 Civil Engineering Materials Lab

Pre-requisites: CVE311

This course covers the following topics: Introduction to testing and specifications, metals testing, aggregates testing, cement

paste, fresh and hardened concrete testing, and asphalt mixes testing.

CVE320 Transportation Engineering

Pre-requisites: CVE225

This course deals with a discussion and application of transportation engineering; transportation system issues and challenges; modes of transportation, main components of highway, mode of transportation (driver, pedestrian, traffic, road); geometric design of highways and highway facilities; highway functional classification and special facilities; intersection design and control; and introduction to rail, air, and water transportation. Pre-requisites: CVE220.

CVE330 Structural Engineering

Pre-requisites: ENGR140

This course deals with a discussion and application of the fundamental concepts of: Shear force and bending moment diagrams for frames; influence lines for beams and trusses; displacement analysis for beams; Virtual Work Method for beams, frames, and trusses; Castigliano's Theorem; analysis of statically indeterminate structures by the Force Method; the Slope-Deflection Method, the Moment Distribution Method; introduction to the Stiffness Method.

CVE335 Reinforced Concrete Design I

Pre-requisites: CVE310, CVE330

This course deals with a discussion and application of the fundamental concepts of: Behavior and design of reinforced rectangular and T-sections in flexure; doubly reinforced sections; behavior and design of beams for shear; design of one-way, design of short columns; behavior and design of short columns under axial



load and bending moment; use of ETABs or SAP2000 software in design.

CVE340 Fluid Mechanics for Civil Engineers

Pre-requisites: ENGR140, MTH120

This course deals with a discussion and application of the fundamental concepts of: Properties of fluids; hydrostatics with applications to manometers; forces on plane and curved surfaces; buoyancy; equations of continuity; energy and linear momentum with applications; dimensional analysis; dynamic similarity; open channel flow; conduit flow.

CVE341 Fluid Mechanics for Civil Engineers Lab

Pre-requisites: CVE341

This course deals with a discussion and application of the fundamental concepts of: Properties of fluids; hydrostatics with applications to manometers; forces on plane and curved surfaces; buoyancy; equations of continuity; energy and linear momentum with applications; dimensional analysis; dynamic similarity; open channel flow; conduit flow.

CVE350 Geotechnical Engineering

Pre-requisites: CVE125, CVE230

This course deals with a discussion and application of index and classification of soils, water flow in soils, soil stresses, soil compaction, distribution of stresses in soil due to external loads, consolidation and consolidation settlement, shear strength of soils, slope stability.

CVE351 Geotechnical Engineering Lab

Pre-requisites: CVE351

This course covers different tests on soils that are related to civil engineering. It

includes specific gravity, grain size distribution, consistency limits, coefficient of permeability, consolidation test, direct shear, and tri-axial tests.

CVE355 Environmental Engineering

Pre-requisites: CVE340

This course deals with a discussion and application of the principles of environmental engineering management and design pertaining to water supply and treatment, wastewater treatment, solid waste management, air pollution control, noise pollution measurement and control, and environmental impact assessment.

CVE410 Steel Structures

Pre-requisites: CVE230, CVE330

This course deals with discussion and application of the fundamental concepts of tension and compression steel members; bolted and welded connections; laterally supported beams; lateral torsional buckling of beams; braced and unbraced frames.

CVE440 Construction Management

Pre-requisites: ENGR240

This course deals with a discussion and application of basic concepts of construction project management, construction planning, project time management, project cost management, project quality management, value engineering and project life cycle, construction process optimization, construction contracts, contracting methods, project specifications, bidding, procurement methods and contractor applications for payment procedures.

CVE445 Contracts and Quantity Surveying



Pre-requisites: CVE335

This course deals with process of generating, bidding, and performing construction contracts, components of direct and indirect construction costs, work breakdown, contingency and risk; methodology of quantity surveying and estimates for construction projects; ethical considerations in budgeting and estimating.

CVE465 Reinforced Concrete Design II

Pre-requisites: CVE335

This course deals with a discussion and application of structural layout, estimation of dead and live loads, serviceability, deflections and crack control, design for torsion, design of frames, moment redistribution, slender columns, approximate methods for two-way slabs, design of footings, retaining walls, detailing of reinforcement.

CVE490 Senior Design Project I

Pre-requisites: Senior Standing

This is a two-semester sequence course that provides a culminating major project design experience for the students, where they propose to work on real-world problems that require the application of civil engineering knowledge. The project needs to be approved and supervised by a faculty advisor. In the Capstone I course the initial phases of the project are completed, including proposal presentation, development of design requirements, identifying constraints, exploration, and evaluation of potential solutions. The teams write reports and make presentations at the end of the semester.

CVE491 Senior Design Project II

Pre-requisites: CVE490

In this second part of the senior design project course sequence the project teams focus on implementation of their prototype design, testing, evaluation, and documentation. At the conclusion of the project, the teams give presentations and demonstrate their project prototypes, and submit a final project report.

CVE435 Highway Engineering

Pre-requisites: CVE320

This course covers highway pavement design; flexible and rigid pavement types and wheel loads; stresses in flexible and rigid pavements; equivalent single axle load (ESAL) calculations; pavement distresses; sustainability in pavement designs.

CVE450 Foundation Engineering

Pre-requisites: CVE350

This course covers site investigations; estimation of stresses in soil masses; lateral earth pressure and retaining walls; bearing capacity and settlement of shallow foundations; introduction to deep foundations.

CVE460 Finite Element Analysis in Structural Engineering

Pre-requisites: CVE330

This course deals with a discussion and application of the fundamental concepts of: truss, beam and frame plane analysis using the stiffness method; use of available computer packages for applications in structural analysis; ETABS and MS. Excel/MATLAB.

CVE475 Solid Waste Management

Pre-requisites: CVE355



This course deals with a discussion and application solid waste management, integrated approach to solid waste management, sources, composition, and properties of solid waste, physical, chemical, and biological properties of MSW and household hazardous wastes. Waste handling, separation, storage, and collection. Building a sustainable future, application of life-cycle analysis to waste management systems, reuse technologies, energy recovery from liquid and solid wastes and product recovery from oily wastes.

CVE 485 Geographical Information System (GIS)

Pre-requisites: CVE320

This course deals with a discussion and application of the principles of GIS (hardware, software, people, data, and methods) and its applications; acquisition and compilation of data from maps, field surveys, air photographs and satellite images.

ENGR101 Introduction to Engineering

This is an introductory course in engineering fundamentals. It introduces students to engineering disciplines, functions of engineers, professionalism, ethics, and registration. In addition, it covers basic engineering problem solving and representation of technical information.

ENGR102 Interdisciplinary Engineering Design and Artificial Intelligence

Pre-requisites: ENGR101

This is an introductory interdisciplinary course in engineering design and Artificial Intelligence. It exposes students to basic principles of engineering design and manufacturing. Students are introduced to

issues related to selection of proper material for a product, proper manufacturing process, and how this may affect the engineering design. In addition, the course includes techniques, limitations, and capabilities of Artificial Intelligence and its applications in engineering fields.

ENGR135 Computer Aided Drawing

This computer aided drafting course introduces engineering students to graphics and visualization. The topics include sketching, drawing, editing, modifying, and printing basic engineering drawings and views.

ENGR140 Statics

Pre-requisites: BAS200

This course deals with a discussion and application of the fundamental concepts of mechanics; vector algebra; equilibrium of particles in two and three dimensions; definition of moment and couple; equilibrium of rigid bodies; statically determinate structures including beams, trusses, frames, and machines; shear force and bending moment diagrams in beams; friction; internal forces; centroid and center of gravity of lines, areas, and volumes; moment of inertia and radius of gyration.

ENGR200 Applied Electrical Circuits

Pre-requisites: BAS210

This course introduces the basic topics such as Ohm's law and Kirchhoff's laws; series and parallel circuits; voltage and current division rules. It also includes power calculations for varying (AC) sources, operational amplifiers, and diodes.

ENGR201 Applied Electrical Circuits Lab



Pre-requisites: ENGR200

This is the laboratory component for the applied electrical circuits course. It provides the needed knowledge and skills of electrical engineering to non-electrical engineering majors. It introduces students through lab experiments to the use of sensors and instrumentations.

ENGR220 Problem Solving Using MATLAB

Pre-requisites: MTH220

This course is a lab-oriented course designed to introduce students to programming in MATLAB. It focuses on developing the skills necessary to generate readable, compact, and verifiably correct MATLAB scripts for obtaining numerical solutions to a wide range of engineering problems. Topics include introduction to the MATLAB environment and programming language, matrix manipulation and computation, and graphical display of output.

ENGR240 Engineering Economy

Pre-requisites: MTH110

This is an introductory course that introduces students to the concepts of breakeven analysis, time value of money, process of making decisions, discounted cash flows, replacement analysis, and depreciation and its effects on taxes.

ENGR400 Internship

Pre-requisites: Senior Standing

Supervised field experience of professional-level duties for 16 weeks (450 to 600 hours) at an approved internship site under the guidance of a designated site supervisor in coordination with a faculty supervisor.

IDE210 Lean Work Design

Pre-requisites: MTH230

This course provides the principles and tools required to design a production system that utilizes optimal layout, material handling, workflow balance, work methods and standards, teamwork, assembly process documentation, quality control, and human factors.

IDE305 Operations Management

Pre-requisites: IDE210

The course provides a foundation in fundamental concepts, techniques and applications of contemporary production and operations management to serve as tools for improving quality, productivity, and international competitiveness. It covers a selection of quantitative tools and techniques to aid in decision making and operations management setting. Topics such as forecasting, product and service development, capacity planning, process selection, facility planning, quality management and inventory management will be introduced. The concepts for designing, planning, and improving manufacturing and service organizations are also examined.

IDE310 Control Systems Engineering

Pre-requisites: ENGR200

This course introduces students to the use of hardware and software resources used to automate and control operation in manufacturing and non-manufacturing industries. Students learn to write and test relay logic circuits. Next students learn to program industrial grade PLC's (Programmable Logic Controllers) such as Rockwell, Siemens, GE...products that are used in manufacturing to coordinate robotics, NC machines, and conveyors operations, material handling, water



treatment plants, energy management operations.

IDE320 Engineering Statistics I - Statistical inference and regression

Pre-requisites: MTH230

The students are introduced to descriptive inferential, non-parametric, and inferential statistics for one and two populations, contingency tables, design and analysis of single factor experiments, goodness fit tests, and regression analysis. Appropriate statistical software such as Minitab are introduced in the course.

IDE330 Ergonomics

Pre-requisites: IDE210

Students are introduced to human factors and ergonomics. Problems that hinder employee's performance due to inappropriate working environment that includes high level of noise, poor lighting, poor sanitation and safety, confusing display of information, heavy lifting, poor workflow, and workplace designs and use of inappropriate tools are studied. The course topics are reinforced through laboratory exercises.

IDE331 Ergonomics Lab

Pre-requisites: IDE330

The course deals with adequate ergonomic factors that are essential for optimal performance of work to preserve the most important asset of an enterprise: human capital. The students implement ergonomic principles by using design, environment, skills, safety, standards, and performance. The course topics are experimentally evaluated through laboratory exercises.

IDE340 Production Planning and Control

Pre-requisites: IDE305

Students are introduced to the tools used to add value to the customer. Application of industrial engineering theory and practice to the area of operations management, production planning and control. Concepts in forecasting, demand and push pull production systems are to be introduced in making the value proposition to the customer.

IDE350 Systems Modeling and Simulation

Pre-requisites: IDE305, IDE320

An introduction to discrete simulation modeling design methods with emphasis of applying statistical analysis. Simulation modeling is applied to manufacturing, supply chain, transportation, and service systems. Verification and validation of simulation models. Appropriate simulation software such as Arena is used on the course.

IDE370 Manufacturing Engineering & Industry 4.0

Pre-requisites: ENGR120, ENGR200

This course introduces students to manufacturing processes, geometrical dimensioning and tolerance, computer aided manufacturing, flexible manufacturing, digital manufacturing, and Industry 4.0. The course explains the important roles that modelling, simulation and optimization play which targets digital manufacturing and assembly systems for an efficient, flexible, and modular production of customized products exploiting the IoT that opens the possibilities for industry 4.0.

IDE400 Supply Chain Management

Pre-requisites: IDE340



Students are introduced to the tool used to manage supply chain systems. This course builds upon the concepts gained from the previous designing value in the supply chain course. Problems of complex systems with unpredictable demand forms and multiple products are studied to make quantitative based decision-making process. The PLAN, SURCE, DELIVER, and RETURN model will be used to optimize the supply chain process.

IDE410 Operations Research I

Pre-requisites: IDE305

This course introduces Linear programming and formulation, graphical solution, and Simplex algorithm as well as duality and sensitivity analysis. Moreover, it covers transportation, transshipment, network, and assignment models.

IDE420 Facility Planning

Pre-requisites: IDE305

A comprehensive analysis of the major design issues in facilities planning of production and service facilities. The course emphasizes the use of quantitative and qualitative analysis in the design process. Topics include facility location, plant layout, materials handling, materials flow analysis, and distribution systems.

IDE450 Quality Engineering

Pre-requisites: IDE320

This course introduces the tools and skill sets to solve quality problems encountered by industrial and service industries. Concepts and statistical methods employed in the assurance of product conformance to specifications, control charts for attributes and variables, proven capability analysis, acceptance of sampling

plans, international standards, and continuous quality improvement.

IDE490 Senior Design Project – I

Pre-requisites: Sr. Standing

The senior design course is a two-term sequence in Industrial Engineering. Projects for the students to work on are solicited from manufacturing, health, service, government, and municipal entities. In the first part of the project (Senior Design I), work will focus on planning, design, construction and/or management of an industrial engineering project.

IDE491 Senior Design Project - II

Pre-requisites: IDE490

The second and final part of a team-based one-year senior design project in the field of Industrial Engineering. Work will be directed to optimize and finalize the design from Senior Design Project I. Periodic project reviews and brief presentations will be completed. Students present final reports orally and in writing with their findings and recommendations.

IDE455 Project Management

Pre-requisites: IDE305

This course introduces students to the concepts associated with project management, and practical application of the ideas in the day-to-day planning and execution of projects. It covers all the essential aspects of project management, including creating the project scope and schedule, creating a project management plan, developing communications plan, and integration of information technology tools in project management.

IDE465 Industrial Robotics



Pre-requisites: IDE370

This course introduces the use of robots in industrial settings. Robots program to perform specific operations. Robot main and peripheral components. Safety, end-effector design, motion control, and path planning activities.

IDE470 Maintenance Management

Pre-requisites: MTH230, Sr. Standing

This course represents a deep comprehensive study of operations and activities of maintenance and methods to manage a maintenance department in an industry. It contains an overview of maintenance functions and activities with a study of the different types and problem-solving methods of maintenance issues, including design, analysis, evaluation, and control tools for maintenance management.

IDE475: Cost Accounting and Analysis

Pre-requisites: ENGR240

The course is intended to provide industrial engineering students with the necessary concepts, tools and methods for costing products and processes. Topics include cost concept and classification, standard costing system, job order costing, activity-based costing, and process costing.

IDE480 Operations Research II

Pre-requisites: IDE445

This course introduces students to non-linear, integer, and modeling networks using modeling languages. The course will also be introducing advanced topics like Queuing systems and simulations on advanced software's.

IDE485 Decision Analysis

Pre-requisites: IDE350

The course overviews of modeling techniques and methods used in decision analysis, including statistical analysis, and simulation modeling analysis. Model building and analysis for practical applications through real world problems using artificial neural networks are conducted.

IDE495 Special Topics in Industrial Engineering

Pre-requisites: Senior Standing

This course covers theoretical and/or practical topics in selected areas of study within the industrial engineering discipline, beyond what is offered in existing courses to meet the interests of the students and ever-changing needs of the job market. Topics include, but not limited to: Digital manufacturing , IoT of Manufacturing , Industry 4.0 , Intelligent operations and management , Data Mining Techniques , Sustainability engineering , Machine learning , Robotic systems and automation , Analysis and Design of Control Systems , Advanced Programming for Mechanical and Industrial Engineers

MCE200 Introduction to Mechanical System Design

Pre-requisites: ENGR140, ENGR200

This course is intended to introduce students to the fundamental concepts of machine design and mechatronics. Fundamentals of Machine Design, Phases of Design, Design Consideration – Standards and Codes – Selection of Materials –Design against Static and Dynamic Load. Mechatronic system overview: control, sensors, actuators, power consideration. In addition to sensors and actuator technologies the laws pertaining to Intellectual Property are also covered. A complete team-oriented open-



ended design project is required. Each team will execute a design, analysis, and fabrication of prototype systems.

MCE210 Mechanics of Materials

Pre-requisites: ENGR140

This course covers the fundamental topics of mechanics of materials, i.e., stress and deflections. Topics of this include normal and shear stress and strain, Hooke's law, axial deformation, torsion of circular shafts, bending of beams, shear stress, beam deflections, combined stresses, and statically indeterminate structures.

MCE220 Thermodynamics

Pre-requisites: CHEM100, MTH110, BAS200

This course introduces the first and second laws of thermodynamics and their application to energy transformations during various processes. It also covers the basic properties of pure substances, ideal gases, mixture of ideal gases, and atmospheric air. Energy cycles and energy efficiencies are also discussed.

MCE300 Dynamics

Pre-requisites: ENGR140

This course introduces the fundamental concepts of dynamics (kinematics and kinetics). It starts with the study of kinematics and kinetics of a particle including relative and absolute motion. Then the analysis is extended to include the study of kinematics and kinetics of rigid bodies. Topics covers force and acceleration, work-energy, and impulse-momentum methods.

MCE310 Mechanical Component Design

Pre-requisites: MCE210, ENGR120

This course Introduces students to the fundamental principles of engineering design of machine components. It involves the application of theory and techniques learned to the design of mechanical components. Formal design methodology is introduced. Topics including fatigue considerations, shaft design, threaded fasteners, lubrication and bearings, springs, and fundamentals of gear analysis are presented.

MCE330 Heat Transfer

Pre-requisites: MTH210, MCE220

This course introduces the basic principles of heat transfer. It covers topics of heat transfer by conduction, convection, and radiation. Steady-state and transient heat transfer problems, and energy conservation, fins, and analysis of heat exchangers are also covered.

MCE340 Fluid Mechanics for Mechanical Engineers

Pre-requisites: ENGR140, MTH120

This course is an introductory course in fluid mechanics. Topics covered include fluid properties, dimensional analysis and similitude, fluid statics, Bernoulli's equation, conservation of mass, momentum and energy, hydraulic gradient line and total energy line, linear and angular momentum equations, viscous flow in pipes, flow over immersed bodies, and concludes with introduction to compressible flows.

