UAEU

جامعة الإمارات العربية المتحدة
United Arab Emirates University

Graduate Program Catalog 2024-2025

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College of Business and Economics

Department of Accounting

Master of Professional Accounting

Description

The MPA is the first AACSB-Accredited Accounting program in the GCC and MENA region. It caters to practicing accountants and managers who have chosen the professional path, and who would like to further their education with a post-graduate degree in accounting. The program covers much wider areas of accounting than any of the other professional accounting certifications that tend to be narrowly specialized. In addition, it develops personal and business competencies (technical and non-technical) of graduates and provides them with an excellent foundation for successful professional careers. The degree will also be a natural route to a Doctorate of Business Administration (DBA).

Program Objectives

1. Communicate effectively in a professional context.
2. Think critically in relation to the analysis and solution of advanced accounting problems.
3. Work individually as well as contribute positively to the functioning of teams as members and leaders.
4. Ethically and socially responsible when making accounting-related decisions.
5. Demonstrate advanced specialized knowledge in accounting and cognate fields when appropriate.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate a highly developed professional oral presentation of information, criticizing substantively complex matters in accounting accompanied by appropriate technology.
2. Demonstrate abilities to communicate effectively in writing, using information technology to the production of highly developed professional written materials on substantively complex matters in accounting.
3. Apply advanced technologies and techniques (qualitative/quantitative) to the collection and analysis of financial and non-financial information and deriving appropriate decisions in various accounting fields.
4. Critically interpret information, through accurate identification of accounting complex problems, and suggestion of accounting-based innovative solutions.
5. Demonstrate autonomy, responsibility, and creativity in planning and executing major projects in their work.
6. Demonstrate ability to work in teams, showing leadership and direction, appropriate to complex accounting environment settings.
7. Apply professional standards and codes of conduct at national and international levels.
8. Relate complex ethical issues consistently, reflecting social responsibility, and leading to informed, fair and valid accounting-related decisions.
9. Demonstrate a comprehensive advanced knowledge of key concepts across the breadth of accounting topics.
10. Assess contemporary issues in accounting through synthesizing knowledge from accounting and cognate fields when appropriate.

Degree Requirements: Total Credit Hours: 36

			Course Credits
Professional Accounting			
Required Courses			
			(Required Credit Hours:24)
ACCT	600	Advanced Financial Accounting	3
ACCT	615	Advanced Management Accounting	3
ACCT	620	Auditing, Accountability and Assurance Services	3
ACCT	625	Corporate Governance, Business Ethics and Control	3
ACCT	630	Financial Accounting Standards, Theory and Policy	3
ACCT	635	Financial Statements Analysis	3
ACCT	640	Management Control Systems	3
ACCT	645	Seminar on Applied Research in Accounting	3

Elective Courses			
			(Required Credit Hours:24)
ACCT	661	Accounting in Special Contexts	3
ACCT	662	Risk-based Internal Auditing	3
ACCT	663	Accounting for Islamic Financial Institutions	3
ACCT	664	Legal Environment and Taxation	3
ACCT	665	Strategic Management Accounting	3
ACCT	666	Selected Topics in Financial Reporting	3
FINC	610	Financial Management	3

			Course Credits
Bridge Courses			
Students whose first degree is not accounting			
			(Required Credit Hours:12)
ACCT	500	Elements of Accounting and Finance	3
ACCT	505	Financial and Corporate Reporting	3
ACCT	510	Management and Cost Accounting	3
MGMT	510	Business Environment	3

Department of Management

Master of Business Administration

Description

The MBA experience at UAE University emphasizes leadership, innovation, and entrepreneurial creativity. During four semesters of courses, MBA students are guided through a progression of thoughts and shared experience that prepares them for confident, competent business leadership in and beyond the UAE business environment and provides the business community with high quality graduates who are capable of becoming the business leaders of the UAE and beyond.

Program Objectives

1. Advanced specialized knowledge and critical understanding in business administration and at the interface between related fields.
2. Highly developed communication skills, in a professional context, to explain and | or critique substantively complex matters.
3. Apply critical thinking skills to the analysis and solution of complex business problems.
4. Work effectively as individuals and contribute positively to complex groups as members and leaders.
5. Ethical and social commitment at the local and global levels.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate an advanced comprehensive knowledge of conventional and innovative concepts and principles across the breadth of business administration issues.
2. Demonstrate the ability to professionally apply business administration knowledge in practical settings.
3. Communicate in writing, using the appropriate information technology where appropriate, and to produce highly developed professional quality business documents on substantively complex matters in business administration.
4. Deliver a highly developed professional quality presentation, expressing a comprehensive internalized personal worldview on substantively complex matters in business administration accompanied by appropriate technology.
5. Identify appropriate sources of information and use appropriate analytical techniques in a systematic way that leads to integrate knowledge from different business administration related fields and use highly developed cognitive skills to think critically and creatively.
6. Demonstrate advanced problem solving skills by identifying a business complex problem, generating and comparing alternative strategic approaches to develop innovative solutions with intellectual independence.
7. Demonstrate autonomy, responsibility and continuous self-development in planning and executing a major project at their work places.
8. Demonstrate teamwork, coordination, and leadership abilities in a complex strategic business environment setting involving multiple groups and governance processes
9. Lead, contribute and implement ethical standards in a consistent and sensitive way that leads to informed, fair and valid decisions.
10. Analyze business administration issues, reflect ethical engagement, civic and social responsibility on socio cultural norms and relationships, and act to transform them.