MCE415 Energy and Systems Laboratory

Pre-requisites: MCE330, MCE340

This course is a comprehensive applied study of principles and theories in fluid mechanics, thermodynamics, and heat transfer. It also covers topics such as



internal and external flows, pumps, aerodynamic lift and drag, fin performance, refrigeration and air conditioning and jet engine simulator.

MCE435 Industrial Robots and Control Engineering

Pre-requisites: MCE200, ENGR200, MTH120

The course introduces the students to robotics that relates knowledge and skills in system and control dynamics. The course deals with frequency response analysis, kinematics or robots, differential motion, velocity, root dynamics and feedback control for design of dynamic robotic systems used in industries.

MCE440 Mechanical Vibrations

Pre-requisites: MCE300

This course introduces the techniques in extracting equations of motion for single degree and two degree of freedom systems. Students will learn how to analyze free and forced vibration systems. An introduction to Fourier transforms and Fast Fourier transform is also presented in this course. Students will also learn numerical and experimental methods to analyze dynamics of structures.

MCE450 Manufacturing Engineering

Pre-requisites: ENGR120, MCE210, MCE310

This course mainly helps students to understand the physical and mechanical properties of numerous materials, manufacturing processes, economics, and quality control surrounding various recently developed manufacturing technologies and applications. It also covers fundamentals and challenges to manufacturing processes based on

material properties, and design and customization of the final product.

MCE451 Manufacturing Engineering Laboratory

Pre-requisites: MCE450

This course deals with physical manufacturing of engineering components. It provides the needed knowledge, simulation platform and hands-on skills to manufacturing engineering. It covers topics for mechanical tools, manual metal removal mechanisms, CNC machining and Additive Manufacturing.

MCE455 Computer Numerical Control Machining

Pre-requisites: ENGR120, ENGR220, MCE450

This course introduces students to the fundamentals of CNC programming. In addition to understanding G codes, the course focuses on cutting tools, fixture set up, and manufacturing operations required to machine given materials.

MCE465 Energy and the Environment

Pre-requisites: MCE220

This course examines the concepts of energy conversion and conservation. Basic principles and technical details of various energy technologies (fossil, nuclear, solar, biomass, hydrogen) for a sustainable future. It discusses the different types of energies and technologies in a social context (economic, ethical, and environmental considerations).

MCE470 Maintenance Management

Pre-requisites: MTH230, Senior Standing

This course represents a deep comprehensive study of operations and



activities of maintenance and methods to manage a maintenance department in an industry. It contains an overview of maintenance functions and activities with a study of the different types and problem-solving methods of maintenance issues, including design, analysis, evaluation, and control tools for maintenance management.

MCE472 Fuel Cell Science & Engineering

Pre-requisites: ENGR200, MCE220

This course presents the engineering principles pertaining to fuel cell devices and their design. It covers topics such as fuel cell types and applications, operational parameters, efficiency, and open circuit voltages. The study also includes regulatory requirements for transporting fuel cells, as well codes and standards of operating a fuel cell powered devices.

MCE475 Introduction to Finite Element Analysis

Pre-requisites: MCE210

This is an introductory course that provides an overview of finite element analysis. The finite element method is applied to simple problems of solid mechanics, including one-dimensional trusses and beams, two-dimensional plates and shells, and three-dimensional problems. Also, dynamic (normal mode) finite element analysis is introduced.

MCE480 Mechanics of Composites

Pre-requisites: ENGR120, MCE210

This is an introductory course on basic behavior of composites, properties of matrix and reinforcing materials, mechanics of fiber-reinforced composites,

lamina and laminate analysis, and mechanical performance.

MCE485 Decision Analysis

Pre-requisites: Senior Standing

The course overviews of modeling techniques and methods used in decision analysis, including statistical analysis, and simulation modeling analysis. Model building and analysis for practical applications through real world problems using artificial neural networks are conducted.

MCE490 Senior Design Project I

Pre-requisites: Senior Standing

The senior design course is a two-term sequence in mechanical and/or thermal systems design. During the first semester of Senior Design I, work will focus on building a prototype, and planning alternative strategies for the design in the following semester. By the end of the semester, an initial prototype of the hardware or the software system will be demonstrated. This demo will include drawings, budget, and time schedule for project completion in the second semester.

MCE491 Senior Design Project II

Pre-requisites: MCE490

During the second semester, work will be directed to improvise and build on the lean version of the mechanical and/or thermal systems prototype from Senior Design Project I. A final presentation and report will be made on the project. Periodic project reviews and brief presentations will be completed.

MCE495 Special Topics in Mechanical Engineering



Pre-requisites: Senior Standing

This course covers theoretical and/or practical topics in selected areas of study within the mechanical engineering discipline, beyond what is offered in existing courses to meet the interests of the students and ever-changing needs of the job market.

MTH120 Calculus II

Pre-requisites: MTH110

The course is intended to advance the students' knowledge and skills obtained in Calculus I. It introduces the Fundamental Theorem of Calculus, including applications to area and volume. Conversion of integrals techniques, integration by parts, improper integrals and numerical integration are also presented. It also presents Taylor series and series with one variable.

MTH200 Multivariate Calculus

Pre-requisites: MATH120

This course introduces the calculus of functions of several variables. Topics include parametric equations, vector calculus surface sketching, partial derivatives, gradients, multiple integrals, and using cylindrical and spherical coordinate systems.

MTH210 Differential Equations and Laplace Transforms

Pre-requisites: MTH120

This course is an introduction to the principles and methods for solving first order and higher order linear differential equations. It also includes Laplace transformation and its application to the solution of differential equations.

MTH220 Numerical Methods and Matrices

Pre-requisites: MTH110

This course introduces numerical techniques for the solution of ordinary differential equations. It includes interpolation, curve fitting, numerical differentiation, and integration. Also, it includes an introduction to matrices algebra and the solution of a system of linear equations.

MTH230 Probability and Statistics

Pre-requisites: MTH110

This course is intended to be an engineering statistics course in which fundamentals of probability are introduced with examples of discrete and continuous random variables. Simple linear regression, estimation, hypothesis testing and computer applications like one-way, two-way ANOVA DOE including fractional designs are discussed. A brief introduction to the statistical software MINITAB is given.



Faculty of Information Technology

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Faculty of Information Technology

CGA101 Introduction to Visual Communication

Prerequisites: None

This course describes the role and application of computers in the graphic production processes used to communicate ideas and messages to users of different cultures and abilities. It explores the nature of graphic artwork and how various media types can have different effects on different end-user groups. Discussing issues such as human perception, color theory and typography, this course prepares the student for later courses that build on the theoretical aspects introduced here in order to encourage professional, high-impact graphics, animations and other media.

CGA111 Storyboarding for Film and Animation

Prerequisites: None

To enable students to gain an understanding of the role of pre-production in the creation of time-dependent scenes.

The course will also provide the students with an opportunity to practically realize a storyboard utilizing film language and shot description.

CGA125 Digital Images Editing

Prerequisites: None

This course describes the concept of a bit-mapped image – resolution, bit depth, color channels and photo retouching describing the main uses of this technique. Covering digital image manipulation and editing techniques such as selection and masking specific areas of an image for protection, the

course also looks at the major problem causes of photographic images & their correction. Several advanced manipulation techniques are discussed, and students are given the opportunity to see first-hand examples of image problems and correct these in practical sessions.

CGA107 Introduction to Web Design

Prerequisites: None

This course examines the role of a website in various fields such as advertising, retail, education, news, and media. It introduces the language of websites, HTML, and discusses page layout and style elements and formatting using Cascading Style Sheets (CSS). The incorporation of graphics into web pages (static and animated bitmapped and vector formats as well as video), making interactive web pages, performance issues in web graphics and usability issues in web sites are considered to ensure that students can produce well-founded web pages and websites.

CGA108 Desktop Publishing

Prerequisites: CGA101

This course describes the main issues and technologies related to the use of appropriate graphic images within the context of printed media. It covers the role of printed media in various fields, the components of printed media, page layout considerations for printed media, desktop publishing technology, print media for specific markets, and the print process.

CGA135 2D Vector Graphics

Prerequisites: CGA101

This course explains the concept of vector graphics, 2D vector graphic primitives, vector graphic attributes, operations on vector objects, creating complex objects by



combining simple geometric primitives, and rasterizing vector graphics for display at multiple resolutions.

CGA145 2D Animation

Prerequisites: CGA101

This course explains the concepts of 2D animation – layout and compositing. It also covers cartoon animation, keyframes, tweening and timelines & events within an animation.

CGA155 3D Modeling

Prerequisites: None

This course explains the 3D workspace, wireframe modeling and rendering. It also describes 3D graphic primitives, combining 3D primitives to form solid models, the camera in a 3D scene and simple shading concepts.

CGA205 Typography and Art of Arabic Calligraphy

Prerequisites: CGA135

In this course, students utilize computer means in an advanced manner that explores more complex design problems. Students learn the discipline, function, and tradition of typography as it relates to visual verbal communications topics including historical revolution of typography, communication, legibility, language sequence and information hierarchy. Students will learn the study of problem solving as well as the methodology of design thinking.

CGA215 Digital Video Editing

Prerequisites: CGA101

This course explains the digital video workflow – capture, scene identification, editing and final assembly. It also explains the benefits of digital video over analogue video, digital video formats, non-linear

editing & edit decision lists and digital effects for video (transitions, wipes, fades, subtitles, and text).

CGA225 3D Animation

Prerequisites: CGA155

This course explains the 3D animation process – assembly, position and synchronization. It also covers manipulating the camera position over time, timelines for 3D scenes, simple scripting of 3D objects within a timeline and exporting a final movie as digital video.

CGA235 The Human Form and Character Animation

Prerequisites: CGA155

This course explains the human form – anatomy, skeleton, and muscle structure. It also explains the animation of human joints, forward an inverse kinematics in animation and the motion capture (MoCap) process & applying MoCap data to 3D models.

CGA245 Principles of Texture, Materials and Lighting

Prerequisites: CGA155

This course explains how to create textures from 2D raster and vector images, apply texture maps to 3D models – coloring a scene, create realistic material textures – bump mapping & displacement mapping, apply lighting in a 3D scene and apply shading – Gouraud, Phong, Ray-tracing & Radiosity.

CGA255 Special Effects for Film

Prerequisites: CGA101

This course explains the role and purpose of special effects, visual effects and the digital workflow – pre- and post-production considerations. It also explains the effects for specific applications – motion blur; lens



effects; color and lighting effects. It also covers Overlays and chroma keying – recording action against a blue or green screen for the purpose of superimposing additional footage later.

CGA260 Internship

Prerequisites: 12 core courses

Internship is a core requirement and the Capstone course of the Diploma in Computer Graphics and Animation program. This course is supervised work experience in the field of Computer Graphics and Animation. It offers important benefits to the graduating student, including the opportunity to earn credits while exploring a career in Computer Graphics and Animation and a chance to apply concepts learned in the Diploma Program to real problems faced by firms.

CIT112 Introduction to Computer Programming

Prerequisites: None

This course is the first contact of the students with programming, it starts with the basic theoretical components which allows them to understand what an algorithm is and its major components, structure, and elements. Then students gradually start building flowcharts, algorithms, pseudocode, and coding using C language.

This course introduces students to the concepts, techniques, and procedures for writing simple programs in C. It covers steps for developing a computer program, input/output instructions, constants, variables and data types, operators, selections and iteration control statements, and arrays. In addition, this course introduces the concepts of modular programming through in-built and user-defined functions in C programming.

CIT121 Introduction to Computer Architecture

Prerequisites: None

This course introduces the concept of a computer as a set of hardware, software, and data components integrated through different architecture models. The described hardware components include the processor, the memory, and the input/output interfaces while the software components include the operating system, the utility software, and low to high-level programming languages focusing on the assembly language. The course presents the data representation at the machine level and introduces the concepts of digital logic.

In addition, the students will be given an overview of the evolution of computers and the associated technologies together with a presentation of future technological trends.

CIT122 Introduction to Database Management System

Prerequisite: CIT112

This course presents the basic concepts and principles of the relational database model in addition to the database system architectures. The course also introduces the basic concepts of relational algebra along with suitable examples. The entity-relationship model is detailed with all its components including the entities, attributes, and relationships. Finally, this course introduces the main parts of the Structured Query Language (SQL) such as DDL, DML, and DCL.

CIT123 Computer Programming and Problem Solving

Prerequisite: CIT112

This course is the second course for the student to study computer programming



using C language. It covers static data structures, modular programming techniques, library functions, user-defined functions, header files, structure, preprocessor directives, pointers, files and streams, and dynamic data structures.

CIT230 Internship

Prerequisite: Completion of 81 credits

This is a supervised course that requires a minimum of 240 hours of industry-based training in Information Technology or related fields. It offers several benefits to the students, including the opportunity to earn credits while exploring a career in Information Technology and a chance to apply concepts learned in the academic program to real problems faced by the organizations. The student's performance throughout the internship is continuously monitored by the assigned faculty member in cooperation with the workplace supervisor through periodic meetings.

CIT231 Introduction to Computer Networks

Prerequisite: CIT121

In this course, students are going to be introduced to the basic computer network concepts and elements. Students will be taught the characteristics of network models, topologies, network devices, data transmission, and communication protocols going through more detail about IP addressing. Students will be introduced to network simulation tools to apply their theoretical knowledge to practical aspects. This course will also explore the concept of basic network data security and privacy.

CIT232 Introduction to Operating Systems

Prerequisite: CIT121

This course introduces the core concepts of operating systems and their functions such as memory management, process management and scheduling, handling concurrency and synchronization, file systems, input, and output device management. The course also covers the role of operating systems in the management of the security and privacy of users and network functions.

CIT233 Software Development Process

Prerequisite: CIT112

This course presents an introduction to the models, processes, and techniques used in developing software systems. It covers the whole lifecycle of software systems from the project proposal and the requirements analysis until the release and maintenance. The students are introduced to the techniques commonly used in fact-finding, requirements analysis, software design, verification and validation, and software maintenance.

CIT234 Discrete Mathematics

Prerequisite: MTH 105

This course enables students to strengthen and increase their understanding of discrete mathematics with special emphasis on computer science applications. Binomial Coefficients, Combinations, Permutations, Combinatorial Proofs, Stars, and Bars will be covered in this course. Also concepts of Arithmetic, Geometric Sequences, Polynomial Fitting, Solving Recurrence Relations, and Induction. Propositional Logic, Proofs, and Graph Theory will be used to solve real-world problems.

CIT240 Cloud Computing

Prerequisite: CIT231



This course covers the basic understanding of the characteristics and hardware requirements of cloud computing, cloud deployment and service models. This course will also cover cloud infrastructure connectivity and troubleshooting techniques. Furthermore, the basic core requirements of cloud storage and security concerns in cloud computing will be discussed.

CIT241 Network Security

Prerequisite: CIT231

This course introduces the principles of network security in terms of protecting networks from different types of malicious and social engineering attacks by using different methods such as authentication, authorization, and encryption. The course discusses the security of servers, wired and wireless devices, data transmission, and responding to and mitigating the different kinds of threats.

CIT242 System Analysis and Design

Prerequisite: CIT233

The Systems Analysis and Design course introduces the principles and design techniques of object-oriented development approaches. It focuses on the UML modeling language and its different diagrams. In addition, the course presents different validation techniques allowing the software designer to check the quality of its models and the satisfaction of the requirements as defined in the system specification.

CIT243 Network Administration

Prerequisite: CIT231

This course introduces concepts and technologies behind domain-based enterprise networks. The course covers installation, configuration and

administration of enterprise network operating systems and protocols, and services such as active directory, group policies, data storage, backup and disaster recovery to the level required to effectively administer secured domain-based enterprise networks.

CIT244 Database Programming

Prerequisite: CIT122

This course presents mapping rules to convert conceptual and logical designs to physical designs. It also introduces the principles of normalization and denormalization taking into consideration various techniques which are applied to the different normal forms. The course also addresses the concepts of the PL/SQL procedural language including functions, procedures, cursors, packages, and triggers. In addition, this course discusses database problems and potential solutions and how to improve database performance, productivity, and portability through different integration patterns with DBMSs and programming languages in accordance with software application requirements.

CIT246 Network Protocols

Prerequisite: CIT231

This applied course introduces students to the concepts, terminology, protocols, and services that the Transmission Control Protocol/Internet Protocol (TCP/IP) suite uses to make the Internet work. This course also stimulates hands-on skills development by not only describing TCP/IP capabilities but also by encouraging students to interact with protocols. It provides the troubleshooting knowledge and tools that network administrators and analysts need to keep their systems running smoothly. Moreover, this course will cover topics



ranging from characterization to error detection, security analysis, and more.

CIT352 Distributed Information Management

Prerequisite: CIT231, CIT232

Global organizations are inherently distributed. The information systems infrastructure builds on computer networks to achieve and facilitate distribution. This course investigates architecture, processes, communication, consistency, and fault tolerance. This includes distributed IT infrastructure, standards, operating systems, network naming, and communication for end users in distributed systems.

CIT353 Web Development

Prerequisite: CIT123

This course introduces web design and web programming techniques. It focuses on HTML, CSS styling, JavaScript, and dynamic web content using various interactive web technologies. In addition, this course explains ASP.NET Core for building modern cloud-based web applications. Necessary practical skills for developing dynamic web applications are achieved in this course.

CIT354 Object-Oriented Programming

Prerequisite: CIT123

This course introduces the fundamental concepts of object-oriented programming using Java language. This course covers object-oriented principles such as class, object, encapsulation, overloading methods, static methods, inheritances, and polymorphism, overriding methods, abstract classes, and interfaces. This course also teaches good practices of GUI design during the design and implementation of projects based on the OOP approach.

CIT362 Information Security Management

Prerequisite: CIT241

This course focuses on the managerial aspects of information security and assurance. Topics covered include access control models, information security governance, and information security program assessment and metrics. Coverage on the foundational and technical components of information security is included to reinforce key concepts. The course includes up-to-date information on changes in the field, such as national and international laws and international standards like the ISO 27000 series.

CIT364 C# Programming in the .NET Framework

Prerequisite: CIT354

This course introduces .Net framework and .NET Core using C#, with the aim to develop Graphical User Interface (GUI). It covers the syntax and good coding practices in C# to write code behind the interfaces of the applications.

This course enables the students to implement object-oriented techniques to develop C# applications using I/O files and streams, and databases. Database connectivity, datasets and data binding, data storage and retrieval in data files and databases, and handling of exceptions related to files and databases are also covered in this course.

CIT365 Advanced Database Design

Prerequisite: CIT244

This course covers the development of database systems with a focus on the design and implementation of different data warehouse architectures. The whole design process is detailed, from the requirements



and the conceptual level to the logical and the physical levels. The course covers different adjacent topics such as big data, database administration and web services.

CIT471 Fundamentals of Data Mining

Prerequisite: Completion of 99 credits and CIT365

This course introduces the principles of data mining to the students. The students will learn preprocessing of data (data cleaning, data reduction etc.) before applying data mining techniques.