Degree Requirements: Total Credit Hours: 48

			Course Credits
Exploration Term Courses			
Required Courses			
			(Required Credit Hours:9)
ACCT	601	Accounting for Senior Managers	3
ECON	605	UAE in the Global Business Environment	3
STAT	640	Statistics & Quantitative Analysis	3

			Course Credits
Elaboration Term Courses I			
Required Courses			
			(Required Credit Hours:9)
MIST	610	Information Systems in Business	3
MKTG	605	Marketing Management in an E-Age	3
FINC	610	Financial Management	3

			Course Credits
Elaboration Term Courses II			
Required Courses			
			(Required Credit Hours:9)
ECON	651	Managerial Economics	3
MGMT	650	Global Operations Management in the Service Environment	3
MGMT	610	Strategic Human Resources Management	3

			Course Credits
Application Term Courses			
Required Courses			
			(Required Credit Hours:9)
MGMT	620	Entrepreneurship & Innovation	3
MGMT	630	Business Ethics & Corporate Governance	3
MGMT	660	Strategic Management in a Dynamic Environment	3

Elective Courses

Choose one for each semester			
			(Required Credit Hours:12)
ACCT	610	Accounting Analysis & Governance	3
ACCT	611	Accounting for Strategic Decisions	3
ECON	610	HR & Personnel Economics	3
FINC	640	Advanced Corporate Finance	3
FINC	650	International Finance & Banking	3
FINC	660	Investment & Portfolio Management	3
FINC	670	Advanced Risk Management	3
FINC	680	Islamic Finance & Financial Institutions	3
GBUS	680	Business Research	3
MGMT	621	Leadership & Organizational Behavior	3
MGMT	622	Staffing Organizations	3
MGMT	623	Performance and Rewards Management	3
MGMT	624	HR Development in UAE Context	3
MGMT	691	Total Quality Management	3
MGMT	692	Organizational Excellence Modeling	3
MGMT	693	International Business Management	3
MGMT	694	Organizational PM & Benchmark	3
MIST	630	Strategic IS Management	3
MIST	640	Business Intelligence & BPM	3
MIST	650	E-Business: Technology, Strategies & Applications	3
MIST	660	Enterprise IS	3
MKTG	610	Contemporary Issues in Customer Behavior	3

Doctor of Business Administration

Description

The DBA is a four-year blended part-time program and is structured in two stages. Stage One consists of two years of course work that covers research philosophies, qualitative and quantitative research methods, research in support of business functions, literature review & critique, and human factors and social responsibility. Stage Two lasts two years and comprises the DBA thesis. At this stage the formal teaching aspect of the program ends and students are expected to use the knowledge gained from Stage One to undertake a research investigation that represents an original contribution to professional thinking and practice and has high academic merit. DBA candidates often tackle issues of real importance to their own organizations, thus delivering high-utility outcomes and enjoying the rewards of seeing their solutions beneficially implemented. During this period, the student's work will be overseen by a Thesis Committee. The program is completed after successful submission and defense of the dissertation.

Program Objectives

1. Enabling senior managers to enhance their professional practice and contribute state-of-the-art knowledge in their chosen area of study.
2. Producing research oriented professionals with advanced capabilities in leadership and change management.
3. Allowing graduates to take back to their organizations increased understanding and conceptual thinking in business management at the highest level.
4. Enhancing competitive advantage for the executives and their organizations, by participating in discussions with academics and practitioners at the cutting edge of their fields.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Communicate effectively, in writing and orally, highly complex and diverse academic and professional information to expert audiences.
2. Apply a range of mastered critical thinking skills and techniques including synthesis, evaluation, planning and reflection to extend and redefine professional practice and knowledge.
3. Evaluate highly technical data and information to provide innovative and sustainable practical solutions to challenging and interdisciplinary business problems.
4. Demonstrate effective leadership capabilities, to act with autonomy and integrity, in various professional contexts.
5. Assess, diverse issues, using ethical reasoning, in managing highly complex interdisciplinary organizational problems.
6. Create new knowledge and innovative, practical solutions to challenging and interdisciplinary business problems.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Courses			
Required Courses			
			(Required Credit Hours:24)
DBA	711	Philosophy and Process of Applied Business Research	3

DBA	712	Quantitative Data Analysis	3
DBA	713	Qualitative Research Methods	3
DBA	714	Advanced Techniques in Quantitative Analysis	3
DBA	715	Organizational Leadership	3
DBA	716	Theory and Practice of Managing Organizations	3
DBA	717	Emerging Markets and Global Models of Business	3
DBA	718	Sustainability, Innovation and Entrepreneurship	3

Course Credits

Qualification Requirements (Req. CH: 0)

Required Course

(Required Credit Hours:0)

DBA	800	Comprehensive Examination	0

Course Credits

Research Requirements (Req. CH: 30)

Required Course

(Required Credit Hours:30)

DBA	919	Dissertation Research Proposal	9
DBA	920	Dissertation Research Part 1	9
DBA	921	Dissertation Research Part 2	12

Department of Statistics & Business Analytics

Master in Business Analytics

Description

The post-graduate program in Business Analytics at UAEU introduces the various information technologies, as well as analytical models and methods, for transforming business data into information, knowledge, and subsequently digital assets. The program provides the fundamental background, as well as advanced applications of statistics, visual analytics, machine learning, data analytics, optimization, and other analytical techniques. Three distinctive features of the program are: the emphasis on real-world applications in diverse functional areas of business; the enrichment of lecture materials through practical experience with state-of-the-art software tools; and the flexible program structure which allows for conducting a capstone project based on a data-driven real world problem coming from a client company.