Some of the data mining techniques covered in this course are classification, association analysis, and clustering. Students will learn about the social and ethical aspects of data mining.

CIT472 User Interface Design

Prerequisite: CIT364, CIT233

This course covers issues of user interface design as part of the software development process together with cognition theory and its relevance to user interface design. The course will also cover usability requirements specification and evaluation of user interface design.

The course develops an understanding of user interface design as a multi-disciplinary subject. This course develops an understanding of the needs and abilities of users and their impacts on designing the user interfaces. This course also covers various phases of user interface design such as data gathering, data analysis, designing, prototyping, construction, and evaluation.

CIT474 Internet of Things

Prerequisite: Completion of 99 credits

The course provides an introduction to Internet-of-Things architecture, applications

and emergent technologies. Moreover, the student will learn the foundations of the IoT world such as Connectivity, Interoperability, Discoverability, and Security/Privacy technologies. Various IoT technologies related to smart cities and the industry 4.0 application domains will be discussed.

CIT475 Wireless Networks

Prerequisite: CIT231

In this course, students are going to be introduced to wireless communication and wireless data transmission. Students will be taught about the radio frequency and new technologies that is being used in wireless networks, such as 4G (LTE) and 5G. Students will also be taught Wireless PAN, MAN and WAN. Students will be introduced to network simulation tools to apply their theoretical knowledge to practical aspects.

CIT476 Computer Forensics

Prerequisite: Completion of 99 credits

In this course, students will learn the fundamental concepts and techniques for digital forensics investigation and the spectrum of available computer forensics tools. The course introduces legal and technical guidelines for processing cybercrime scenes, techniques for cybercrime investigation, procedure to conduct forensic investigation, hardware and software for data acquisition, and forensic tools for online investigation.

CIT478 Mobile Applications Development

Prerequisite: Completion of 99 credits

This course introduces specific knowledge related to designing and developing mobile applications and websites. This course introduces design issues, tools, techniques and methods for mobile application development, testing, publishing,



deployment, and maintenance. This course also covers security and privacy issues in the development of mobile applications.

CIT479 Artificial Intelligence

Prerequisite: Completion of 99 credits

This course introduces the theory and practice of artificial intelligence. It introduces the student to Artificial Intelligence and application domains. Also, this course introduces Machine Learning, Classification, Predictive Analytics, Detecting Patterns, Logic Programming, Genetic Algorithms, Neural Networks, Natural Language Processing, Image Recognition, and Intelligent Agents. In addition to theoretical concepts of AI, this course discusses the advanced tools for designing intelligent applications.

CIT480 Advanced Data Science

Prerequisite: Completion of 99 credits

This course introduces students to exploratory data analytics, visualization, and machine learning techniques. This course also covers the concepts of big data and its application in the real world. Finally, students will be taught to consider the ethical aspects of data while doing the analysis of data.

CIT481 Contemporary Issues in IT

Prerequisite: Completion of 99 credits

This course introduces the student to theoretical and technological aspects of a variety of trending IT Topics such as professional, social, ethical, privacy, security and reliability concerns, cloud computing, mobile computing, ambient computing, autonomous systems, DevOps, and blockchain. covering both. The emerging technologies and methodologies are presented along with an introduction to

digital transformation and how to succeed in integrating emerging information technologies in the business environment.

CIT482 Selected Topics in IT

Prerequisite: Completion of 99 credits

Selected Topics in IT is a course that explores specialized or advanced topics in the field of information technology. The syllabus for the course will vary depending on the selected approved topic. The possible topic that could be selected in this course is Virtual Reality, Cloud Computing, Cybersecurity, Game Programming, etc.

CIT483 Internship

Prerequisite: Completion of 81 credits

This is a supervised course that requires a minimum of 480 hours of industry-based training in Information Technology or related fields. It offers several benefits to the students, including the opportunity to earn credits while exploring a career in Information Technology and a chance to apply concepts learned in the academic program to real problems faced by the organizations. The student's performance throughout the internship is continuously monitored by the assigned faculty member in cooperation with the workplace supervisor through periodic meetings.

CIT484 Senior Graduation Project I

Prerequisite: Completion of 99 credits

This course provides an opportunity for students to choose an area of interest, conduct in-depth research and demonstrate problem-solving, decision-making, and independent learning skills. Students will apply research skills, various methodologies, techniques, and concepts introduced in previous courses to prepare project proposals. In this course, the student selects



a topic, gathers information, and writes a problem statement. The student conducts relevant literature reviews. The problem will be analyzed using appropriate methodologies for analysis. The student is expected to present the initial design and development and submit the project report.

CIT482 Senior Graduation Project II

Prerequisite: CIT484

The students' graduation project is finalized during this supervised course that is offered after the successful completion of CIT484 Senior Graduation Project 1 (SGP1). The student is expected to start from the design phase documentation that he produced in SGP1 and carry out the remaining steps specifically detailed design, implementation, validation, and documentation. The work will be organized according to the software development methodology selected in Senior Graduation Project I.



Faculty of Medical and Health Sciences

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Faculty of Medical and Health Sciences

BMS 110 Medical Terminology

Prerequisites: None

This course introduces prefixes, suffixes, and word roots used in the language of medicine. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to define medical terms and abbreviation related to selected body systems and their pathological disorders.

BMS 121 Human Anatomy

Prerequisites: BMS 110

This course is designed to give the student a sound background in structure of the human body as a whole. Anatomy is the most fundamental of all medical sciences. It provides the basic framework of terminology and vocabulary used in all descriptions and communications about the body. The course will describe the structure, composition and functions of the organ systems of the human body and how the organ systems function and interrelate. The course will also describe how humans adapt through their anatomical design.

BMS 122 Human Physiology

Prerequisites: BMS 110

This course is designed to provide the students with the knowledge of the functions and mechanisms of various parts

and organs of the human body. In addition, the course introduces the students to the integrity of the body systems as a whole in order to recognize the physiological changes that occur within the human body and how the body systems work. Students cover the topics of body mechanism, basic chemistry, function of the human body such as, cells and tissues, skin and body membranes, skeletal system, muscular system, nervous system with special senses, and the function of endocrine system, circulatory system with blood, body defenses, respiratory system, digestive system including body metabolism, urinary system and a unit on human body reproduction.

BMS 123 Introduction to Microbiology

Prerequisites: None

This course is designed to provide an extensive overview of the microbial structure, functioning, and diversity of microorganisms, growth and pathogenesis and immunology are presented with important bacterial, viral, parasitic and mycotic infections discussed from the standpoint of aetiology, epidemiology, and pathogenesis and laboratory diagnosis. The Topics include microbial cell structure and function, metabolism, microbial genetics, and the role of microorganisms in disease, the environment and other selected areas.

BMS 410 Pathology

Prerequisites: BMS 121, BMS 122

The goal of this course is to develop an understanding of the causes and mechanisms of human diseases and



associated alterations of structure and function of tissues. This involves first, the general pathology during which cell injury, adaptation, cell death, repair, inflammation, and neoplasia are introduced. Then, diseases and tumors of general interest affecting different body systems such as immune system, digestive, respiratory and cardiovascular system are studied.

BMS 411 General Pharmacology and Toxicology

Prerequisites: None

This course is designed as an introduction to pharmacology and toxicology deals with pharmacodynamics, pharmacokinetics, clinical/therapeutic uses and toxicology of drugs, Pharmacology is broadly defined as the effect of drugs and chemicals on living organisms. It gives specific information concerning cardiopulmonary, vascular, central and peripheral nervous system, and antimicrobial drug classifications as well as common examples in each category. With each classification of drugs covered, their mode of action, their clinical effects and side effects will be emphasized.

BSC 110 Introduction to Science

Prerequisites: None

The aim of the preparatory basic science course is to provide the students with the fundamentals of Biology, Chemistry and Physics. Topics to be covered will include the functioning of living organisms, organization of the human body, how cells work, and chemical properties of living things, concepts of matter, sound, light and

principles of electricity. Throughout the course you will be able to develop your awareness and abilities in such areas as global awareness, communication, critical thinking, teamwork, information technology and vocational competencies

BSC 120 Physics for Health Sciences

Prerequisites: None

This course is designed to introduce the physics of units of forces, energy changes in the body, heat loss from the body, and breathing mechanism. It helps the students acquire knowledge about electric signals of the body, general properties of sound in the body as a drum (percussion in medicine) and vision defects and corrections. Moreover,

This course introduces light, vision, sound and atomic excitation.

BSC 121 Chemistry for Health Sciences

Prerequisites: None

This course will introduce basic theoretical principles of modern chemistry, integrated with descriptive and practical aspects. Topics discussed include stoichiometry, atomic theory and the structure of matter, the Periodic Table, chemical bonding, kinetic-molecular theory and the states of matter; gas laws, solutions, oxidation-reduction, acid-base systems, and thermochemistry. Emphasis is on both qualitative and quantitative aspects of chemistry. Laboratory sessions are designed to complement and supplement theoretical concepts presented in lectures



and to develop skills in laboratory technique, observation and data analysis.

BSC 122 Biology for Health Sciences

Prerequisites: None

This course will introduce students to basic aspects of human biology. It commences with a general introduction to life, its chemical and biological basis, and the meaning of its unity and diversity. Cells, as the building blocks of living matter, will be discussed at length in terms of their structure, function, classification, physiology, genetics, and reproduction. Moving up the biological hierarchy, tissues constituting the human body will be discussed at length. Higher levels of organization like organs and organ systems will also be addressed in some detail.

BSC 220 Biostatistics

Prerequisites: MTH105 Epidemiology and biostatistics are two of the foundations of public health science and practice. This is an intensive introductory course in statistical methods used in applied clinical research for students planning on majoring in health sciences.

This course provides students with an overview of the principles of using and evaluating statistics and research methods. Statistical design and analysis contribute to, and inform, many areas of clinical and health related research such as data description, study design, screening, estimation hypothesis testing, categorical data analysis, and regression.

BSC 321 Public health and epidemiology

Prerequisites: BSC220

This course will provide an overview of the U.A.E Public Health Care Information, concepts, issues, organizations, policies, strategies, and challenges of public and population health approaches. The course will introduce students to the key concepts related to the population and Public Health including occupational and environmental health, emerging threats, rapid responses, ethical and human rights concerns in global Healthcare, healthcare services and systems, maternal-child health, global and indigenous health, social and life course determinants of health, and epidemiology and biostatistics, these will be delivered as prerequisites courses. The issues of public healthcare and the daily applications in the health care settings in the UAE and compare to other countries will be covered.

ECM 210 Introduction to Paramedicine

Prerequisites: BMS 122

This course is to introduce the student to the psychological and physical demands of emergency medical provider. It introduces information in preparation for the student's progress throughout the entire paramedic program. Beginning with a basic introduction to the profession and roles and responsibilities, the foundation of knowledge for the emergency medical care systems. Legal and ethical issues related to the patients and duty of EMS, workforce safety and wellness will be covered.

ECM 211 Patient Assessment

Prerequisites: BMS 122



This course introduces student to the patient assessment undertaken by paramedic. The course provides necessary knowledge and skills for patient assessment and re-assessment including scene size-up, primary, and secondary assessment as overview for a trauma and medical patient.

ECM 220 Airway & Respiratory Emergencies

Prerequisites: ECM 210 + ECM 211

This course is designed to provide the students with the essential knowledge to evaluate and deal with airway and respiratory emergency medical cases including pathophysiological interpretation and assessment. These are emergencies of the upper and lower airway that compromise the respiratory system.

ECM 221 Trauma I

Prerequisites: ECM 210 + ECM 211

This course introduces the Paramedic Student to Trauma and Trauma Systems. It prepares students to Perform Comprehensive Patient Assessment with various Injury Patterns, recognizing various mechanisms of injuries like Blunt Trauma, Penetrating Trauma, and managing Bleeding with External and Internal Haemorrhage, Soft Tissue injuries & Burns, orthopedic injuries and Environmental Injuries.

ECM 310 Trauma II

Prerequisites: ECM 221

This course is designed to provide more focus on practical trauma instruction. It

covers blunt trauma, penetrating trauma, haemorrhage and shock, soft tissue trauma, burn conditions, musculoskeletal trauma and gaining access and extrication. It also covers the initial aspect of student's traumatic skills related to the above topics.

ECM 311 Cardiovascular I

Prerequisites: ECM 220

This course focuses on the cardiovascular anatomy and physiology, conducting system of the heart, electrocardiography, as well as interpretation and the treatment of cardiac arrhythmias, interpretation of 3 and 12 lead EKGs (including injury and ischemia patterns, normal and abnormal findings, and the 12 lead as a diagnostic tool) will be covered. Principles of ACS diagnosis/management will be laboratory focus of this course.

ECM 312 Medical Emergencies

Prerequisites: ECM 220

This course covers medical evaluation and treatment of medical emergencies including pathophysiological interpretation and assessment of pulmonary, neurology, endocrinology, gastroenterology, urology and nephrology, toxicology and substance abuse, Haematology and behavioral disorders. It covers the initial aspect of patient assessment and medical skills related to all above topics.

ECM 313 Paramedic Clinical Practice I

Prerequisites: Level 1-4 Major courses

This course prepares student for paramedic clinical practice that consist of specific



number of distributed rotations on the ambulances to perform hands on skills at a basic and intermediate level such as patient assessment, physical examination, vital signs, and others in the triage section, and performing intermediate skills like intravenous insertion and medication administration.

ECM 320 Obstetrics and Pediatric Emergencies

Prerequisites: ECM 312

This course covers medical evaluation and treatment of gynecological, obstetrics, and pediatric patients. Initial patient assessment and medical skills related to all above topics.

ECM 321 EMC Operations I

Prerequisites: ECM 310

This course prepares the paramedic student to take part in the management of emergency incidents in pre-hospital environment such as vehicle accidents, other major incidents related to injury triangle (driver, road, vehicle) It covers materials related to ambulance operations, medical incident management, vehicle extrication and special rescue awareness & operations, hazardous materials incidents, disasters, crime scene awareness, rural ems, and responding to terrorist acts. Major topics covered.

ECM 410 Special Patient Populations

Prerequisites: ECM 320

This course covers advanced patient assessment techniques in special patient

populations. Topics include initial assessment, medical trauma history, field impression, complete physical exam process, on-going assessment, and documentation skills. It also includes scenarios and problem-based assessment management.

ECM 411 Cardiovascular II

Prerequisites: ECM 311

This course focuses on advanced cardiology, identification of life threatening and non-life-threatening cardiac emergencies. It includes how to analyze standard 3-lead (revision) and 12-lead Electrocardiogram (EKG) information and determine a plan of action. Management of cardiopulmonary arrest and other cardiovascular emergencies using the American Heart Association standards will be covered.

ECM 420 EMC Operations II

Prerequisites: ECM 321

This course prepares the paramedic student to theoretical and practical foundations that are necessary for pre-planning and management of mass gathering events with a special focus on, sports and other mass gathering events. This will also cover management of incidents involving multiple casualties with multiple agencies like police, fire, hazmat, and NDRF. Topics include foundations of disaster planning, incident command system, weapons of mass destruction, response issues, and hazardous materials incidents.

ECM 421 Trauma III



Prerequisites: ECM 310

This course introduces the paramedic student to advanced level of trauma and trauma systems to perform comprehensive patient assessment with various injury patterns, recognizing and managing face and neck injuries, head and spine injuries, chest injuries, abdominal and genitourinary trauma and managing and resuscitating patient with critical care injuries.

ECM 422 Paramedic Clinical Practice II

Prerequisites: Level 1-7 Major courses

This course prepares the student for paramedic clinical practice that consist of specific number of distributed rotations inside the hospital settings in ERS, ICU, SICU, RICU, PICU, NICU, CCU to perform hands on skills at a basic level such as patient assessment, physical examination, vital signs, and others in the triage section, and performing advanced skills like intravenous insertion, medication administration and advance management of cardiopulmonary emergencies and special consideration situations including paediatrics' and geriatrics, and procedures taught thus far in the program.

ECM 510 Graduation Project

Prerequisites: ECM 312

This course provides students with the opportunity to apply research skills and carry out a research project related to the major program under the supervision of a faculty member. Students will be required to conduct literature review and perform

data collection, statistical analysis, writing up of the research paper. Students participating in research must complete CITI program (<https://about.citiprogram.org/en/homepage/>) for research ethics and compliance training prior to submitting research proposals.

ECM 511 Specialized Emergency Care

Prerequisites: ECM 421

This course introduces the student to the concepts of involvement in specialized scenarios and situations such as military field medicine including environmental emergencies, aviation medicine, and diving medicine. This course will cover paediatric advanced life support (PALS). It also covers the initial aspect of patient assessment and medical skills related to all above topics.

ECM 512 Paramedic Clinical Practice III

Prerequisites: Level 1-8 Major courses

This course prepares students for paramedic clinical practice that consist of ambulance rotations out of hospital settings in pre-hospital care settings to perform hands on skills at a basic level such as patient lifting and moving, patient assessment, physical examination, vital signs, and performing advanced skills like intravenous insertion, medication administration and advance management of cardiopulmonary emergencies and special considerations situation including paediatrics' and geriatrics, procedures taught thus far in the program.

ECM 520 Paramedic Clinical Practice IV



Prerequisites: Level 1-9 Courses

This course prepares student to advanced paramedic clinical practice that consists of clinical/field rotation of 16 weeks period. It is an essential component of the EMCM program, which will serve as a summative or 'capstone' evaluation of their achievement of the objectives and goals of the program. This paramedic clinical/field internship rotations are intended to offer internship paramedics both a positive learning opportunity and real-life experiences, in assessing, treating and managing real patients while being guided by experienced and competent emergency health care professionals. The purpose of this rotation is to allow advanced paramedic to act as the 'in charge' medic. They are expected to be able to 'run' the call at the same level of competence as an entry-level paramedic. In addition to the appropriate interaction, assessment and management of all patients, the student should focus on the overall integration of everything they have learned as well as 'scene management'. During this advanced clinical practice rotation, paramedic students should participate in all basic and advanced EMS procedures related to patient assessment and management, ACLS interventions, use of mechanical ventilators, perform neuro-vitals and use advanced monitoring devices. Students must be exposed to patients of different ages and with various pathologies. Ideally, they should be responding and receiving satisfactory ratings.

HCM 120 Principles of Health Management

Prerequisites: None

This course is designed to introduce students to key concepts related to the principle of health management, including concepts, issues, organizations, policies, strategies of health management approaches. The provided knowledge will deal with discipline matters of management principles applied to health services offering students an exploration of an overview of health management, strategic management, decision-making, assessment of information need, human resource management, leadership, team building, health management conflict, time management, operational health planning, program monitoring and evaluation.

HCM 211 Healthcare Services Management

Prerequisites: HCM 120

Demand for health services continues to be strong internationally across public, private, and not-for-profit sectors.