Each course is delivered in an intensive mode during an eight weeks term through 9 sessions of 5 hours each. The Fall and Spring semesters consist of two eight weeks terms each. Two courses are offered each term.

Program Objectives

1. Knowledge and skills in analytical modeling and problem solving.
2. Critical thinking, research, and analytical skills to gather data and information and solve problems involving big and/or complex data.
3. Effective work and communication skills, including the ability to work efficiently and effectively in teams.
4. Skills to execute ethical standards and comply with laws in organizations, at local and global levels.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Appraise various information technologies, as well as analytical models and methods, through advanced and specialized knowledge, for transforming data into information, knowledge, and subsequently digital assets.
2. Select descriptive, diagnostic, predictive, and prescriptive analytical models, methods, and tools, based on problem context, business objectives, and data sources.
3. Apply analytical methods, including statistics, data analytics, and optimization, for advanced analysis of data-driven problems in business and industry.
4. Develop innovative research-driven solutions for discovering actionable insights, driving sustainable decisions, and developing novel business models.
5. Communicate effectively to specialized and non-specialized audiences, verbally, visually, and in writing, the results and interpretation of data-centric analyses of business and industry problems.
6. Execute business analytics activities and projects with autonomy, entrepreneurship, and leadership.
7. Conduct business analytics activities and projects as an effective and collaborative team member.
8. Implement the principles of privacy, ethics and governance in business analytics, while reflecting on socio-cultural norms.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Core Requirements			
Required Courses			
			(Required Credit Hours:18)
BANA	520	Digital Business Innovation	3
BANA	540	Visual Analytics & Business Intelligence	3
BANA	560	Applied Optimization	3
BANA	600	Business Analytics Applications	3
STAT	520	Foundations for Analytics	3
STAT	555	Data Analytics & Machine Learning	3
			Course Credits
Projects/Capstones (Required Credit Hours: 3 - 6)			
Students should take either BANA 690 or, BANA 691 and BANA 692			
			(Required Credit Hours: 3 - 6)
BANA	690	Analytics Project	3
		or	
BANA	691	Capstone Project I	3
BANA	692	Capstone Project II	3
			Course Credits
Elective Courses (6 CR or 9 CR)			
1 - Students who take the Analytics Project (BANA 690) should select 9 credit hours from the courses listed below. 2 - Students who take the Capstone Project (BANA 691 and BANA 692) should select 6 credit hours from the courses listed below.			
			(Required Credit Hours: 6 - 9)
BANA	652	Analytics for Accounting & Finance	3
BANA	655	People Analytics	3
BANA	661	Marketing Analytics	3
BANA	656	Analytics for Operations & Supply Chains	3
			Course Credits
Bridging Course			
This bridging course is only needed for students who did not take an undergraduate statistics course and is a prerequisite for the STAT 520 - Foundations for Analytics			
			(Required Credit Hours:0)
STAT	501	Statistics Bridging (online-MBAN)	0

Bachelor-Master Accelerated Option in Business Analytics

Description

Baccalaureate degree-seeking students with high grade point average (GPA) can get pre-admitted in the Master's in Business Analytics (MBAN) degree program and earn graduate credits while still fulfilling the requirements for the BS or BA degree. This option offers these students a quicker path to complete their targeted Master's degree within 9 months instead of the current one year 3 months after the Bachelor, with proper advising and guidance. The pre-admission option will be offered for students studying in the BS or BA programs who may want to earn a Master's degree in one of the Master programs they are eligible for. Each college offering Bachelor-Master programs will provide a full list of the Master programs that can be selected by students studying in specific Bachelor programs.

Objectives

1. Make it easier for BS/BA students to continue on to graduate study to provide them advanced knowledge, skills, and attributes to become independent learners and leaders in Business Analytics or in an interdisciplinary area and open up opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
2. Shorten the study period to earn graduate degrees for outstanding students, as they may be able to complete their MBAN degree within 9 months after the BS/BA instead of the typical 1 year 3 months in the regular admission route.
3. Better prepare the graduates for the current and future requirements of professional registration with the UAE and internationally, for which having a MBAN degree would be an advantage as its accredited by CAA and AACSB.
4. Foster a tradition of graduate research activity in the discipline with the expectation that there will be ancillary benefits to the undergraduate program.

Credit Requirements

Students must complete all BS/BA degree requirements within their college. After completing the BS/BA degree, students can earn a Masters degree by completing the required credit hours of graduate course work for the thesis or non-thesis option. The Bachelor-Master students will be advised on their training/internship, electives, and senior project selections so as they are oriented earlier for graduate study in their selected discipline. As an incentive, Bachelor-Master students will also be allowed to earn their Masters degree by completing up to 6 CH less than the standard route. The 6-CH difference is accounted for by double counting up to two 500-level courses from the Master program. The double counted courses are typically applied courses that provide additional instruction to students beyond the core BS/BA courses making them suitable for both undergraduate and graduate credits. The Bachelor-Master students will not pay fees for the double counted courses because they part of the requirements for the Bachelor's degree which is covered by the Federal Government. Students may also take 1-2 graduate study courses during their senior year and complete the rest of the MBAN requirements within one additional year after completing their BS/BA degree.