This course is designed to support students who wish to move into managerial positions within the health services industry, complementing previous professional/academic qualifications or building upon workplace experience. It combines insights into both public and private healthcare services with contemporary management theory.

This course is designed to develop students' skills in both strategic and operational issues pertaining to healthcare services. Students will study the importance of blending technology, people, marketing,



and information to achieve distinctive competitive outcomes and high standards of healthcare quality. Concepts taught include service management, service quality, customer satisfaction, and developing service/quality solutions for healthcare providers.

HCM 212 Health Care Delivery Systems

Prerequisites: None

This course is designed to optimize students' views regarding the health care system and how it is delivered. It demonstrates an overview of the health care delivery system and how performance assessments and how process improvements could be managed. It provides an overview of the health care systems and its components in the United Arab Emirates with emphasis on the types of providers and the role that accrediting, and licensing bodies play in the delivery of health care. The course focuses on the unique characteristics of health care delivery and discusses the key issues and challenges that impact the cost, quality, and access to health care. Emphasis is placed on understanding the historical context; how the UAE health care system developed; and the significant policies that regulate health care organizations, providers, payers, and populations.

HCM 221 Health Care Delivery Systems

Prerequisites: None

This course is designed to optimize students' views regarding the health care system and how it is delivered. It demonstrates an overview of the health

care delivery system and how performance assessments and how process improvements could be managed. It provides an overview of the health care systems and its components in the United Arab Emirates with emphasis on the types of providers and the role that accrediting, and licensing bodies play in the delivery of health care. The course focuses on the unique characteristics of health care delivery and discusses the major issues and challenges that impact the cost, quality, and access to health care. Emphasis is placed on understanding the historical context; how the UAE health care system developed; and the significant policies that regulate health care organizations, providers, payers, and populations.

HCM 224 Legal Aspects and Ethics in Health Management

Prerequisites: HCM120

This course is designed to provide students with an introduction to health law and ethics. It starts with ethical theories, principles, and tools that are important when making ethical decisions. Then explores privacy and confidentiality within the context of the many uses of health information, and covers ethical dilemmas faced in the process of protected health information, clinical coding, pricing, access, and quality management. It addresses the importance of patient safety and organizational values, research, and decision support for data acquisition, access, and reporting. The course will include a discussion of the UAE system of laws and regulations of healthcare providers; legal and ethical issues in



providing health care services to patients; legal and ethical issues in organizing, managing, and regulating the delivery of health care services; and legal issues in health insurance programs.

HCM 225 Hospital Administration

Prerequisites: HCM120

As rapid Scientific, technological, and medical advances in recent years have completely transformed the health care sector. Hospitals have become a dynamic industry. Professionals who are responsible for planning and designing hospitals and those who subsequently manage, maintain, and operate them efficiently find the task of managing change quite challenging.

This course is a broad subject that will let students understand the basics as well as the complexities of managing a hospital well. It has lots of ideas for the architect, who conceives of a viable plan for the hospital. It addresses the various issues which must be kept in mind by consultants, planners, and administrators who subsequently run the hospital.

This course will cover most, Planning and Designing a hospital: The Correct Way, Planning and Designing Medical and Ancillary Services, Planning and Designing Nursing Services, Supportive Services, Facilities Planning for Managing SARS, CATH Lab, Hospital Information System, and Telemedicine.

HCM 241 DHM Internship/Field Training

Prerequisites: All major courses

The Health Care Management (HCM) Internship Program is designed to further develop the knowledge, skills and abilities of future HCM professional leaders who involved in the health care management programs in accordance with policies, laws, science, technology of the UAE government rules and regulations. The internship program introduces to the student the transition from college to work and a well-structured internship program should help facilitate that transition. Experiential learning is an indispensable and valuable element for all students. This internship course enables the student to gain practical experience as a professional under conditions conducive to educational development. Furthermore, the internship experience should allow the student to use their skills, allow an opportunity for personal development, and most importantly it should be an enjoyable experience. Under the guidance of the assigned supervisor, from faculty staff, the intern has the opportunity to gain substantive work experience, work with leadership at all levels and advance his/her HCM career. Upon completion of the program, graduates will have broad knowledge and skills in healthcare services. The choice of the workplace for internship is subject to the approval of LCT.

HCM 311 Health Promotions and Disease Prevention

Prerequisites: BMS410

This course provides an introduction to the fundamentals of disease processes, disease states, and principles of disease prevention and health promotion. This course helps



public health students in the biological and behavioral sciences better understand the practical applications of theoretical approaches to health issues. Topics include the definition, symptoms, etiology, treatment, and prognosis of each disease process. The course will also cover a broad understanding of the major human diseases underlying morbidity and mortality in UAE and other Arabic Countries. They will be designed to support or teach concept.

This course is designed to meet the needs of students in a variety of health-related programs. Therefore, the course content is organized to encourage promotion of a healthy lifestyle, prevention of disease and understanding the causes and management of acute and chronic illness.

HCM 312 Medical Insurance Systems

Prerequisites: HIM410

The course will provide an overview of the basic functions of processing medical insurance claims. The course will cover information about major insurance programs and federal healthcare legislation in the UAE. The computer-based training program will be provided to guide students through the insurance claim form cycle and will focus on the areas in which medical office assistants encounter. The funding of long-term healthcare, the role of private insurance and annuities are also subjects of interest in the UAE and will be comparing to other countries.

HCM 320 Management Processes in Health Service Organizations

Prerequisites: HCM120

This course is providing students with the tools to significantly improve health care organizational operations and processes as well as enhance quality and customer satisfaction by ensuring that services are tightly synchronized with patterns of patient demand. This course will cover the application of the concepts and methods of operation management to the health care organizational setting with an emphasis on planning and control in the management process. Students are taught to identify common bottlenecks and constraints and focus on the critical issues and processes faced by managers in the health care field.

HCM 322 Healthcare Economics

Prerequisites: ECO203

This course provides an understanding of the principles of health economics. It includes theory and empirical analysis to study how socioeconomic status, public policy actions, and individual decisions influence health outcomes. The course also covers the roles of insurance, managed care, marketing of pharmaceutical services, pharmacoeconomics and outcomes research and personnel management. The functions and outcomes in the United Arab Emirate health care system will be studied in detail and compared with those in other nations. Moreover, UAE government financing of healthcare and health care reform and regulations issues will be discussed.

HCM 323 Quality Management in Healthcare



Prerequisites: HCM120

This course stresses the importance of continuous improvement of healthcare to avoid medical errors with their associated dilemmas. Introduces the principles of healthcare quality management and its significant role in applying evidence-based healthcare practices. It provides the students with essential tools and skills to monitoring, managing, measuring, and improving the performance of healthcare organizations and professionals. Meeting patient's needs and expectations and adopting effective functions and processes that increase the probability of achieving the desired healthcare outcomes and create patient safety culture in healthcare entities. It stresses the importance of "Lean Healthcare" and the Total Quality Management" to manage healthcare variations and ensure high standard of healthcare quality and many other processes derived from them such as "error proofing, Six Sigma, Visual Management, Standardization, 5S, and Kanban.

HCM 325 First Aid and Safety

Prerequisites: BMS 110

This course is designed to introduce the theoretical and practice, the basis for understanding proper safety and health practices regarding First Aid. The learner will demonstrate knowledge of first aid procedures and how to apply them to real-world scenarios. The students will learn their legal responsibilities as a first aid provider, how to identify different types of medical emergencies and the proper steps to take, and how to react in specific

environmental conditions like extreme heat and cold. Accidents and injuries occur in most facilities on almost a daily basis. They involve everything from minor cuts and scrapes to broken bones, chemical burns, and other serious injuries.

HCM 326 Healthcare Economics

Prerequisites: BUS 201

This course provides an understanding of the principles of health economics. It includes theory and empirical analysis to study how socioeconomic status, public policy actions, and individual decisions influence healthcare outcomes. The course also covers the roles of insurance, managed care, marketing of pharmaceutical services, pharmaco-economics and outcomes research and personnel management. The functions and outcomes in the United Arab Emirate health care system will be studied in detail and compared with those in other nations. Moreover, UAE government financing of healthcare and health care reform and regulations issues will be discussed.

HCM 412 Health Policy

Prerequisites: HCM 120

This course provides a framework for developing and analyzing a range of health policy issues. The course begins by introducing an approach for rationally analyzing any public health policy issues. The course also has relevant topics on; other models of the policy process and analyzing historical, political, ethical, and legal ramifications, assessing the need and demand, examining economic and financial



considerations, assessing existing programs and policies.

HCM 413 Strategic Healthcare Planning

Prerequisites: HCM 120

This course is designed to provide students with the factual materials and conceptual tools needed to critically evaluate the processes of the development of health services focusing attention on the social, demographic, economic and political factors that are relevant to strategic healthcare planning and delivering health care (drawing on information from other countries where appropriate). Students are encouraged, throughout the course, to focus their attention on the politics of resource allocation, health planning, health care costs and their containment strategies, health care quality assurance, disaster plans, and the economics of health care.

HCM 414 Information Governance for Health professionals,

Prerequisites: HCM 222

Information governance in healthcare is a linchpin for patient care, data integrity, and regulatory compliance. It's all about managing sensitive data effectively with robust systems, strategic alignment, stringent security measures and comprehensive policies to ensure the best outcomes, Information governance serves the dual purpose of optimizing the ability to extract clinical and business value from healthcare information, Ensuring that there is top level awareness and support for IG resourcing and implementation of improvements. Promoting the usage of

appropriate IG policies. Co-ordinating the activities of staff given IG responsibilities and progress initiatives; Data Security and Protection.

HCM 420 Graduation Project

Prerequisites: All major courses

This course will enable students to investigate an area of interest under the supervision of one of the faculty appointed to this project.

This course requires a student to prepare a finding report and present a seminar on his findings.

This course will be evaluated basic on project design, health care management literature, statistics skills, appropriateness of study design, and quality of the data, statistical test selection and application. The Project should provide the student with an opportunity for an in-depth study of a topic related to Health care Management in the UAE.

HCM 421 Internship in Health Care Management

Prerequisites: All major courses.

The Health Care Management (HCM) Internship Program is designed to further develop the knowledge, skills and abilities of future HCM professional leaders who involved in the health care management programs in accordance with policies, laws, science, technology of the UAE government rules and regulations. The internship program introduces to the student the transition from college to work and a well-structured internship program should help



facilitate that transition. Experiential learning is an indispensable and valuable element for all students. This internship course enables the student to gain practical experience as a professional under conditions conducive to educational development. Furthermore, the internship experience should allow the student to use their skills, allow an opportunity for personal development, and most importantly it should be an enjoyable experience. Under the guidance of the assigned supervisor, from faculty staff, the intern has the opportunity to gain substantive work experience, work with leadership at all levels and advance his/her HCM career. Upon completion of the program, graduates will have broad knowledge and skills in healthcare services. The choice of the workplace for internship is subject to the approval of LCT.

HIM 210 Introduction to Health information management

Prerequisites: CIT100

Introduction to Health information management applied to health and health care. It is the practice of analyzing and protecting digital and History and development of information management Modern development · Electronic health records, Health information systems help gather, compile, and analyze health data to help manage population health and reduce healthcare costs. Then healthcare data analysis can improve patient care. Collaborative care: Patients often need to treatments from different healthcare providers.

HIM 310 Management of Health information system

Prerequisites: CIT 122

Data collection system specifically designed to support planning, management, and decision making in health facilities and organizations. A health management information system (HMIS) collects, stores, analyses, and evaluates health-related data from health facility to district, regional and national administrative levels. It provides analytical reports and visualisations that facilitate decision making at all these levels. HMIS are also referred to as routine health information systems. A HMIS derives much of its information from patient-provider interactions in health facilities. Hospitals, health centres, and community outreach services provide health care across preventive, promotive, medical and surgical, rehabilitation, and palliative care interventions.

HIM 311 Health information systems analysis and design

Prerequisites: HIM 210

Information systems analysis and design is a method used by companies ranging from IBM to PepsiCo to Sony to create and maintain information systems that perform basic business functions such as keeping track of customer names and addresses, processing orders, and paying employees. Systems analysis includes: initial investigation; systems survey; feasibility study; determination of information needs and system requirements; and delivery of systems.



HIM 320 Medical Coding I

Prerequisites: BMS 410

This course introduces students to various methods and systems for classifying patients, emphasizing the International Classification of Disease (ICD-10-CM) coding system and the Current Procedural Terminology classification systems. Topics covered include the guidelines and terminology for correctly coding diagnoses in a physician's office, hospital, or other healthcare facility as well as the assigning and sequencing of diagnostic and procedural codes. Emphasis will be on the recent change from ICD-9-CM to ICD-10-CM and the implications of this change. The study includes the conventions, principles, and guidelines for abstracting coding of diagnoses and procedures for hospital inpatient and outpatient medical records. Actual patient records from the program's patient record library are used in a supervised lab setting. An automated encoder and DRG grouper software program is demonstrated.

HIM 321 Health Data Concepts

Prerequisites: HSC 210

This course is an introduction to the origin, uses, content, and format of healthcare data, including both paper and electronic health records. Topics covered include health care standards and methods of assuring that standards are met; the content and purpose of the health record, numbering, filing, and indexing systems; and health care database management.

There will also be a discussion of data quality and security.

HIM 322 Health Care Information Security and Privacy

Prerequisites: CIT 122

Healthcare organizations are similar to every other industry that must collect and use sensitive information to produce a good or perform a service. As such, healthcare organizations generally must adhere to information protection practices. What increases the importance of risk management in healthcare is the merging of a traditionally robust effort to protect patient privacy and the digitization of health information. Digitization brings cybersecurity requirements and new professional skill requirements for healthcare workers. There is a terrific amount of information to try to understand, and it may be too much to expect anyone to be an expert in both privacy and cybersecurity. However, healthcare employees are finding it almost impossible to be successful with privacy responsibilities without a fundamental understanding of cybersecurity and vice versa.

HIM 410 Medical Coding II

Prerequisites: BMS 410

The process of taking a patient's health care information like medical procedures, diagnosis, necessary medical equipment, and medical services information from the physician's notes. A medical coder transforms this information into universal medical alphanumeric code Analyzes



medical records and identifies documentation deficiencies. Serves as resource and subject matter expert to other coding staff. Reviews and verifies documentation supports diagnoses, procedures and treatment results. Identifies diagnostic and procedural informations.

HIM 420 Graduation Project

Prerequisites after completing 99 CH

The purpose of the Graduation Project is for students who have an idea or interest that they wish to explore and further develop in the context of academic research. It will enhance students' ability to identify critical questions when exploring a new issue, parse issues, develop reasoned positions, and make compelling arguments. The aim of

This course is to enhance students to employ the academic tools and analysis techniques to research a project that is directly relevant to their majors and their future careers. The Graduation Project will help develop the analytical skills of the student in a way that could prove valuable for pursuing a career in private, public, and international organizations. More focus will be on the Human resource areas.

HIM 421 Reimbursement and Revenue Cycle management

Prerequisites: HIM 410

Revenue cycle management (RCM) is the process used by healthcare systems all over the world to track the revenue from patients, from their initial appointment or

encounter with the healthcare system to their final payment of balance. It is a normal part of health administration The revenue cycle manager's responsibilities include identifying patient reimbursement issues, ensuring that claims, denials, and appeals are efficiently processed, and resolving billing-related issues. Students should also be able to code diagnoses and procedures correctly.

HIM 422 Internship

Prerequisites: Completing 99Cr

Training in medical Facilities in UAE on Assisting in data collection, processing, and analysis and perform information quality and consistency control. - Assist in data curation through manual or semi-manual/semi-automatic methods on raw data received from multiple sources, with the scope of further analysis.

HIM 423 Introduction to Health Care informatics

Prerequisites: HIM 210

An Introduction to Healthcare Informatics: Building Data-Driven Tools bridges the gap between the current healthcare IT landscape and cutting edge technologies in data science, cloud infrastructure, application development and even artificial intelligence. Information technology encompasses several rapidly evolving areas, however healthcare as a field suffers from a relatively archaic technology landscape and a lack of curriculum to effectively train its millions of practitioners



in the skills they need to utilize data and related tools.

HRM 201 Introduction to HRM

Prerequisites: None

This is an introductory course presenting various areas of human resource management including its strategic role, job analysis, HR planning and recruitment, employee selection, training and developing employees, performance management, strategic pay plans, employee relations, and employee safety & health in the workplace.

MDI 111 Radiation Physics

Prerequisites: Admission Criteria

This course introduces the student's to essential knowledge and understanding of the fundamental physical principles of radiation used in Medical Imaging.

MDI 112 Radiation physics, Biology and Dosimetry

Prerequisites: MDI 111

This course is designed to impart the study of radiobiology as it pertains to Diagnostic Medical Imaging. Also,

This course presents the student to understand the biologic effects of ionizing radiation at the cellular level, somatic and genetic effects of radiation exposure for further correlate the knowledge to minimize these effects in the higher-level courses -MDI 214 & MDI 222 -.

This course deals with the theories and principles of the interaction of ionizing

radiation with living systems. Students will also learn about various factors involved in the acute and long-term effects of radiation on biologic molecules & organisms.

MDI 211 Musculoskeletal Anatomy

Prerequisites: BMS 121

This course will provide students with the basic knowledge of the structure and function of the human Musculoskeletal system; it is a foundation or further study in Medical Imaging anatomy, procedures, positioning and pathology in various imaging modalities. In addition to descriptive information about bone identification, the course will include the anatomical formation, function and positions of the bones, muscles, ligaments and joints.

MDI 212 MDI-Ethics, law, and Patient care

Prerequisites: BMS110

This course addresses the basic concepts of patient care within medical imaging and underscores the physical and emotional needs of the patient and family. Ethical and moral implications associated with delivery of care are discussed.

MDI 213 Image Principle, Acquisition and Display

Prerequisites: MDI 111, MDI 112

This course introduces the student to radiologic science from clinical and physical aspects. It provides basic knowledge related to the role of radiologic technologist, administrative process in the



radiology department, terminology, and patient care. In addition,

This course provides the physical principal of different imaging modalities including diagnostic radiography, ultrasound, nuclear medicine, and Magnetic resonance imaging (MRI).

MDI 214 Radiation Protection and Safety 1

Prerequisites: MDI 111/MDI 112

This course introduces the students to essential knowledge and understanding of the fundamentals of radiation protection.

MDI 221 Informatics and Image Processing

Prerequisites: MDI 213

This course introduces the Knowledge on technology sciences for medical imaging Profession necessary for their day-to-day practice in the world of digital health.

This course will give students a behind the scenes analysis of the imaging chain from image creation and acquisition to image distribution, storage, retrieval, advanced image processing, and communication.

MDI 222 Radiation Protection and Safety 2

Prerequisites: MDI 214

This course provides information on radiation protection, including hazards and biological effects of ionizing radiation. The information on radiation protection will enable the student to ensure safe practice of radiological technology, for both patient and operator.