General Admission Requirements

1. Advanced level (Junior or Senior) status in a relevant BS or BA program. The applicant may apply for the Bachelor-Master Accelerated Option after successful completion of 75 CH; however, the applicant must have successfully completed a minimum of 90 CH in the Bachelor degree program with a cumulative GPA of 3.5 or higher.

2. Proficiency in English demonstrated by a score of 6.0 or higher in the IELTS or equivalent.
3. A statement of professional goals.
4. Clearing the Interview

Early Admission Procedure

Interested students should first check on their eligibility with their respective Graduate Program Coordinator, then submit an application as specified by the University's Admission office to the Departmental Chairperson by the announced deadline. Such an application should be simpler than the regular graduate program application, as the student information is already on file with the Registrar's office. Once the early admission requirements are reviewed by the respective Graduate Program Committee, its recommendation for admission is forwarded to the University's Admission Office for official preadmission by the announced university deadline for regular admission to graduate programs. The deadline for filling an application with the department should allow students completing 80 CH or more in any particular semester to apply for Bachelor-Master status starting in the following semester.

Academic Advising Guidelines

During the first semester, the Bachelor-Master student will confer with the respective Graduate Program Coordinator and faculty members who correlate with his/her research interests. After potential research areas have been identified and mutually agreed upon with a faculty member and the Graduate Program Committee, the designated faculty member will become the student's academic advisor to recommend and approve his/her course schedule for the rest of the duration of the program. This academic advisor will also supervise the student's thesis if the thesis option is chosen.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply to the undergraduate portion of the studies and the graduate portion. Thus, if for example, the Bachelor-Master student cannot maintain a cumulative grade point average (GPA) in the graduate courses taken at UAEU of 3.0 or more, he/she will be placed on probation with possible dismissal from the MBAN eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 145

			Course Credits
Double Counted Courses			
Any two courses from the list below will be double counted toward their Master in Business Analytics:			
			(Required Credit Hours:6)
BANA	652	Analytics for Accounting & Finance	3
BANA	656	Analytics for Operations & Supply Chains	3
BANA	560	Applied Optimization	3

			Course Credits
BSc Replaced Courses for BSc in Statistics and Data Analytics			
The two courses below of BSc in Statistics and Data Analytics (Statistics Concentration) courses will be replaced by the double counted courses:			

			(Required Credit Hours:6)
STAT	410	Design of Experiments	3
STAT	475	Selected Topics in Statistics and Data Analytics	3

The two courses below of BSc in Statistics and Data Analytics (Analytics for Business Concentration) courses will be replaced by the double counted courses:			
			(Required Credit Hours:6)
BANA	420	Graph Analytics	3
BANA	430	Applied Optimization	3

College of Education

Department of Learning and Educational Leadership

Master of Education

Description

The UAEU Master of Education (MEd) Program is practice oriented, with the primary focus on developing the knowledge, skills, and practice of graduate students. The program is designed for those with a background in education, such as graduates of education programs, school teachers, principals, and other professionals working in educational or early childhood settings who are eager to pursue graduate studies to improve their performance. It focuses on preparing educational practitioners and leaders who will engage in enhanced practice, curriculum development, decision-making, and community outreach. The program is based on the best international standards, which will help in facilitating the continuous improvement of education in the United Arab Emirates. The MEd program offers four concentrations: Early Childhood Education; Educational Leadership; Special Education; and Curriculum and Instruction, within which there are five tracks: English, Arabic, Mathematics, Science and Social Studies.

The United Arab Emirates University's College of Education is considered a pioneer in the Middle East in Teacher Education preparation, demonstrated by its attainment of international recognition and accreditation from the Council for Accreditation of Educator Preparation (CAEP) in 2020. All concentrations and tracks of the program are benchmarked alongside international standards and are fully accredited.

Program Objectives

1. Acquire advanced knowledge of educational theory, research, and skills related to the area of specialization.
2. Enhance ability to incorporate theory and research into practice related to the area of specialization.
3. Become a reflective practitioner within the area of specialization.
4. Become an educational leader and promotes the success of students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning.
5. Enhance ability to use problem solving skills and critical thinking abilities to develop, implement, and evaluate collaborative teaching and learning activities.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply advanced knowledge and skills necessary in their area of specialization.
2. Create a responsive learning environment in which equal treatment, fairness, and respect for diversity are sustained.
3. Collaborate with stakeholders to improve programs, services, and outcomes for students and their families.
4. Use quantitative and qualitative research methods that enhance teaching and learning practices and/or school operations.
5. Demonstrate leadership abilities in the profession.
6. Integrate ICT (Information and Communication Technology) into teaching and learning and/or school operations.

7. Use effective communication skills to manage the complexities of teaching for learning in diverse educational settings.

Degree Requirements: Total Credit Hours: 36

			Course Credits
College of Education			
Required Courses			
			(Required Credit Hours:9)
CURR	612	Introduction to Educational Research	3
FOED	616	Leading Schools and Communities	3
SPED	618	Human Development and Individual Differences	3
Elective Courses			
			(Required Credit Hours:6)
CURR	613	Advanced Technology Application in Education	3
CURR	614	Advanced Educational Research	3
CURR	617	Current Issues in Teaching and Learning	3
FOED	615	International Perspective on Educational Leadership	3
FOED	619	Leadership of Change in Education Organizations	3
SPED	624	Inclusive Learning Environment	3