MDI 223 Image Production & Evaluation-1

Prerequisites: MDI 213

Developing student's knowledge and understanding of the principles of [CR, DR] physics, operation, relationship of exposure and technical factors, image production and image evaluation, including digital processing, and evaluation of image quality. It is designed to perform medical imaging studies as outlined and described in the lecture component. The student will take medical imaging on phantom/ manikin anatomical parts with the assistance of the instructor, process the latent images, and critique the image for proper patient positioning technical factors and utilization of radiation protection.

MDI 224 Imaging Procedures & Critique-1

Prerequisites: MDI 213, MDI 221

To introduce the student to the basic knowledge and practice of CR & DR medical imaging positioning and related anatomy, with emphasis on psycho-motor skills in the Lab setting.

MDI 225 Clinical Practice – 1

Prerequisites: MDI 111, MDI 112, MDI114, MDI 213

This course is the first of a series of five clinical practicum courses, which provides clinical experiences ethically and professionally, as the student is trained to develop basic skills in radiographic positioning for X rays of the chest, abdomen, and upper extremities. During these postings, students will be trained to develop basic skills in radiography under the direct supervision of a clinical faculty.



MDI 311 Advanced Patient Care [Pharmacology and Venipuncture]

Prerequisites: MDI212 As the role of the medical imaging professional continues to expand, more knowledge is needed in all areas. Patient care is no exception. Advanced patient care skills are essential elements of providing high-quality patient care. This course focuses on patient education, assessment, communication, preprocedural and postprocedural care and proper charting and documentation. Technologists' responsibilities and intervention in cases of critical patient need also are discussed. An exploration of pharmacology is necessary to provide the student with comprehensive knowledge concerning drugs and their applications in medical imaging. Drug regulations, types of drugs and drug administration are included. Discussions integrate the selection of drugs with their appropriate use and possible effects.

MDI 313 Image Production & Evaluation-2

Prerequisites: MDI 223

This course includes the principles of radiation protection, fluoroscopy and viewing equipment, recording systems, quality control, patient positioning and regulatory provisions associated with conventional and digital fluoroscopy.

This course prepares students to obtain a Department of Health Services Fluoroscopy permit. Course aim: Developing student's knowledge and understanding of the principles of physics of [C-arm, Fluoroscopy, Interventional imaging], operation, image

production and image evaluation of medical imaging equipment's.

MDI 314 Imaging Procedures & Critique-2

Prerequisites: MDI 224

To provide students with opportunities to continue to develop the appropriate knowledge, skills and attitudes leading to a more complex level of Medical Imaging clinical practice. Modified radiographic techniques and patient care relating to trauma, mobiles & operating theatres, geriatric, pediatrics; digital imaging manipulation; image analysis and evaluation; principles of tomography; infection control; fluoroscopy; contrast media; radiographic examinations involving contrast media; the disabled patient; teamwork; scope of practice. Sectional, gross and surface anatomy of the head, neck, spinal cord, and vertebrae in theoretical and practical activities.

MDI 315 Clinical Practice – 2

Prerequisites: MDI 225

The Course is one of the clinical practice series in which (under appropriate supervision), the Course aims: to further develop practical and professional skills in Medical Imaging at an intermediate level. Clinical skills development building on technical skills gained in previous clinical course including patient care and communication, safety, professional behavior, team working, self-motivation, self-directed learning, and clinical reasoning., the student will be able to produce acceptable images of the standard medical imaging procedures and



examinations studied previously [Image procedures and critiques Courses – 1 to 4]. Additionally, the student will demonstrate proficiency in patient care and interaction as well as image evaluation. The student will be able to perform these examinations on all patients, including children and the elderly.

MDI 322 Imaging Pathology -2

Prerequisites: MDI 312

This content covers the pharmaceuticals commonly prescribed to patients undergoing medical imaging. The intent of each drug and its effect on diseases, conditions and physiology should be addressed. This content, in combination with associated clinical skills, will allow the radiologist assistant to analyze the patient's medications and other therapies to determine their significance to the imaging procedure. The radiologist assistant will be able to suggest appropriate plans for the procedure for each patient and will be responsible for the administration and documentation of procedure-related pharmaceuticals. The ability to assess contraindications and monitor the patient for adverse events, as well as respond to them, is critical. It is also essential for radiologist assistants to clearly understand the laws and policies related to pharmaceuticals in their practice setting.

MDI 323 Image Production & Evaluation-3

Prerequisites: MDI 313

This unit introduces you to the physical principles underlying imaging modalities which are crucial for both diagnostic and treatment purposes in medical radiation practice. Imaging modalities discussed include ultrasound, magnetic resonance imaging and nuclear medicine imaging. The content covered will include the methods by which each technology produces and enhances the relevant energy forms and how they are accurately measured, processed and recorded to produce a diagnostic image. The course also considers introductory information relating to the design, operation and safety implications of specified instrumentation.

MDI 324 Imaging Procedures & Critique-3

Prerequisites: MDI 314

To provide students with opportunities to continue to develop the appropriate knowledge, skills and attitudes leading to a more complex level of Medical Imaging clinical practice. Equipment and physical principles of imaging systems including digital imaging; image acquisition; image manipulations; angiography procedures; DSA; interventional techniques; mammographic procedures; bone mineral density; image interpretation; image quality; image evaluation; anatomy recognition in multiple planes; pathology; artefacts; quality assurance procedures; conflict resolution, patient care; nursing role; teamwork.

MDI 325 Clinical Practice – 3

Prerequisites: MDI 315



The Course is one of the clinical practice series in which (under appropriate supervision), the Course aims: To develop practical and professional skills in Medical Imaging at an advanced level. Clinical skills development to a level of thorough knowledge and understanding of the technical skills; patientcare and communication; safety; professional behavior; teamwork; self-motivation; self-directed learning; quality assurance; legal and ethical issues, quality assurance, resource utilization.

This course further consolidates conventional diagnostic radiography approaches and introduces imaging of more complex areas of the axial skeleton, chest and abdominal viscera. The students are also introduced to the concepts of the role of contrast media in imaging. Patient assessments for suitable imaging approaches are reviewed. Students will continue to develop clinical reasoning skills to manage patients/clients, and professional practice and procedures. The student will be able to produce acceptable images of the standard medical imaging procedures and examinations studied previously [Image procedures and critiques Courses – 1 to 4]. Additionally, the student will demonstrate proficiency in patient care and interaction as well as image evaluation. The student will be able to perform these examinations on all patients, including children and the elderly.

MDI 411 Artificial intelligence in Medical Imaging and Future Practice

Prerequisites: MDI 321

This course equips the students with the ongoing evolution in the application of artificial intelligence (AI) within healthcare and radiology, enabling them to gain a deeper insight into the technological background of AI and the impacts of new and emerging technologies on medical imaging.

MDI 412 Image Production & Evaluation-4

Prerequisites: MDI 323

This course develops a student's knowledge and understanding of the principles of [CT] physics, operation, image production and image evaluation of medical imaging equipment's. Introduction to the major components and processes needed to acquire, manipulate, store and transmit digital CT information. Students will be introduced to general examination protocol and procedures. The scanning procedure is necessary to obtain CT images of anatomical structures and organs of the body will be covered. current trends and future applications of these technologies will be discussed. The lab uses the CT simulator and the advanced remote access CT imaging system (the NETRAD imaging facility of the University of Sydney) to allow the students to understand the CT process and apply the different imaging protocols. The students will also be educated in how to carry out effective patient care, and on how to use contrast media through multimedia and hands-on demonstrations.

MDI 413 Imaging Procedures & Critique-4

Prerequisites: MDI 324



To prepare students for clinical experience in Computed Tomography (CT). It will also provide a broad knowledge base of advanced CT procedures.

This course provides the student with detailed instruction on imaging techniques for computer tomography (CT). Procedures Specific clinical application, indications for the procedure, patient education, assessment and preparation, positioning, contrast media usage, and image processing will be included. CT images will be reviewed for quality, anatomy, and pathology.

MDI 414 Clinical Practice – 4

Prerequisites: MDI 325

The Course is one of the clinical practice series in which (under appropriate supervision), the Course aim: To further develop practical and professional skills in Medical Imaging at an advanced level. Clinical skills development to a level of thorough knowledge and understanding of the technical skills; patientcare and communication; safety; professional behavior; teamwork; self-motivation; legal and ethical issues; scope of practice; self-reflection; clinical reasoning; preparation of recruitment and job selection procedures. the student will be able to produce acceptable images of the standard medical imaging procedures and examinations studied previously [Image procedures and critiques Courses – 1 to 4]. Additionally, the student will demonstrate proficiency in patient care and interaction as well as image evaluation. The student will be able

to perform these examinations on all patients, including children and the elderly.

MDI 421 Hybrid Imaging Technology

Prerequisites: MDI 412/MDI 413

Introduce the specialized areas of Medical Radiation Science in preparation for possible post graduate studies in specialist areas. In addition, imaging on the principles of multimodality and hybrid imaging a continuation of Advanced Imaging I. Students explore advanced diagnostic imaging and therapeutic procedures. The focus includes specialized modalities such as mammography, nuclear imaging, Positron Emission Tomography (PET), bone densitometry (DEXA), Interventional, Cardiac Catheterization, Fusion Imaging, Sonography, and Radiation Therapy.

MDI 422 Evidence Based Practice

Prerequisites: BSC 220 /BSC 320

Over the past decades, we have seen huge improvements in medical imaging technology. Systematic evaluation of the quality and reproducibility of new imaging techniques is crucial to allow large scale implementation. This interactive course will focus on the many aspects of imaging evaluation, including technical development, visual assessment, and optimization of image quality, and intra and inter observer reproducibility. At the end of the week, students will be able to design, analyze and report imaging evaluation and reproducibility studies according to international guidelines.

MDI 423 Clinical Practice – 5



Prerequisites: MDI 414

The Course is one of the clinical practice series in which (under appropriate supervision), the Course aim: To consolidate knowledge and skills in Medical Imaging in preparation for commencing professional practice. Clinical skills development (entry level) building on technical skills gained in previous clinical courses including patient care and communication, safety, professional behavior, team working, self-motivation, self-directed learning, and clinical reasoning, continuing professional development. The student will be able to produce acceptable images of the standard medical imaging procedures and examinations studied previously [Image procedures and critiques Courses – 1 to 4]. Additionally, the student will demonstrate proficiency in patient care and interaction as well as image evaluation. The student will be able to perform these examinations on all patients, including children and the elderly.

MLS 110 clinical laboratory instruments

Prerequisites: None

This course aims to introduce the practical applications of clinical laboratory instruments, and introduces the students to the principles of instrumental methods of analysis including visible and ultraviolet spectrophotometry, flame photometry, chromatography, electrophoresis, radiation counters and automated chemical analyzers. The student will be exposed to sophisticated analytical instruments to

enhance laboratory skills and confidence of working in the medical laboratory.

MLS 120 Biochemistry

Prerequisites: None In this course, students are introduced to the general principles of biochemistry while linking them back to the physiological conditions of an organism. There are several topics designed into this course, relationship of biochemistry to the physiology of an organism, relationship of bioenergetics to the physiological state, regulation of rates through the metabolic pathways, and relationship of enzyme structure to catalysis and regulation. Description of the chemistry underlying most of the metabolic reactions role of DNA, RNA and protein synthesis in the observed physiologic state Role of DNA in inheritance and genetic manipulation and gene therapy Students will know the basic information related to the following terms: saccharides, lipids, proteins, and nucleic acids. In addition, enzymes and vitamins and how they work in the human body. Biochemistry also introduces essential information related to chemical combinations, biomaterials, classification, chemical structure, reactions and how the human body metabolizes such bio molecules

MLS 210 Clinical Chemistry I

Prerequisites: MLS 120

This course is designed to introduce the student to diagnosis and monitoring of disease using plasma, serum, urine and other body fluids. Student will gain knowledge and skills in various analytical



techniques and methods used in the measurement of various parameters in the blood and other body fluids, and to gain technical skills and knowledge of interpretation of test results in health and disease states. The course mostly covers routine laboratory investigations related to disorders of plasma proteins and amino acids, carbohydrate disorders, lipids and lipoprotein abnormalities, enzymes, blood gases and electrolytes

MLS 211 Medical Microbiology

Prerequisites: None

This course focuses on the foundation on the basic principles of medical microbiology. The course is designed to provide Medical Laboratory Analysis students with adequate knowledge about microbes, diseases, modes of transmission of infections and infection control measures applied in the context of UAE. The course involves identification of the role of saprophytes, normal commensal flora, and pathogenic microbes that cause common infectious diseases in UAE. The course elaborates the tools and methods for the study of microbes, microbial structure and function, virulence factors as well as the microbial genetics and its importance in the virulence of microbes are also dealt in the course. The basic immune defense mechanism of the host is also considered in this course. Students in practical sessions will experience preparation of bacterial culture media, sterilization and antiseptic techniques and an antibiotic sensitivity test as applied in clinical laboratories within the UAE.

MLS 212 Basic Hematology

Prerequisites: BMS 122

This course is designed to introduce the theoretical and practical aspects of normal hematology and will include the normal composition of blood, collection and storage of blood, hemopoiesis, morphology, structure, and function of red cells, white cells and platelets. The course will provide students with knowledge and skills to perform a variety of lab tests and to know the different component of the blood.

MLS 213 Immunology

Prerequisites: None

This course is designed to introduce the student to the fundamentals of this specialized branch of laboratory medicine. It involves the study of the process of immunity, theory and practice of a wide variety of procedures used in the laboratory. The components of the Innate and Adaptive immunity are discussed and how they interact in recognizing foreign molecules to defend the body against invading microorganisms. Practical aspects of antigen and antibody interactions are investigated.

MLS 220 Histology & Micro techniques

Prerequisites: BMS 121

This course is designed to introduce the students to concepts of histology related to the cells and tissue, arrangements of the human body, It deal with the study of the micro anatomical structure and function of the body's major organs of the epithelial;



connective; muscular and nervous tissues; structural and functional relationships between cells and tissues in organs; comparative histology of the circulatory; nervous; digestive; integumentary; respiratory; excretory; reproductive; endocrine and sensory systems , laboratory exercises will include the study of prepared slides and of micro techniques; practice on standard methods of microscopic slide preparation.

MLS 221 Clinical Chemistry II

Prerequisites: MLS 210

This course is designed to introduce the student to the various analytical techniques and methods used in the measurement of various parameters in the blood and other body fluids, and to gain technical skills and knowledge of interpretation of test results in health and disease states. The course mostly covers routine laboratory investigations related to disorders such as cardiac function, kidney function, liver function, hormonal abnormalities, pancreatic function, and gastrointestinal disorders

MLS 222 Diagnostic Hematology

Prerequisites: MLS 212

This course is designed to provide the student with knowledge and practical skills used for differential diagnosis of erythrocyte and leukocyte disorders. Erythrocyte disorders include anemias, hemoglobinopathies, and metabolic anemias. Leukocyte disorders include benign leukocyte disorders, chronic and acute leukemias, proliferative disorders and

MDS. Laboratory morphology and additional tests used in the diagnosis of these disorders plays an integral role in

This course as well as the correlation of clinical and laboratory data.

MLS 223 Transfusion Science

Prerequisites: MLS 213

This course introduces the students to the history of blood transfusion and discovery of blood group systems. Inheritance and clinical significance of major blood group systems and their applications in transfusion medicine is discussed together with the techniques of antibody detection and antigen typing. Emphasis is also placed on blood bank techniques including blood grouping, antigen typing, and Anti-human globulin testing. Donor selection and processing, blood component preparation, storage and expiry and indications for use are discussed. Adverse effects of blood transfusion are discussed as well as the pathophysiology and management of Hemolytic Disease of the Newborn (HDNB) and Auto Immune Hemolytic Anemia (AIHA). Laboratory exercises include grouping and matching techniques, antibody detection and identification, and other procedures associated with blood bank practice.

MLS 225 Clinical Practice

Prerequisites: All MLS Courses



Clinical Practice is an integral part of the program in Diploma in Medical Laboratory Analysis and is designed to provide graduating students with an opportunity to integrate and apply previously acquired knowledge and technical skills in clinical settings. Under the guidance of experienced Medical Laboratory Professionals and other qualified laboratory preceptors, students learn more about diagnostic test procedures, quality control methods and programs, and instrumentation in the pre-analytical, analytical and post-analytical clinical laboratory. Students also gain an understanding of the roles and functions of the Medical Laboratory Professionals. The Clinical Practice program is conducted in an affiliated hospital laboratory, where students learn by participating in the workload of a supervising preceptor. Students will be equally rotated in four disciplines; Clinical chemistry, Hematology, Microbiology and Histopathology. The focus of this course is on laboratory practice and laboratory organization. The course will introduce students to professional etiquette and health and safety in the clinical laboratories. It will also cover the reception and processing of clinical samples and observation of the most commonly used techniques in each laboratory. The course gives students practical experience in effective communications to ensure accurate and appropriate information transfer. Finally, it helps students find employment by gaining experience they require to enter the world of medical laboratory diagnosis

MLS 310 Hematology: Coagulation and Hemostasis

Prerequisites: MLS 212

This course describes the mechanisms of normal hemostasis and the roles and interactions of the blood vessels, platelets, coagulation and fibrinolytic systems. The inherited and acquired disorders of hemostasis 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. Students will carry out the appropriate laboratory tests involved in the diagnosis and treatment of these disorders.

MLS 311 Clinical Parasitology

Prerequisites: MLS 211

The course aims at familiarizing students with the basic concepts of Parasitology, types of animal associations, adaptations to parasitic mode of life and evolution of parasitism. Parasites life – cycles, infection, transmission, pathology, symptoms, diagnosis, treatment and control of medically and economically important parasites are the main emphasis of this course. Laboratory sessions are designed to expose the students to the morphology of the different developmental stages of medically and economically important parasites as well as introducing the skills of proper laboratory procedures for collecting, handling, diagnosing and identifying parasitic organisms.

MLS 312 Diagnostic Microbiology I



Prerequisites: MLS 211

This course focuses on systemic pathogenic bacteria.

This course provides students with theoretical and practical aspects of various groups of bacteria their classification, morphology, cultural characters, biochemical reactions, resistance, antigenic structure, virulence factors, pathogenicity, clinical features, laboratory diagnosis, treatment and epidemiology. The principles of culture, identification and susceptibility testing are covered in depth using live cultures of various Gram positive and Gram negative bacteria to encompass all areas of systematic bacteriology. Special focus is also given to antimicrobial chemotherapy which includes their classification based on bacterial anatomical targets, mechanism of action, resistance and antibiotic susceptibility testing.

MLS 320 Urinalysis & Body Fluids

Prerequisites: MLS 120

This course is intended to provide the student with a foundation for performing urine and body fluid analysis. The anatomy and physiology of the renal system, urine formation, chemical analysis of urine and the microscopic examination of urinary sediment will be introduced. Urinary and metabolic diseases as they relate to urinalysis findings will be discussed. An introduction to body fluids and their clinical significance will be examined.