			Course Credits
Curriculum and Instruction Concentration			
Required Courses			
			(Required Credit Hours:15)
CURR	617	Current Issues in Teaching and Learning	3
CURR	621	Advanced Studies in Curriculum and Instruction	3
CURR	622	Class Assessment and Program Evaluation	3
CURR	640 *	Thesis	6
		or	
CURR	650	Master Graduation Project	6
		* Students should either take CURR 640 for Thesis or CURR 650 for Non-Thesis	
Students should select two courses from the following list:			
			(Required Credit Hours:6)
CURR	630	Advanced Teaching Methods in Mathematics 1	3

CURR	631	Advanced Teaching Methods in Mathematics 2	3
CURR	632	Advanced Teaching Methods in Science 1	3
CURR	633	Advanced Teaching Methods in Science 2	3
CURR	634	Advanced Teaching Methods in English 1	3
CURR	635	Advanced Teaching Methods in English 2	3
CURR	636	Advanced Teaching Methods in Arabic 1	3
CURR	637	Advanced Teaching Methods in Arabic 2	3
CURR	638	Advanced Teaching Methods in Social Studies 1	3
CURR	639	Advanced Teaching Methods in Social Studies 2	3

Course Credits

Educational Leadership Concentration

Required Courses			
			(Required Credit Hours:21)
FOED	621	Personnel Administration and Staff Development	3
FOED	622	School Finance and Resource Management	3
FOED	623	Professional and Cultural Issues in Education	3
FOED	624	Educational Supervision	3
FOED	625	School Leadership	3
FOED	640 *	Thesis	6
		or	
FOED	650	Master Graduation Project	6
		* Students should either take FOED 640 for Thesis or FOED 650 for Non-Thesis	

Course Credits

Special Education Concentration

Required Courses			
			(Required Credit Hours:21)
SPED	621	Advanced Assessment in Special Education	3
SPED	622	Characteristics and Teaching Techniques for Individuals with mild/moderate disabilities	3
SPED	623	Advanced Collaboration in Special Education	3
SPED	624	Inclusive Learning Environment	3
SPED	625	Curriculum Modifications for Exceptional Individuals	3

SPED	640 *	Thesis	6
		or	
SPED	650	Master Graduation Project	6
		* Students should either take SPED 640 for Thesis or SPED 650 for Non-Thesis	

			Course Credits
Early Childhood Education Concentration			
Required Courses			
			(Required Credit Hours:15)
CURR	625	Assessment, Evaluation and Planning in ECE	3
CURR	626	Child Guidance: Family; Community; and Care.	3
CURR	627	Critical Concepts & Issues in Early Childhood (CCIEC)	3
CURR	628	Early Childhood Pedagogy in Practice (ECPP)	3
CURR	629	Integrated Curriculum in the Early Years	3
CURR	640 *	Thesis	6
		or	
CURR	650	Master Graduation Project	6
		* Students should either take CURR 640 for Thesis or CURR 650 for Non-Thesis	

Students should select two courses from the following list:			
			(Required Credit Hours:6)
CURR	618	Growing up in a Digital World	3
CURR	619	Advanced Educational Research in ECE	3
CURR	620	STEM Education in ECE	3
CURR	623	Language and Literacy in Early Childhood	3
CURR	624	Birth to Four – Caring and Learning Environments	3
SPED	624	Inclusive Learning Environment	3

Master of Educational Innovation

Description

The Master of Educational Innovation program aims to prepare teachers and leaders to be innovative in their teaching and school leadership practices. The program does not only focus on helping students acquire new knowledge in teaching and school leadership, but also on enhancing learners' skills through teamwork, collaborative learning, and linking theory to practice. In addition, the program provides learners with new frameworks and thinking patterns that cherish innovation and acceptance of change to keep pace with developments in education. Finally, the program allows students to focus on scientific research skills and use them to solve issues and problems that they might face in their workplaces in new and innovative ways. Arabic is the main language of instruction in this program. The Master of Educational Innovation Program comes as a result of collaboration between the UAE University represented by the College of Education and the Hamdan Bin Rashid Al Maktoum Foundation for outstanding educational performance. The Foundation fully sponsors a minimum of 10 students annually to join this program. A noteworthy point is that this program is also open to applicants from outside the Foundation. The Master of Educational Innovation offers two concentrations of study: Innovation in School Leadership and Innovation in Teaching. The program is a 30 credit hour program where students study 10 courses over the period of around 18 months. The total fees of the program, excluding the 200AED application fees, is 72000AED, and for the course is 7200AED. The Master of Educational Innovation program is delivered in a face-to-face format with classes held on Wednesday or Thursday afternoon (from around 4:00 – 7:00 pm) and on Saturdays all day (from 9:00 am – 4:00 pm). The program is offered at Hamdan bin Rashid Al Maktoum Center for Giftedness and Innovation, Al Beda'a, Dubai.

Program Objectives

1. Support distinguished teachers and educational leaders across the United Arab Emirates.
2. Develop teachers and educational leaders' skills and abilities.
3. Supply the educational field with outstanding national force that can contribute to the prosperity and development of the society.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Establish a national network of best practice related to innovation
2. Critique innovational educational theories and practices.
3. Design innovational learning programs to meet diverse learners' needs.
4. Create innovative projects to improve school performance.
5. Conduct innovative research projects to improve educational practices.

Degree Requirements: Total Credit Hours: 30

Degree Requirements			
Required Courses			
			(Required Credit Hours:9)
CURR	651	Introduction to Educational Research_AR	3
FOED	652	Leading Schools & Communities_AR	3
SPED	653	Human Development & Individual Differences	3
			Course Credits

Elective Courses

Student should select one course from the list			
			(Required Credit Hours:3)
CURR	654	Current Issues in Teaching and Learning_AR	3
FOED	655	International Perspectives on Educational Leadership	3
SPED	656	Inclusive Learning Environment_AR	3
			Course Credits

Innovation in Teaching Concentration

Required Courses			
			(Required Credit Hours:18)
CURR	661	Smart Classrooms	3
CURR	662	Classroom Assessment & Program Evaluation	3
CURR	663	Artificial Intelligence Applications in Education_AR	3
CURR	664	Teaching for Thinking_AR	3
CURR	665	Professional Portfolio Development 1_AR	3
CURR	666	Professional Portfolio Development 2_AR	3
			Course Credits

Innovation in School Leadership Concentration

Required Courses			
			(Required Credit Hours:18)
FOED	661	Management of Distinguished Institutions_AR	3
FOED	662	Leading School Change_AR	3
FOED	663	Managing Student Services	3
FOED	664	Evaluation & Modern Supervision	3
FOED	665	Professional Portfolio Development 1_AR	3
FOED	666	Professional Portfolio Development 2_AR	3

Dual Master of Education Program with the Education University of Hong Kong

Description

With internationalization as the worldwide trend for further development of tertiary education, global engagement opportunities have been brought to postgraduate students through a variety of channels. Making reference to the collaboration model, a dual degree is now proposed to students in College of Education's (CEDU) MEd program - The Dual Master of Education Degree Program with Education University of Hong Kong. It is expected that the dual degree arrangement between EdUHK and UAEU will effectively pool the expertise of two universities together and add value to the existing MEd program. Moreover, this provides opportunities for students to be exposed to different intellectual and cultural environments, and will have the opportunity to be under a joint supervision team comprising of academics from both universities.

Admission Requirements

- For the admission requirements, current students in the EdUHK MEd program who have chosen the research project option and have satisfied all the requirements set by the partner university are eligible. The partner university will make the final decision on the acceptance of each student after review of all relevant documents.
- The arrangement will be the same for UAEU MEd students enrolling in the EdUHK MEd program.

Enrollment and Fees

MEd students of EdUHK who are interested in enrolling in the dual MEd degree program with UAEU have to submit a formal application for the program. Upon acceptance of the dual master's degree program, they will then need to prepare for the research proposal.

The student will have to pay the appropriate tuition fees and miscellaneous student fees to the "own" university only. Neither university will be expected to pay the other university for the collaboration.

Research and Thesis

Students are provided an opportunity to choose whether to complete a thesis or research project to offer a measure of flexibility to different types of students who are interested in the program. It is to be noted though that regardless of whether they choose the thesis or research project option, the students are expected to be the first author of at least one journal article submitted to a journal recognised by both universities.

Supervision

The joint supervision team will comprise academics from both universities, with a proper balance of members belonging to the two universities. There will be two co-principal supervisors, one from EdUHK and the other from UAEU. A combination of strategies of in-person and virtual/remote communication will be used. The students and teaching teams from both universities may be invited to spend brief periods at partner institutions. Teaching staff will have opportunities to engage in exchange activities of teaching, research collaboration and training and these events will also allow in person access of supervisors.

To enhance the opportunities for postgraduate students to access resources and expertise at the partner university, students will work under the supervision of academic staff from both universities once they pass their research proposal presentation and enter the research inquiry stage. There will be two co-principal supervisors, one from EdUHK and the other from UAEU. A combination of

strategies of in-person and virtual/remote communication will be used. The arrangements can facilitate staff interactions between EdUHK and UAEU while enhancing students' acquisition of research and transferable skills together.

Principal supervisors from both universities will be responsible for the nomination of the Research Project / Thesis Examiners. Details will be specified in the agreement for each candidate. Normally, principal supervisors of the joint supervision team will have to attend the Examination in person as observers.

The individual cooperation agreement based on the sample agreement has to be made between EdUHK and UAEU for each successful applicant for this dual MEd degree program. More specific details on the co-supervision arrangement will be included in the agreement.

Methods of Learning and Teaching

Students in this collaborative program will have to take a certain number of taught courses in their home institution as required by courses. The methods of learning and teaching will follow the existing practice of EdUHK and UAEU respectively.

Apart from taking courses at their home institution, students will have to take taught courses at the partner institution. The courses will not only help students to develop their subject-specific knowledge and transferable soft skills, but also widen their global perspectives by exposing themselves to a different learning environment. Moreover, through spending a brief period at partner institution, students will have opportunities to access the academic facilities, latest research tools, technologies, and resources of the partner institution and meet with postgraduate students and academics of different cultural backgrounds.

Assessment and Graduation Requirements

- The student has to enroll at both EdUHK and UAEU, under the supervision of a joint supervision team, in which there is a principal supervisor from each university (i.e., there will be co-principal supervisors). Both universities will sign an agreement for each candidate, which outlines the research and enrolment arrangements.
- The student has to complete all taught courses required by both universities.
- Research work for the thesis has to be carried out in both universities but what parts of the research are to be done in which institution can be worked out between the student and the two supervisors. Each participating student's exact period of stay is to be agreed by both institutions (normally no less than 4 months at each of the two universities; with discretion in special cases allowed). The participating students also have to satisfy other residential requirements of the two universities separately.
- A single Research Project / Thesis has to be submitted to both universities. An oral defence/viva examination will be organised as one and the only session held at and arranged by either EdUHK or UAEU as specified in the agreement for the candidate. The examination should be held in accordance with the regulations of UAEU and the EdUHK's General Academic Regulations for Taught Postgraduate Programs and Master of Education Program Research Project Guideline.
- For the purpose of finally assessing the Research Project / Thesis, expert committee will be appointed based on equal representation of both universities as specified in the agreement for the candidate. Principal supervisors from both universities are expected to attend the oral examination in person as observers.
- In addition to the Thesis, at least one article, from the research project, must have been submitted to a journal recognised by the Research and Development Office of EdUHK.