MLS 321 Principles of Human Genetics

Prerequisites: MLS 120 & BMS 122

This course is designed to introduce the student to the study of biological inheritance in humans, the history and principles of heredity at the molecular and cellular level and the transmission and expression of genetic information. The course enables an improved understanding of genetics topics and their influence on modern life such as the structure of DNA and RNA, gene expression, gene organization, gene regulation and gene transfer. Current issues such as recombinant DNA technology, human heritable diseases and population genetics are included. The course provides a foundation for studies in human biology and related fields regarding the principles of inheritance, structure and function of genetic material, prokaryotic and eukaryotic genes and finally the impact of genetics on population dynamics and evolution.

MLS 322 Diagnostic Microbiology II

Prerequisites: MLS 312

This course is the study of microorganisms of medical importance in relationship to disease and diagnosis. This course also emphasizes identification of bacteria in patient specimens, specimen collection and antimicrobial susceptibility testing. The course will provide the conceptual basis for understanding pathogenic microorganisms and particularly address the fundamental mechanisms of their pathogenicity. The laboratory sessions cover techniques of identification of normal flora, pathogenic bacteria, including morphology, classification and cultivation of bacteria.



MLS 323 Clinical Immunology and Serology

Prerequisites: MLS 213

This course provides a foundation in the theoretical basis of clinical immunology and will give the student an understanding of the mechanisms of diagnostic tests, interpretation of results of immunological tests, and the clinical settings in which various tests are appropriate. The laboratory portion of

This course will provide an opportunity for the student to perform directed exercises in clinical immunology. These exercises will teach basic techniques in clinical immunology, provide a practical link to the theoretical information presented in lecture, and show the diverse applications of basic immunological techniques.

MLS 410 Molecular Biology

Prerequisites: MLS 321

This course provides knowledge and understanding of traditional and molecular genetics and the molecular biology. It examines advanced aspects of genetics and inheritance at a phenotypic, population and molecular level. It also provides basic skills on molecular biology techniques. The course introduces the student to be familiar with the basic molecular biology regarding the DNA structure and function, RNA structure and function through the molecular biology central dogma (replication, transcription and translation) and application of the molecular biology techniques in laboratory diagnosis. By the end of the course the student should be familiar with and gain an understanding of the objectives,

applicability and limitations underlying each of these methods. Include the analysis of nucleic acids: Polymerase chain reaction (PCR), gel electrophoresis and blotting techniques (Northern, Southern), real-time PCR, microarrays (DNA chips), DNA sequencing and methods to study gene function. Manipulation and analysis of gene expression in prokaryotic systems, through eukaryotic tools.

MLS 411 Medical Virology

Prerequisites: MLS 211

The course introduces the basic principles of virology including definitions, structure, nomenclature, classifications, modes of viral infection, viral diseases and viral vaccines. Also, the course designed to introduce student to the major classes of viruses and their replication mechanisms, to examine virus-host interactions, and to discuss the public health aspects of virus infections, as well as major systemic diseases cause by various viruses. The practical part of the course will provide students with fundamental virology laboratory techniques.

MLS 412 Laboratory Management and Quality Assurance

Prerequisites: None

This is an integrated course of both laboratory management and quality assurance in the medical laboratory. The course describes the fundamental principles and practices of management and supervision of clinical laboratory including management of organizations, human resources, financial resources, and



laboratory operations. Concerning quality assurance, the course covers subjects related to quality concepts and terminology, tools of quality monitoring and assessment, data interpretation, and appropriate actions in response to QC results.

MLS 420 Clinical Practice

Prerequisites: All MLS courses

Clinical Practice is an integral part of the program in Medical Laboratory Analysis and is designed to provide graduating students with an opportunity to integrate and apply previously acquired knowledge and technical skills in clinical settings. Under the guidance of experienced Medical Laboratory Professionals and other qualified laboratory preceptors, students learn more about diagnostic test procedures, quality control methods and programs, and instrumentation in the pre-analytical, analytical and post-analytical clinical laboratory. Students also gain an understanding of the roles and functions of the Medical Laboratory Professionals. The Clinical Practice program is conducted in an affiliated hospital laboratory, where students learn by participating in the workload of a supervising preceptor. The course gives students practical experience in effective communications to ensure accurate and appropriate information transfer. Finally, it helps students find employment by gaining experience they require to enter the world of medical laboratory.

RCM 220 Cardiopulmonary Anatomy & Physiology

Prerequisites: BMS 121, BMS 122

This course provides core knowledge of the normal structure and function of the anatomy and physiology of the cardiopulmonary system. The structures and functions of this system will provide a foundation for studies in airway management, respiratory diseases, pulmonary function testing and human physiology, which deal with acid-base, blood gas disturbances and interpretation. Study units will include topics on respiratory system, thoracic cavity, cardiovascular, mechanics of ventilation, gas exchange and transport and pulmonary diffusion of gases. Clinical application of common anatomical principles will be discussed in this course.

RCM 221 Introduction to Respiratory Care Profession

Prerequisites: BMS 121, BMS 122

This course provides an introduction to the profession of respiratory care with emphasis on the duties, responsibilities, respiratory organizations, historical development of this field and qualifications of a respiratory therapist. Elementary lung disease processes and basic knowledge on respiratory equipment are also described.

RCM 310 Respiratory Care Science I

Prerequisites: BMS 121, BMS 122 CR: RCM 220, RCM311

This course provides the students an introduction to the clinical sciences related



to the profession of respiratory care. The course will cover, in detail, the basic principles of gasses, and the clinical use of medical gases (Oxygen, Nitric Oxide, Heliox), humidity and aerosol therapy. Emphasis will be placed on the physical and chemical principles, which influence therapeutic modalities.

RCM 311 Patient Assessment

Prerequisites: RCM 220

This course introduces students to the techniques used in the diagnosis of cardiopulmonary diseases. This course involves a systematic study of bedside assessment, patient history, signs, symptoms, thoracic imaging, laboratory techniques and results, electrocardiograph all of which serve as a foundation for clinical assessment and diagnosis. Other diagnostic techniques which are commonly performed or analyzed by the Respiratory Therapist.

RCM 320 Cardiopulmonary Diseases I

Prerequisites: RCM 220 + BMS 410

The course is to provide students with specific knowledge of cardiopulmonary diseases, which affect ventilation, gas diffusion and respiration. The Course will cover topics of general respiratory pathophysiology, such as obstructive and restrictive lung disease and others. Subsequent topics will concentrate on specific diseases, including their clinical presentation, etiology, diagnosis, and management. Knowledge of these diseases, along with an understanding of the function of the normal lung, will provide a

foundation for the rational application of therapeutic modalities.

RCM 321 Fundamental of Polysomnography

Prerequisites: RCM 220

This course introduces the students to the physiology of the normal sleep cycle, the clinical assessment of sleepiness, the classifications of sleep disorders and other forms of treatment of sleep disorders. This course also focuses during the laboratory sessions on scoring of polysomnography tracings, applying of therapeutic interventions such titration of CPAP/Bi-Level therapy, and patient education.

RCM 322 Mechanical Ventilation I

Prerequisites: RCM 310 + RCM 311

This course is designed to provide students with introductory concepts of mechanical ventilation, such as classification, modes of mechanical ventilation, settings, indication and complications. Basic understanding of the most commonly used ventilators and their clinical application is also covered.

RCM 323 Respiratory Care Science II

Prerequisites: RCM 310 + RCM 311

This course introduces students to airway management, lung expansion therapy and airway clearance therapy, topics essential in the practice of respiratory care. The course involves study units in the anatomy of the airways, artificial airways and guidelines for airway management, maintenance of airways, methods of tracheobronchial hygiene and lung



expansion therapy. The course will also prepare students for procedures such as arterial and capillary punctures.

RCM 324 Respiratory Care Clinical Practice I

Prerequisites: RCM 310 + RCM 311

This field course provides entry-level clinical experience. Topics include basic life support, universal precautions, patient safety, patient's medical record, communication, infection control, medical gas systems and oxygen, humidity and aerosol delivery devices, airway management, lung expansion therapy, tracheobronchial hygiene, and arterial punctures and sampling. The field course also covers basics of mechanical ventilation.

RCM 410 Mechanical Ventilation II

Prerequisites: RCM 322, RCM 320, RCM 323

This course is a continuation to the course: Basic Mechanical Ventilation, with emphasis on advanced modes used in mechanical ventilation of various disease states, neonatal, home care, transportation and long-term ventilation. The course also puts emphasis on management strategies of mechanical ventilation according to disease entities.

RCM 411 Respiratory Care Clinical Practice II

Prerequisites: RCM 324, RCM 323

This clinical field course is designed to provide clinical experience and patients' outcome evaluation related to delivery of airway pharmacology, transportation of

critically ill patients and basic mechanical ventilation, with emphasis on advanced modes, ventilator graphics and management strategies used in mechanical ventilation of various disease states.

RCM 412 Patient Care Management Seminar

Prerequisites: RCM 320, RCM 322 RCM 323

This seminar provides the student with an opportunity to integrate and to present the medical management related to patients who have cardiopulmonary disorders. Students meet with an instructor to present a patient admission scenario, including the patient history, examination, evaluation, diagnosis, prognosis, and intervention as well as objective determination of success of intervention. Emphasis will be placed on decision making and problem solving as they relate to respiratory care

RCM 413 Cardiopulmonary Diseases II

Prerequisites: RCM 320, RCM 411

This course is a continuation to the course: cardiopulmonary diseases II (HRC 304). The course is to provide students with specific knowledge of cardiopulmonary disorders and related conditions, which affect ventilation, gas diffusion and respiration. Knowledge of these disorders and conditions, along with an understanding for their clinical presentation, etiology, and diagnosis, will provide a foundation for the rational application of therapeutic modalities.

RCM 414 Pulmonary Function Diagnostics



Prerequisites: RCM 220 + RCM 320

The course is to introduce students to the methodologies and physiological importance of specialized, diagnostic tests, which are performed in the pulmonary function laboratory. The Course will cover techniques used to gather physiological data, comparing it to normal populations, interpreting and translating this information into a descriptive, diagnostic presentation. Diseases that commonly require pulmonary function tests are described. Bronchodilator studies to determine reversibility of airway obstruction are also presented. The course will cover the principles of measurement of Spirometry, indirect measurement of lung volumes with gas dilution techniques and body plethysmography. It also describes the measurement of pulmonary diffusing capacity using small volumes of carbon monoxide (DLCO) and diagnosis of bronchial hyper-responsiveness in patients with normal spirometry and cardiopulmonary exercise

RCM 420 Multidisciplinary Respiratory Care

Prerequisites: RCM 410, RCM 323 RCM 413

This course is designed to cover three essential areas in respiratory care practice: Cardiopulmonary Resuscitation, Trauma and Advanced Radiology. These areas need specialized knowledge and in-depth skills to prepare students to the level of advanced standards due to the recent vast development in global health care.

RCM 421 Pulmonary Rehabilitation/ Home Care

Prerequisites: RCM 413

This course provides the knowledge and comprehension of pulmonary rehabilitation, in patients with limiting respiratory conditions in order to improve patients' exercise tolerance and quality of life and reduce breathlessness. It covers patient education and caregiver to maintain the highest possible functional capacity to patients. Topics are: medication regimens, smoking cessation, breathing retaining, bronchial hygiene, special equipment set-up and servicing, patient and family education, patient evaluation. This course will also address the respiratory care home care services in terms of procedure, equipment, and modalities.

RCM 422 Pediatric Respiratory Care

Prerequisites: RCM 410, RCM 323

This course is designed to cover major aspects of pediatric respiratory care. The course involves the topics about assessment of the child, details of respiratory disorders, cardiovascular disorders and about the acutely ill child. This course will also deal with pediatric advanced life support and management of the pediatric on mechanical ventilator.

RCM 423 Respiratory Care Clinical Practice III

Prerequisites: RCM 411

This clinical practice course provides advanced clinical field experience on respiratory care therapeutic and diagnostic



patient care with more emphasis on critical care areas. The focus of this clinical course is on respiratory care practices in pediatric and neonatal critical care, including specialized learning experiences in therapeutic modalities, mechanical ventilation, and more emphasizes on technical procedures that differ from the adult patient. The clinical course will also cover home care and pulmonary and cardiac rehabilitation. Students will also be exposed to various levels of management in the respiratory profession and gain skills in advanced assessment and clinical decision-making.

RCM 424 Neonatal Respiratory Care

Prerequisites: RCM 410, RCM 323, RCM 422

This course is designed to cover major aspects of neonatal respiratory care. The course involves the topics about fetal lung development, fetal circulation, and transition to extrauterine life it also deals with topics about assessment of the neonate, respiratory disorders, cardiovascular disorders.

This course will also deal with neonatal resuscitation guidelines and management of the pediatric on mechanical ventilator.

RCM 510 Clinical Simulation Seminar

Prerequisites: RCM 420, RCM 422

This seminar course provides simulated practice and scenarios of patient care skills in a multimedia setting. It allows students to cover clinical simulation of different patient scenarios related to respiratory care which requires specialized knowledge in

solving patient management problems written in a branching logic format. Simulation and role playing of various clinical situations in the lab will enhance the classroom experience and skills.

RCM 511 Essentials of Critical Care

Prerequisites: RCM 420

This course provides the students with core knowledge and skills with different essential monitoring and diagnostic techniques and modalities for critically ill patients in the critical care setting. These include procedures, such, fluid and electrolyte abnormalities, hemodynamic monitoring, bronchoscopy, pleural interventions (chest tube & pleural aspiration) and cardiac outputs.

RCM 512 Respiratory Care Seminar

Prerequisites: RCM 422, RCM 420

This seminar course is to discuss specialty topics selected by instructor and students. This course will also offer to students advanced topics presented by specialists- Pulmonologist, Intensivist, neonatologist, Internist, Respiratory Therapists and other medical specialists. This course is to have students discuss, evaluate and gain knowledge from presenting and attending many case studies related mainly on perinatal & pediatric topics, sleep disorders and rehabilitation and home care

RCM 513 Graduation Project

Prerequisites: RCM 420, BSC 320

This course provides students with the opportunity to apply research skills and



carry out a research project related to the major program under the supervision of a faculty member. Students will be required to conduct literature review and perform data collection, statistical analysis, writing up of the research paper. Students participating in research must complete CITI program (<https://about.citiprogram.org/en/homepage/>) for research ethics and compliance training prior to submitting research proposals.

and diagnostic patient care for critically ill patients in different settings. These include procedures, such as hemodynamic monitoring, ECG interpretation, fluid and electrolyte abnormalities, bronchoscopy, pleural interventions in vivo blood gas monitoring and management of trauma and post-cardiothoracic surgical care.

RCM 520 Respiratory Care Clinical Practice IV

Prerequisites: RCM 423, RCM 511

This clinical practice course provides a capstone advanced clinical field experience. The clinical time will allow the student to continue their hands-on clinical learning. Emphasis is on respiratory care therapeutic



Faculty of Media and Public Relations

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تصميم الإعلانات ADM 301

يصف المقرر تقنيات وعمليات التصميم. ويناقش مفاهيم التصميم وعناصره لمختلف وسائل الإعلام. ويحتوي أيضًا على تطبيقات عملية في حزم برامج التصميم الرقمية. ويغطي نظريات الألوان والرسومات بالإضافة إلى المكونات المطبعية. ويتم خلاله عرض ومناقشة أمثلة تصميمية.

الإعلان المطبوع ADM 303

يتناول هذا المساق التصميم الجرافيكي لوسائل الإعلان المطبوعة ويناقش مفهومه وأسس تصميمه من حيث البناء، واختيار الرسالة الإعلانية، والتأثير الإعلاني، ووسائل نشر الإعلان. والمواد المستخدمة في تصميم الإعلان، وأسس التخطيط للحملات الإعلانية. وتصميم الشعار والكرت الشخصي وورق المكاتبات والأظرف والمطوية وحافظة الأوراق والملصقات وإعلان الجريدة

كتابة النصوص الإعلانية ADM 302

يركز المساق على مبادئ كتابة نصوص الإعلانات الصحفية والإذاعية والتلفزيونية، كما يتناول أسلوب إعداد النصوص المقروءة وأسلوب إعداد السيناريو الإعلاني المسموع. يشرح المساق أيضا أسلوب إعداد السيناريو الإعلاني البصري، ويتابع عملية تطوير الفكرة الإبداعية وتحويلها إلى نص إعلاني متكامل. يقوم المساق عموما بتغطية خصائص النصوص الإعلانية لوسائل الإعلام المختلفة، وتحريرها مع توفير نماذج وحالات تطبيقية.

تخطيط الحملات الإعلانية ADM 321

يتناول هذا المساق دراسة ادارة الحملات الاعلانية، من خلال تقديم النماذج الاتصالية للحملات الاعلانية، وتصنيف أنواع الجمهور المستهدف لهذه الحملات، وكالات الاعلان ووظائفها وعلاقتها بـمنفذي الحملات، متطلبات تصميم الحملات ومراحل تخطيطها، كما يشتمل المساق على وصف لوسائل الاعلام المستخدمة في الحملات وكيفية اختيارها من خلال عرض عيوب ومميزات كل منها، ثم تقييم الحملات الاعلانية ومجالات هذا التقييم وأهميته والصعوبات التي يواجهها.

الإعلان الإذاعي والتلفزيوني ADM 401

يتناول المساق العناصر الإنتاجية للصورة المرئية والصوت في الراديو والتلفزيون ولوحة القصة. يتابع المساق مراحل تطوير فكرة الإعلان، التخطيط وحصر الموارد البشرية والفنية، إعداد النصوص الإعلانية، وتوفير المادة المرئية. ومن خلال توفير تدريبات عملية في المختبر، يتدرب الطلاب على استخدامات الكاميرا وأجهزة المونتاج الرقمية للصوت والفيديو بهدف إخراج مادة إعلانية متميزة. ويلقي المساق الضوء على تأثير الإعلان على المجتمع.

الإعلان الإلكتروني ADM 403

يناقش المساق الفضاء الإلكتروني كفرصة إعلانية. ويصف الأدوات الرقمية المستخدمة للإعلان عبر الإنترنت ويغطي كتابة الإعلانات للإعلان عبر الإنترنت. ويتناول المساق أيضًا أبحاث السوق للإعلان عبر الإنترنت لتحديد مواقع المنتجات

وتقسيم الجمهور. ويتطلب المساق مشروع إعلان رقمي.

الاتصالات التسويقية المتكاملة ADM 402

يتناول المساق مفهوم الاتصال التسويقي المتكامل متضمنا عملية التخطيط والإدارة وصولاً إلى تنفيذ الأنشطة الاتصالية-التسويقية المتكاملة. أيضا يناقش المساق مفهوم الخليط الإعلامي والتسويقي. كما يتناول تخطيط ومتابعة وتقييم أنشطة الاتصالات التسويقية مع عرض لأنواعها ومضامينها. يتعرض المساق أيضا لبحوث السوق والجمهور وتعريف الموارد البشرية والفنية ويدعم كل هذا بحالات دراسية ونماذج محددة.