Master Degree

Two certificates (a MEd degree awarded by EdUHK and a MEd degree awarded by UAEU) will be awarded to students when they satisfy the following requirements:

- satisfy the course and credit requirements set out by EdUHK and UAEU
- pass Research Project / Thesis examination
- be the first author of at least one journal article submitted to a journal recognised by both universities.

Career Opportunities

Upon completion of this collaborative program, students will be able to achieve the intended learning outcomes of both the EdUHK and the UAEU MEd programs. In addition, the learning experience in this collaborative program will contribute to our MEd students' development and enhance their competitive edge. Participating in the program will extend their network through contact with academics and professionals at postgraduate level and thus effectively enhance their employability.

Program Aims and Objectives

Upon completion of this collaborative program, students will be able to achieve the intended learning outcomes of both the EdUHK and the UAEU MEd programs. In addition, the learning experience in this collaborative program will contribute to our MEd students' development and enhance their competitive edge by:

- Conduct research using the latest research tools, technologies, and resources of both institutions.
- Develop their network through contact with academics and professionals at postgraduate level to enhance their employability.
- Develop subject-specific knowledge and transferable soft skills.
- Cultivate their cultural consciousness and improving their ability to effectively engage in cross-cultural communication.

Degree Requirements

(The required coursework is based entirely on the courses offered in the Master program in Education at UAEU)

Program Objectives

1. Acquire advanced knowledge of educational theory, research, and skills related to the area of specialization.
2. Enhance ability to incorporate theory and research into practice related to the area of specialization.
3. Become a reflective practitioner within the area of specialization.
4. Become an educational leader and promotes the success of students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning.
5. Enhance ability to use problem solving skills and critical thinking abilities to develop, implement, and evaluate collaborative teaching and learning activities.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply advanced knowledge and skills necessary in their area of specialization.
2. Create a responsive learning environment in which equal treatment, fairness, and respect for diversity are sustained.
3. Collaborate with stakeholders to improve programs, services, and outcomes for students and their families.
4. Use quantitative and qualitative research methods that enhance teaching and learning practices and/or school operations.
5. Demonstrate leadership abilities in the profession.
6. Integrate ICT (Information and Communication Technology) into teaching and learning and/or school operations.
7. Use effective communication skills to manage the complexities of teaching for learning in diverse educational settings.

Degree Requirements: Total Credit Hours: 36

			Course Credits
College of Education			
Required Courses			
			(Required Credit Hours:9)
CURR	612	Introduction to Educational Research	3
FOED	616	Leading Schools and Communities	3
SPED	618	Human Development and Individual Differences	3
Elective Courses			
			(Required Credit Hours:6)
CURR	613 *	Advanced Technology Application in Education	3
CURR	614 **	Advanced Educational Research	3
CURR	617 ***	Current Issues in Teaching and Learning	3
FOED	615 ****	International Perspective on Educational Leadership	3
FOED	619	Leadership of Change in Education Organizations	3
SPED	624	Inclusive Learning Environment	3
		* Replaces courses "Introduction to English for Academic Purposes" and "Learning and Teaching in Education for Sustainability" and "Instructional Design in Mathematics" at EduHK	
		** Replaces the course "Research Method in Humanities" at EduHK	
		*** Replaces the course "Educational Reform and Development in Global Context" at EduHK	
		**** Replaces the course "Organizational Dynamics " at EduHK	

Curriculum and Instruction Concentration

Required Courses			
			(Required Credit Hours:15)
CURR	617	Current Issues in Teaching and Learning	3
CURR	621 *	Advanced Studies in Curriculum and Instruction	3
CURR	622	Class Assessment and Program Evaluation	3
CURR	640 **	Thesis	6
		or	
CURR	650	Master Graduation Project	6
		* Replaces the course "Educational Reform and Development in Global Context" at EduHK	
		** Students should either take CURR 640 for Thesis or CURR 650 for Non-Thesis	

Students should select two courses from the following list:			
			(Required Credit Hours:6)
CURR	630	Advanced Teaching Methods in Mathematics 1	3
CURR	631 *	Advanced Teaching Methods in Mathematics 2	3
CURR	632	Advanced Teaching Methods in Science 1	3
CURR	633 **	Advanced Teaching Methods in Science 2	3
CURR	634	Advanced Teaching Methods in English 1	3
CURR	635	Advanced Teaching Methods in English 2	3
CURR	636	Advanced Teaching Methods in Arabic 1	3
CURR	637	Advanced Teaching Methods in Arabic 2	3
CURR	638	Advanced Teaching Methods in Social Studies 1	3
CURR	639	Advanced Teaching Methods in Social Studies 2	3
		* Replaces the course "Mathematical Thinking and Assessment" at EduHK	
		** Replaces the course "Innovative and Technology-enhanced Science Teaching" at EduHK	