تدريب ميداني في الإعلان ADM 410

يتعرف الطالب على بيئة العمل الإعلامي كما هي في الواقع العملي من خلال التدريب في إحدى المؤسسات الإعلامية، ووكالات الإعلان وأقسام العلاقات العامة في الجهات الحكومية والاهلية من خلال علاقات الكلية والاتفاقيات المبرمة مع هذه الجهات.

مشروع تخرج في الإعلان ADM 422

يهدف المساق إلى تصميم وتنفيذ حملة اعلانية كاملة لأحد المنتجات التجارية او الحملات التوعوية من خلال تطبيق المبادئ النظرية وعناصر التميز الابداعي في مشروع إعلان، بالاستعانة بالتقنيات والبرمجيات الحديثة

مهارات الإعلام الرقمي DMC 301

يقوم المساق بعملية تقديم أسس ومهارات البيئة والنظام الرقمي الاعلامي المعاصر متضمناً تجديد التعريف بالوسائط المتعددة. صيغها المتطورة، يعرض المساق أيضاً العناصر و الخصائص الفنية للإعلام الرقمي عبر التعريف بالاستديو الرقمي، ومكوناته ، وتقنية مفاتيح الكروما ، وانواع البرامج الاعلامية المعاصرة المنتجة للغراض المتنوعة من الوسائد الحديثة والشبكية ، و أنواع الملفات الصوتية و الفيديو بهدف الوصول، من خلال تدريبات عملية في المختبر (الاستديو الاعلامي) ، لإنتاج و معالجة برامج اذاعية وتلفزيونية ، وتحميلها على مواقع تبادل الصور وملفات الفيديو والصوت على شبكة الانترنت .

الكتابة للإعلام الرقمي DMC 302

يتناول المساق الخصائص الفنية لمتطلبات للكتابة لوسائل الاعلام الرقمي، بما فيها عناصر المحتوى للإعلام الرقمي ويوفر المساق من خلال تدريبات عملية في المختبر توضيح مفردات الوسائط المتعددة وأهمية طبيعتها التفاعلية، الفورية، المختصرة و الواضحة.

صناعة المحتوى الإعلامي DMC 303

يهدف المساق إلى تعريف الطالب مفهوم وطبيعة المنصات الرقمية وخصائصها التقنية والاتصالية، واستخداماتها في مجال الاتصال والاعلام. كما يهدف إلى اكساب الطالب مهارات صناعة المحتوى الاتصالي والإعلامي الرقمي بأنواعه المختلفة

النصية والمرئية والجغرافية من حيث مراحل صناعة المحتوى، تقنيات صناعة المحتوى، العوامل المؤثرة في صناعة المحتوى، أساليب تقديم ونشر ومتابعة المحتوى.

الشبكات الاجتماعية DMC 321

يهدف هذا المساق إلى التعرف على شبكات التواصل الاجتماعي (الحالية) مثل Twitter و Tic و Tok و LinkedIn ، وأهم ميزات كل منها، وأهم المهارات المطلوبة للتعامل معها، وكيفية إنشاء وإدارة محتوى إعلامي أو تسويقي لكل شبكة. أيضاً، وتحديد التشريعات واللوائح وأخلاقيات التعامل مع هذه الشبكات، ومستقبل Metaverse ، وكيف يمكن أن تكمل أو تحل محل هذه الشبكات؟ مع استكشاف وتمكين بعض تقنيات الذكاء الاصطناعي وتطبيقات الهواتف الذكية في إدارة محتوى الشبكات الاجتماعية.

صحافة الإنترنت DMC 401

يسعى المساق إلى تعريف الطلاب بمراحل نمو الصحافة الرقمية بداية من ظهور الويب 1.0 حتى الآن، متوافقاً مع تقنيات التكنولوجيا المتقدمة. وبالخصائص الفنية لمتطلبات الصحافة الرقمية، و تقديم نماذج عملية للفنون الصحفية المختلفة عبر شبكة الانترنت، وتوضيح الفروق ما بين الكتابة الصحفية التقليدية والرقمية، وتوظيف مفردات الوسائط المتعددة وطبيعتها التفاعلية المختصرة الواضحة، كما يتناول الانواع المختلفة للمواقع الاخبارية و صحافة المواطن و المدونات.

إضافة إلى تطوير مهارات الطلاب على التغطية الصحفية للمنصات الرقمية ووسائل التواصل للقنوات الإخبارية منها، كما يحرص هذا المساق على تزويد الطلاب بمهارات عملية في التغطيات الصحفية باستخدام أحدث التقنيات والتطبيقات من الذكاء الاصطناعي، والواقع الافتراضي والمعزز وتقنيات عالم الميتافيرس.

تصميم مواقع الويب DMC 402

يسعى هذا المقرر الدراسي للتعرف على دور موقع الويب في مختلف المجالات مثل الإعلان والبيع بالتجزئة والتعليم والأخبار ووسائل الإعلام. واستخدام لغة مواقع الويب و HTML و يناقش تخطيط الصفحة وعناصر النمط والتنسيق باستخدام أوراق الأنماط المتتالية (CSS) وكيفية دمج الرسومات في صفحات الويب (تنسيقات الصور الثابتة والمتحركة والمتجهات وكذلك الفيديو)، وإنشاء صفحات ويب تفاعلية ، لضمان قدرة الطلاب على إنتاج صفحات ويب جيدة التأسيس والمواقع.

البث الإذاعي والتلفزيوني عبر الإنترنت

DMC 403

يتناول المساق التعرف على اهم التطورات الرقمية المفضية الى تقنيات واساليب البث الاذاعي والتلفزيوني عبر الانترنت ،والبرتوكولات المتعلقة بهما ، ومواقع الاذاعات والتلفزيونات الافتراضية على الويب ، وتقنيات البث المباشر ، اصف لانواع ومستويات التلفزيون الرقمي والتفاعلي ، -

وتطبيقات وخطوات انشاء وتوزيع التدوينات المسموعة والمرئية الرقمية.

تدريب ميداني (إعلام رقمي) DMC 410

يتعرف الطالب على بيئة العمل الاعلامي كما هي في الواقع العملي من خلال التدريب في احدى المؤسسات الاعلامية، ووكالات الاعلان واقسام العلاقات العامة في الجهات الحكومية والاهلية من خلال علاقات الكلية والاتفاقيات المبرمة مع هذه الجهات

مشروع تخرج (إعلام رقمي) DMC 422

يتضمن المساق إعداد وتنفيذ مشروع التخرج الخاص بالطالب، وذلك بعد اتمام متطلبات الخطة الدراسية ونجاحه في مساق التدريب الميداني للإعلام الرقمي. يقوم الطالب في هذا المساق بإنتاج وكتابة وإخراج مادة اعلامية عن أي موضوع يختاره بإشراف مدرس المساق. يتمكن الطالب في نهاية هذا المساق من توظيف المعارف والمهارات في إنتاج عمل إعلامي يعكس فيه المهارات والمعارف التي اكتسبها خلال دراسته في تخصص الاعلام الرقمي.

مدخل إلى الإعلام الرقمي MCM 101

يتناول هذا المساق تعريف الإعلام الرقمي، واتجاهات تطور الاتصال والإعلام الرقمي، وإجراء مقارنة بين الإعلام التقليدي والجديد، ووسائله الجديدة من حيث نشأتها وأنواعها واستخداماتها كما يتناول نظريات الإعلام الرقمي وقنواته ووظائفه، ودور الإعلام الرقمي في التغيير الاجتماعي، وفي التسويق التجاري والاجتماعي، كما يغطي دور

الإعلام الرقمي كأداة للتمكين، ويركز على الشبكات الاجتماعية، والعناصر التكنولوجية في الإعلام الرقمي، مع تقديم حالات ونماذج تطبيقية.

مدخل إلى العلاقات العامة MCM102

يتناول المساق تعريف العلاقات العامة مع عرض لدورها كأداة اتصال في منظومة العمل المؤسسي. يتناول المساق أيضاً الدور التاريخي للعلاقات العامة من الناحية المهنية مع تقديم نماذج للعلاقات العامة وعناصرها و كذلك المواصفات الشخصية والمهنية لمتخصص العلاقات العامة الناجح. يعرض المساق أيضاً الهياكل التنظيمية لإدارات العلاقات العامة في المؤسسات الحكومية والأهلية، و يعرض للعلاقة مع الجمهور و وسائل الإعلام وقنوات الاتصال الداخلي والخارجي، مع تقديم حالات دراسية ونماذج تطبيقية.

مدخل إلى الإعلان MCM121

يتناول المساق مفهوم الإعلان في الصحف والمجلات ووسائل الإعلام الأخرى، ويركز على عناصر تصميم الإعلان ومراحل تصميمه، كما يتناول برمجيات تصميم الإعلان الصحفي مثل الفوتوشوب والإيلستريتور، ومدى تحقيق التكامل من خلال دمج عناصر الإعلان النصية والجغرافية، كما يتضمن تطبيقات عملية في إنتاج الإعلانات المطبوعة ويناقش نماذج تطبيقية مختارة.

مساقات مساندة (30 ساعة معتمدة)

كتابة احترافية بالعربية MCM 122

م هذا المساق لتمكين الطالب من كتابة الفنون الإعلامية بدءاً من الخبر الصحفي، مروراً بالتقرير، والمقال، والتحقيق، ثم كتابة الفنون الإذاعية شاملة (الخبر الإذاعي، والتقرير، والتحقيق، والتعليق)، ثم كتابة الفنون التليفزيونية شاملة (الخبر التليفزيوني، والتقرير، والتحقيق، والتعليق)، مع معرفة أوجه الاتفاق، وأوجه الاختلاف بين الفنون الإعلامية الثلاثة (الصحافة، الإذاعة، التليفزيون) بالإضافة إلى الإعلام الرقمي، مع التأكيد على قواعد اللغة العربية في الكتابة الإعلامية.

نظريات الاتصال MCM 123

يهدف المساق لتقديم نظرة عامة على نظريات الاتصال التي تفسر الظواهر المختلفة وتطورها وتطبيقاتها. ستتضمن النظريات المتعلقة بتأثيرات وسائل الإعلام وعلم نفس الجمهور والجوانب الاجتماعية لوسائل الإعلام التقليدية والرقمية، كما يتناول العديد من النظريات التي تسعى إلى شرح ظاهرة الاتصال في المجتمعات الحديثة والتي يمكن تطبيقها على سياقات الاتصال المختلفة (الشخصي، الجماعي، بين الثقافات، الجماهيري، الرقمي).

مدخل إلى علم الاجتماع MCM 125

يركز هذا المساق على تعريف الطالب بعلم الاجتماع بوصفه العلم الذي يهتم بدراسة المجتمع وما ينطوي عليه من ظواهر وعلاقات وتفاعلات اجتماعية. كذلك يركز المساق على تسليط الضوء على طريقة تأثير ثقافة المجتمع في إحداث التغييرات الاجتماعية مما

يساعد على فهم أنماط التغيير الاجتماعي عبر الوقت وأسبابه وتوضيح مفهوم علم الاجتماع الإعلامي.

الإعلام في دولة الإمارات MCM 201

يتناول المساق التطور التاريخي للإعلام في دولة الإمارات منذ منتصف القرن الماضي ويسلط الضوء على السياسات والتشريعات الإعلامية في الإمارات. يسلط المساق أيضاً الضوء على دور الإعلام في تعزيز التنمية الوطنية والهوية الثقافية ويتعرض لأبرز المؤسسات والشخصيات الإعلامية والهيكل التنظيمي لقطاع الإعلام. يتناول المساق أيضاً التطور التكنولوجي لقطاع الإعلام ووضعه كقطاع اقتصادي يتضمن المدن الإعلامية الحرة.

مناهج بحوث الإعلام MCM 202

يتناول المساق مفهوم البحث العلمي ومراحله في مجال الإعلام، ويتناول شرح أنواع البحوث المختلفة؛ الكمية والكيفية، تحليل المضمون، المسح الميداني، التجريبية. يتعرض المساق أيضاً للتعريفات المفهومية والإجرائية والمهارات الإحصائية في التحليل إلى جانب تصميم الاستبيانات وصحائف التفرغ وتحديد فئات تحليل المحتوى.

التصوير الرقمي MCM 203

المساق تعريف بالصورة وأهم مفاهيم الصورة الرقمية في الإعلام المعاصر. كذلك يتعرض المساق إلى أنواع الكاميرات الرقمية وأجزائها ومكوناتها. يتعرض المساق أيضاً إلى الإضاءة في التصوير الرقمي ويركز على لغة الكاميرا من حيث لقطات وحركات الكاميرا وزواياها. كما يلقي الضوء على

المكونات الفنية للكاميرا الرقمية وعناصر ومكونات الصورة الرقمية وطرق معالجتها وصيغها وطرق حفظها ونقلها وتحويلها، والجوانب الإبداعية في التصوير الرقمي مع إعطاء أمثلة ونماذج من شخصيات صحفية عالمية.

مقدمة في الإعلام و الذكاء الاصطناعي

MCM 204

يتناول المساق مفهوم الذكاء الاصطناعي وخصائصه ووظائفه ومجالاته المختلفة ودوره في صناعة الإعلام نتيجة الاعتماد على تطبيقات الذكاء الاصطناعي في الممارسة المهنية، ومدى

استخدام الروبوت في صناعة المحتوى الإعلامي سواء في عمليات تحرير وصياغة الأخبار أو التقديم أو التصوير التلفزيوني ، أو عبر منصات مواقع التواصل الاجتماعي، ومدى استخدام مضيع الذكاء الاصطناعي في إثراء وتقديم المحتوى الإعلامي بصورة احترافية بالإضافة إلى مخاطر الذكاء الاصطناعي وتأثيرها على مستقبل الوظائف الإعلامية وأخلاقيات توظيفها في العمل الإعلامي.

الجغرافيا السياسية MCM 210

يتناول المساق العوامل السياسية والاقتصادية والاجتماعية للعلاقات الدولية من منظور جغرافي. يركز المساق على العوامل المؤثرة في نشأة الدول وتوسعها ويدرس الشكل النهائي للدولة وما يترتب عليه من مشكلات مع جيرانها. يلقي المساق الضوء على الموارد سواء الطبيعية أو البشرية التي تؤثر سلباً أو إيجاباً على قوة الدولة. يهتم المساق أيضاً

بالقاء الضوء على النظريات الخاصة بالإستراتيجية على المستوى الدولي ككل ومشكلات الحرب والسلام من منظور جغرافي.

سلوك المستهلك MCM 211

يتناول المساق عملية توضيح آلية سلوك المستهلك من خلال دراسة عدة عوامل مثل: عملية اتخاذ القرارات الشرائية وتجزئة السوق وتصميم الموقع التنافسي للمنتج، وتأثير ثقافة المجتمع والطبقة الاجتماعية والأسرة على سلوك المستهلك، الجماعات المرجعية في الاستهلاك، الظروف المحيطة بالموقف الشرائي، ودوافع السلوك الاستهلاكي بالإضافة الى مناقشة حالات دراسية متنوعة.

فن الاقناع MCM 212

يهدف هذا المساق الى تزويد الطالب بالمبادئ الأساسية لفن الاقناع والتأثير على الاخرين، واطلاعه على نظريات الاقناع وعلاقتها بالاعلام من حيث صياغة الرسائل الاعلامية والتواصل مع الجمهور، ومعرفة خصائصه، واتباع الوسائل الحديثة في عملية الاقناع.

علم النفس الاجتماعي MCM 213

يهتم المساق بدراسة النظريات النفسية التي تفسر أسس التأثير المتبادل بين الفرد والجماعة ونظرية الدور في السلوك الاجتماعي ومفهوم الذات والتعصب والتحيز وديناميات الجماعة والاتجاهات، كما

يتناول المساق استعراض بعض البحوث والدراسات والتطبيقات في مجال علم النفس الاجتماعي وتأثيرها على وسائل الإعلام.

الاتصال الخطابي MCM 221

يعرض المساق نظريات الخطابة كوسيلة إتصالية مع إلقاء الضوء على الأنواع المختلفة للخطابة سواء الفردية، المجموعات الصغيرة، أو الخطابة العامة. يسلط المساق الضوء أيضاً على أساليب الإقناع الخطابية بما فيها البناء التنظيمي للرسالة الخطابية وكيفية استخدام لغة الجسد بطريقة بناءة وأيضاً توظيف طبقات الصوت المناسبة.

التسويق الاجتماعي MCM 222

يتناول المساق مفهوم التسويق الاجتماعي الفرق بين التسوق الاجتماعي والتسويق التجاري، ويعرض نماذج ونظريات التسويق الاجتماعي، والأسس العلمية لأنشطة التسويق الاجتماعي، أنواع ومستويات التسويق الاجتماعي، التسوق الاجتماعي لبناء الصورة الذهنية، كما يغطي التسويق الاجتماعي لتعزيز القيم والممارسات الاجتماعية، ويتعرض إلى التسويق الاجتماعي في عصر الإنترنت، وتخطيط وتنفيذ أنشطة التسويق الاجتماعي ويتضمن نماذج وحالات دراسية.

الرأي العام MCM 223

يهدف المساق الى التعريف بماهية الرأي العام ملقياً الضوء على نماذجه ونظرياته في عصر الإنترنت والشبكات الاجتماعية. كما يتعرض المساق الى أنواع ومستويات الرأي العام وأدوات ومنهجيات قياسه.

يناقش المساق أيضاً آليات تحليل اتجاهات الرأي العام و دور الإعلام في تشكيله من خلال عرض قضايا محلية وعالمية كنماذج دراسية في مجال الرأي العام.

الاتصال الدولي MCM 301

يتناول المساق مفهوم الإعلام الدولي بما فيه النظام الإعلامي القديم والجديد ويناقش أدوات الإعلام في عصر العولمة. يتعرض المساق لدور الإعلام في العلاقات بين الدول والشعوب من خلال مناقشته للدبلوماسية الإعلامية في عصر الإنترنت والفضائيات و دور مؤسسات الإعلام العولمي الصحفية والتلفزيونية والإلكترونية في عملية الهيمنة الثقافية من خلال حالات دراسية في الإعلام الدولي.

الإعلام العربي MCM 321

يعرض المساق التطور التاريخي للإعلام العربي الرسمي والأهلي وأنظمتها وفق تغير معايير السياسة في العالم العربي من خلال عرض نماذج اعلامية محددة. بالإضافة الى ذلك، يناقش المساق الدور السياسي والاجتماعي للإعلام العربي في عصر العولمة مع عرض قضايا إعلامية عربية كنماذج دراسية للتوضيح.

الترجمة الإعلامية MCM 322

يقدم هذا المساق للطالب المبادئ الأساسية للترجمة. كما يوفر هذا المساق الأسس العلمية لبناء المقدر على الترجمة المتخصصة من اللغة العربية إلى الإنكليزية و بالعكس . و يحرص المساق على

الأدب العربي الحديث MCM 328

يتناول هذا المساق أبرز الأعمال الأدبية الحديثة باللغة العربية بما فيها الروايات والقصص القصيرة والشعر التقليدي والحديث، ويصنفها من حيث الأنواع الفنية وأساليب التعاطي مع اللغة والعناصر الفنية والأدبية في النصوص الأدبية، والمدارس الفكرية والفنية التي ينتسب إليها الأدب العربي. يركز المساق على أعمال أدبية بجانب السرد القصصي فى الإعلام ، و استخدام الوسائل الرقمية فى عرض الأعمال الأدبية.

السينما التسجيلية MCM 329

يتناول المساق التعرف على تطور مفهوم السينما التسجيلية فى العالم ودراسة السينما الوثائقية فى الوطن العربي والمقارنة بين الفيلم التسجيلي والفيلم الروائي، كما يتعرض المقرر لأنواع الفيلم التسجيلي، فضلا عن التطرق لرواد الفيلم التسجيلي إضافة إلى التركيز على المدارس الفنية الرئيسية للفيلم التسجيلي والمتمثلة فى التيارين الأمريكي والسوفيتي (سابقا)، وإكساب الطالب مهارات إعداد وإنتاج الفيلم التسجيلي

اقتصاد و إدارة المؤسسات الإعلامية

MCM 401

يتناول المساق مفهوم الإدارة ونظرياتها، وأنواعها، وأنشطتها وأساليب تنظيمها، وأثرها فى متابعة تنفيذ برامج المؤسسات وتحقيق أهدافها، وخصوصية الإدارة الإعلامية فى توجيه سياسة المؤسسات الإعلامية والمالية، وتقويم الإنتاج

تزويد الطالب بمهارات التفكير و الترجمة فى سياقها اللغوي بغض النظر عن المعنى الحرفي لها من خلال طرح أنماط مختلفة من المواد الإعلامية سواء أكانت مطبوعة أو غير مطبوعة مثل الصحف والمجلات والأفلام والتلفزيون. كما يشمل المساق ترجمة المقالات الافتتاحية للصحف والأخبار والسيناريوهات وترجمات الحوار. و يهدف المساق إلى تدريب الطالب على منهجية الترجمة للإعلام و ما تواجهها من قضايا لغوية ، ثقافية و أساليب التعامل معها.

التاريخ العربي الحديث MCM 326

يتناول هذا المساق أوضاع العالم العربي بعد الحرب العالمية الأولى وحقبة الاستعمار الأوروبي للبلاد العربية وحركات الاستقلال العربية فى العالم العربي ونشوء قضية فلسطين وتشكل الكيانات العربية المستقلة بعد الحرب العالمية الثانية ونشوء الكيانات الإقليمية مثل جامعة الدول العربية ومجلس التعاون لدول الخليج العربية، والعالم العربي فى عصر العولمة.

قضايا عالمية MCM327

يتناول هذا المساق أبرز القضايا العالمية مثل العولمة والإرهاب والفقر والجوع، والأمن الغذائي. كما يناقش قضايا الديمقراطية وحقوق الإنسان وتحقيق السلام، والتعاون الاقتصادي والثقافي، التي تشغل المؤسسات الدولية وكيفية تعامل هذه المنظمات مع هذه القضايا من خلال إستعراض حالات دراسية محددة.

الإعلامي، وتطوير المؤسسات الإعلامية وربطها بالمجتمع.

البروتوكول والإتيكيت MCM 421

يتناول هذا المساق أصول وقواعد العلاقات الدولية العامة. فهو يستعرض أساليب البروتوكول الدبلوماسي المعاصر و مفاهيمه وكذلك المواقف التي يتم استخدامه فيها، وكذلك يعرف المساق الطالب على أسس فن المراسم و كيفية تنفيذها، و الشروط الواجب توافرها في القائم بأعباء المراسم و الاستقبال.

إدارة العلاقات العامة PRM 301

يتناول المساق النماذج الكلاسيكية والحديثة والهياكل التنظيمية للعملية الإدارية في العلاقات العامة متضمنة التخطيط وتعزيز قنوات الاتصال الداخلية والخارجية وصولاً لبناء العلاقات التشاركية مع المؤسسات والمجتمع. كما يلقي المساق الضوء على أهمية الموارد البشرية والمالية المساندة في عملية التنسيق للأنشطة والفعاليات بهدف تحقيق الخطط الاستراتيجية والتشغيلية. يعتمد المساق على الاستعانة بنماذج وحالات دراسية كعوامل مساعدة للتوضيح.

الكتابة للعلاقات العامة PRM 302

يتناول المساق شرح متطلبات الأسلوب الكتابي للعلاقات العامة من خلال مناقشة أشكال كتابية متنوعة وصولاً لإنتاج مواد كتابية بهدف استخدامها كمادة للعلاقات العامة. ويهدف المساق إلى: شرح متطلبات الأسلوب الكتابي للعلاقات العامة،

ومناقشة أشكال كتابية متنوعة في العلاقات العامة، فضلاً عن إنتاج مواد كتابية متنوعة في العلاقات العامة.

إنتاج المواد للعلاقات العامة PRM 303

يتناول المساق مختلف المواد الاتصالية والإعلامية التي تستخدمها العلاقات العامة قى عملها بدءاً بالمواد التقليدية (المطبوعة، المسموعة والمرئية)، والمواد الإلكترونية (البريد الإلكتروني، الموقع الإلكتروني، تطبيقات التواصل الاجتماعي). ويركز المساق على المهارات المتصلة بالتطبيقات العملية لكل واحدة من تلك المواد الاتصالية والإعلامية، والتي يتمكن الطالب لاحقاً من التعامل مع جميع تلك المواد بطريقة فعالة تخدم إدارة العلاقات العامة في منظمة الأعمال.

العلاقات العامة الدولية PRM 321

يناقش المساق العلاقات العامة كنشاط علاقات إنسانية عابر للحدود. ويشرح مفهوم وعملية العلاقات العامة الدولية، ويستعرض مراحل تطورها، ونظرياتها الكلية والجزئية. ويتناول المساق أيضاً أساليب وتقنيات وممارسات العلاقات العامة الدولية في سياقات متعددة الثقافات وإدارة العلاقات العامة في عصر العولمة مع دراسات الحالة، والعوامل المؤثرة في العلاقات العامة الدولية، فضلاً عن مناقشة دراسات الحالة في العلاقات العامة الدولية.

حالات دراسية في العلاقات العامة PRM 401

يتناول المساق مناقشة تشكيلة واسعة من النماذج التطبيقية والحالات الدراسية في العلاقات العامة المحلية والدولية في مجالات البيئة والصحة والتعليم والاقتصاد والتكنولوجيا والدبلوماسية بهدف التعرف إلى واقع ممارسة العلاقات العامة وكيفية التعامل مع قضايا مختلفة في بيئات ثقافية متنوعة. ويهدف المساق إلى: شرح الجوانب الفريدة في ممارسة العلاقات العامة محلياً وعالمياً، ومناقشة المتغيرات التي تشكل ممارسة العلاقات العامة في المجتمعات المختلفة، ومعايير وممارسات العلاقات العامة حول العالم، إضافةً إلى تحليل حالات دراسية في العلاقات العامة.

حملات العلاقات العامة PRM 402

يتناول المساق مفهوم حملة العلاقات العامة، والفرق بينها والحملات الإعلامية والإعلانية، ويتطرق المساق إلى عملية تخطيط وتنفيذ حملات العلاقات العامة متضمنة عناصر الحملات من موارد بشرية وفنية ضرورية للنجاح. كما يتعرض المساق لأهمية دور بحوث الجماهير في عملية إعداد الرسائل الإعلامية والاتصالية، متضمنة تنفيذ وإدارة وتقييم حملات العلاقات العامة. ويستعين المساق بحالات دراسية محلية وعالمية كوسائل إيضاحية مساعدة. ويركز المساق على شرح مفهوم وعملية حملات العلاقات العامة، ومناقشة نماذج متنوعة لممارسات حملات العلاقات العامة، مبادئ التخطيط والتنفيذي

والمتابعة في حملات العلاقات العامة، إضافةً إلى إنتاج حملات علاقات عامة متنوعة.

العلاقات العامة عبر الإنترنت PRM 403

يقدم المساق الإنترنت كأداة اتصال، ويحدد العلاقات العامة الافتراضية ومبادئ وتقنيات العلاقات العامة عبر الإنترنت. كما يغطي إدارة وظائف العلاقات العامة عبر الإنترنت. يستطلع ممارسي العلاقات العامة عبر الإنترنت، العلاقات العامة الافتراضية في الإمارات العربية المتحدة مع دراسات الحالة. ويتناول المساق كذلك: شرح وتوضيح مدى قوة الويب كأداة للعلاقات العامة، ومناقشة العناصر الفنية والفكرية في العلاقات العامة عبر الإنترنت، والتعرف على تجارب العلاقات العامة الافتراضية المختلفة.

تدريب ميداني في العلاقات العامة PRM 410

يتناول المساق تمكين الطالب من التعرف على بيئة العمل الاتصالي والإعلامي كما هي في الواقع العملي من خلال التدريب في إحدى المؤسسات الإعلامية، ووكالات الإعلان وأقسام العلاقات العامة في الجهات الحكومية والأهلية من خلال علاقات الكلية والاتفاقيات المبرمة مع هذه الجهات. ويهدف المساق إلى تعزيز التطبيق العملي للأساليب والمعارف العلمية التي اكتسبها الطالب خلال مدة دراسته. ويركز المساق على تعريف الطلبة بالممارسات الإعلامية في الميدان، وتمكين الطالب من اللامام بخصائص بيئة العمل الحقيقية، فضلاً عن



اكتساب الطالب مهارات صياغة الاخبار والتقارير
وحملات العلاقات العامة والاعلان الالكتروني.

مشروع تخرج في العلاقات العامة PRM 422

يتناول هذا المساق تطبيق المجالات المعرفية
والمهارات التي تعلمها الطالب من أجل انجاز مشروع
التخرج في مجال العلاقات العامة، بحيث يستخدم فيه
معارفه النظرية ومهاراته العملية ليقدّم مشروعاً
تطبيقياً من اختياره وبموافقة المشرف والقسم،
مثل القيام بمشروع بحثي ميداني أو إنتاج حملة
إعلامية، وحملة علاقات عامة ذات صلة بالمجتمع
الإماراتي، أو إنتاج مجلات أو أفلام العلاقات العامة.
ويهدف المساق إلى: شرح عملية العلاقات العامة،
مناقشة عناصر التميز المهني في العلاقات العامة،
وتطبيق المبادئ النظرية في مجال علاقات عامة.



General Education Courses

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General Education Courses

BIT100 Introduction to Information Technology

Prerequisites: None

This is an introductory personal computer applications course. It includes the operating system (MS Windows), word processing (MS Word), spreadsheets (MS Excel), and presentation manager (MS PowerPoint), database applications (MS Access).

ENG100 English I

Prerequisites: One of the English proficiency Tests (Emst, IELTS, TOEFL etc.)

The course is designed for college students to benefit from an intensive skill-building curriculum that targets the main English skills. The focus of the course will be on reading and writing skill practice, grammar and structure application, and integration across the disciplines at the college-level. Students will be expected to successfully demonstrate and apply appropriate college-level reading and writing skills to a variety of assignments and assessments. Competences in contextualized reading and writing skills will be developed. Active reading and writing strategies will be learned through practice and application.

ENG104 English II

Prerequisites: ENG100

This is a writing course that helps students become competent writers by engaging them in the writing process and by encouraging them to explore and organize their ideas in writing well-organized and developed paragraphs and essays. Students also study grammar, basic sentence structure and mechanics. Written and

communication Skills will be developed and improved to prepare students for future careers.

GEN100 Communication Skills in Arabic

Prerequisites: None

أتت أهمية هذا المساق من المقولة الشهيرة الانسان كائن اجتماعي " ، فاللغة تتيح للفرد" الذي يجيدها الدخول في حركة المجتمع المحيط به بفاعلية أكثر وتأثير أوسع، كما أنها تمنح الطالب القدرة على القيادة، وامتلاك الرؤية السليمة الواعية للمستقبل. من هنا جاءت فكرة هذا المساق لتساعد الطالب على امتلاك الأدوات، الأساسية لمهارات الاتصال، استماعا، وتحديثا، وقرأة، وكتابة. كما تهدف هذه المادة إلى إلمام الطالب بالمفاهيم والنظريات في مجال الاتصال الإنساني وإكسابه المهارات الأساسية في مجال التواصل مع الذات والآخرين وتعزيز ممارستها في حياته اليومية والعلمية والعملية باستخدام أساليب جديّة تعتمد على التدريب والتقويم المتنوع والفعال.

GEN101 Communication Skills in Arabic for non-Arabic speakers

Prerequisites: None

صمم هذا المساق للمستوى فوق المتوسط من الطلاب حيث يعتمد على المهارات اللغوية، التي صممت خصيصًا لتزويد فئة الطلاب الناطقين بغير اللغة العربية بهدف تعزيز عملية التعلم بطريقة منهجية؛ ويستهدف المساق فئة الطلاب الذين يدرسون اللغة العربية لغة ثانية في المدرسة الثانوية أو الطلاب الذين لديهم والد واحد عربي حيث سيقوم المساق بمعاونتهم أيضًا في التغلب



على صعوبات التواصل في مكان العمل ومواقف الحياة اليومية. وستكون لغة الاتصال في المساق هي اللغة العربية البسيطة والمعاصرة المستخدمة في وسائل الإعلام والمحادثات الرسمية والتعليم وقضايا الحياة العامة.

GEN102 Islamic Culture

Prerequisites: None

اختلف الباحثون حول مصطلح الثقافة الإسلامية إذ فمنهم من وسع دلالتها ومنهم من ضيقها، وبما أننا نعيش الحاضر فما يعيننا هو ما يشغل العالم الإسلامي اليوم من فكر وما يحتاجه المسلمون من فهم، إذ لابد من أن يتعرفوا على ما يمتلكه العالم الإسلامي من مكونات حضارية قوية ويجيبوا عن سبب تخلف العالم الإسلامي رغم أنهم يمتلكون تلك المكونات، فيحدد العامل الأساسي وهو ضعف الفهم والتصور العقائدي والفكري مع إبراز مظاهره وآثاره، ثم البحث عن سبل مقاومة الضعف، بالانبعث الإسلامي التربوي التعليمي والسياسي والفهم الحقيقي لتلك المكونات ليكشف عن التحديات التي تواجه العالم الإسلامي داخليا وخارجيا كالعجز التعليمي، والتقني والعولمة ومحاربة هذه الثقافة من طرف قوى خارجية معادية للإسلام، مما أدى إلى تشويه صورة الثقافة الإسلامية ونعتها بانها ثقافة تنشر التطرف والعقلية المستبدة المتحجرة الراضة لكل تطور وتغير. ويستخدم هذا المساق المصادر الأولية القرآن والسنة، الكتب المنهجية، الروايات، الافلام، الانترنت.

GEN103 Logic and Critical Thinking

Prerequisites: ENG100

Critical Thinking is a course designed to help students develop their skills in reasoning, analysis, and the use of logical arguments.

This course introduces students to the standards of critical thinking, nature of arguments, deductive and inductive reasoning, fallacious reasoning, role of language, critical analysis, and evaluation. The students are also introduced to the basic skills of good reasoning needed for the intelligent and responsible conduct of life. The course also includes the application of concepts in familiar areas and current issues, to help students develop practical and useful logical and critical thinking skills to understand and appreciate viewpoints which are different from their own.

GEN105 Emirates Culture and Society

Prerequisites: None

يوفر هذا المقرر الدراسي المعلومات المناسبة والخاصة بالحياة الاجتماعية في دولة الإمارات العربية المتحدة. كما يغطي المقرر الدراسي الأحداث التاريخية والاقتصادية والسياسية المهمة التي شهدتها دولة الامارات العربية المتحدة منذ إعلان الاتحاد حتى الوقت الحاضر. إضافة لذلك فإن المقرر الدراسي يسلط الضوء على بعض الموضوعات المهمة حول حقوق الإنسان والتطورات الاقتصادية والسياسية والاجتماعية والثقافية التي شهدها المجتمع الإماراتي في نحوله إلى دولة حديثة. كما يتعرض المقرر الدراسي إلى أهم الإنجازات التي حققتها دولة الإمارات العربية المتحدة في مجال الفضاء والطاقة المستدامة.

GEN201 Psychology

Prerequisites: ENG100

This course is a capstone course that attempts to address the major theories, principles, and methodologies of psychology with special emphasis on their relations to human behavior. The biological foundations



of behavior, sensory processes, learning, perception, memory, emotion, motivation, personality, and the social basis of behavior are examined.

GEN302 Fundamentals of Innovation and Entrepreneurship

Prerequisites: ENG100

This course seeks to prepare students for how to apply core concepts regarding design thinking process, innovation, entrepreneurship, and sustainability to organizations in the UAE. Students will learn how to connect entrepreneurship to the UAE community and economy and how as entrepreneurs can utilize design thinking and innovation to establish their start-up enterprises. Design thinking, Entrepreneurship, and Growth and Leadership are three modules that will be covered throughout course delivery, study questions, videos, and projects.

GEN304 Ethics

Prerequisites: ENG100

This course exposes students to core concepts, ideals and practical issues regarding professional ethics and moral behaviors. The history and development, ethical guidelines/principles and contemporary theories of the subject-matter will be the focus of the introductory chapter. Furthermore, discussions will concentrate on the relevance of Professional Ethics to modern workplaces and environments. Morality and liability, employees and moral choices, employers, and moral choices, are themes which will be covered throughout course delivery, exams, and case studies.

MTH105 Mathematics & Statistics

Prerequisites: None

This course introduces some mathematical concepts needed for success and facing this century life. It covers different topics like; basic concepts of mathematics, such as ratios and proportions, general algebra, linear equations, and linear and exponential functions by graphing them. Additionally, it covers the basic concepts of statistics and how to analyze statistical results.

MTH110 Calculus I

Prerequisites: None

Calculus is an exciting subject, justly considered to be one of the greatest achievements of the human intellect. Today calculus is used not just in the physical sciences, but also in engineering, business, economics, life sciences, and social sciences—any discipline that seeks to understand dynamic phenomena. Part of the aim of this course is to train the student to think logically. Learn to write the solutions of the exercises in a connected, step-by-step fashion with explanatory sentences—not just a string of disconnected equations or formulas. This course is intended to introduce derivatives, one of the two key concepts of calculus. The second is integral. Both key concepts depend on the notion of limit.



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Course Description

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