Educational Leadership Concentration

Required Courses			(Required Credit Hours:21)
FOED	621	Personnel Administration and Staff Development	3
FOED	622	School Finance and Resource Management	3
FOED	623	Professional and Cultural Issues in Education	3
FOED	624	Educational Supervision	3
FOED	625 *	School Leadership	3
FOED	640 **	Thesis	6
		or	
FOED	650	Master Graduation Project	6
		* Replaces the course "Effective Educational Leadership " at EduHK	
		** Students should either take FOED 640 for Thesis or FOED 650 for Non-Thesis	

Course Credits

Special Education Concentration

Required Courses			(Required Credit Hours:21)
SPED	621	Advanced Assessment in Special Education	3
SPED	622	Characteristics and Teaching Techniques for Individuals with mild/moderate disabilities	3
SPED	623 *	Advanced Collaboration in Special Education	3
SPED	624	Inclusive Learning Environment	3
SPED	625 **	Curriculum Modifications for Exceptional Individuals	3
SPED	640 ***	Thesis	6
		or	
SPED	650	Master Graduation Project	6
		* Replaces the course "Supporting Parents and Families with Diverse Needs" at EduHK	
		** Replaces the courses "Social-Emotional Development and Special Needs" at EduHK	
		*** Students should either take SPED 640 for Thesis or SPED 650 for Non-Thesis	

Doctor of Philosophy in Mathematics Education

Description

The proposed PhD program in Mathematics Education prepares students to address key research issues related to Mathematics education in the UAE. Students in the program will acquire expertise in applying and evaluating appropriate research methodologies to inform recent developments in the field of Mathematics education.

Program Objectives

1. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
2. Develop graduates' scholarly inquiry grounded in research and the reality of practice in education.
3. Enhance graduates' professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in educational sectors.
4. Provide opportunities for graduates to adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze educational issues and topics of interest in the field of Mathematics Education.
2. Create an original research in Mathematics Education that adds to human knowledge.
3. Assess issues, decisions, or practices in Mathematics Education applying relevant research methodology to finding a possible solution.
4. Explain the major tenets of Mathematics Education orally, and in writing, to different audience.
5. Devise strategies or actions that resolve ethical issues in Mathematics Education.
6. Apply research skills in Mathematics Education to other work environments and career opportunities inside and outside academia.

Degree Requirements: Total Credit Hours: 60

			Course Credits
Core Courses			
Required Courses			
			(Required Credit Hours:9)
CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Students from Culturally and Linguistically Divers Background	3
Research Methodology Requirements			
			(Required Credit Hours:9)
CURR	710	Quantitative Research Methods in Education	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

			Course Credits
Specialization Elective Courses			
Student should take any 3 courses from the following list			
			(Required Credit Hours:9)
CURR	740	Theory and Research in Mathematical Thinking and Learning	3
CURR	742	Theory and Research in Mathematics Teacher Education	3
CURR	743	Integration of Technology into Mathematics Curriculum and Instruction	3
CURR	751	Clinical Interviewing and Assessment in Mathematics Education	3
CURR	754	Historical Development of Mathematical Ideas	3

			Course Credits
Electives			
Students should take one course only from the following list			
			(Required Credit Hours:3)
CURR	744	Independent Study in Mathematics Education	3
CURR	755	Mathematical Problem Solving	3
STAT	712	Advanced Quantitative Research Methods	3

			Course Credits
Qualification Requirements			
Required Courses			
			(Required Credit Hours:0)
CURR	800	Comprehensive Examination	0
CURR	810	Research Proposal	0

			Course Credits
Research Requirements			
Required Courses			
			(Required Credit Hours:30)
CURR	900	Dissertation Research	30
CURR	910	Dissertation Defense	0

Doctor of Philosophy in Science Education

Description

The proposed PhD program in Science Education prepares students to address key research issues related to Science education in the UAE. Students in the program will acquire expertise in applying and evaluating appropriate research methodologies to inform recent developments in the field of Science education.

Program Objectives

1. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
2. Develop graduates' scholarly inquiry grounded in research and the reality of practice in education.
3. Enhance graduates' professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in educational sectors.
4. Provide opportunities for graduates to adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze educational issues and topics of interest in the field of Science Education.
2. Create an original research in Science Education that adds to human knowledge.
3. Assess issues, decisions, or practices in Science Education applying relevant research methodology to finding a possible solution.
4. Explain the major tenets of Science Education orally, and in writing, to different audience.
5. Devise strategies or actions that resolve ethical issues in Science Education.
6. Apply research skills in Science Education to other work environments and career opportunities inside and outside academia.

Degree Requirements: Total Credit Hours: 60

			Course Credits
Core Courses			
Required Courses			
			(Required Credit Hours:9)
CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Students from Culturally and Linguistically Divers Background	3
Research Methodology Requirements			
			(Required Credit Hours:9)
CURR	710	Quantitative Research Methods in Education	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

			Course Credits
Specialization Elective Courses			
Student should take any 3 courses from the following list			
			(Required Credit Hours:9)
CURR	702	Theory and research on learning and teaching science	3
CURR	720	Philosophical and historical perspectives in science education	3
CURR	721	Science teacher education: Theory and practice	3
CURR	722	Current issues in science education	3
CURR	732	Assessment in science education	3

			Course Credits
Electives			
Students should take one course only from the following courses			
			(Required Credit Hours:3)
CURR	724	Independent Study in Science Education	3
CURR	730	Advanced studies in science teaching methods	3
STAT	712	Advanced Quantitative Research Methods	3

			Course Credits
Qualification Requirements			
Required Courses			
			(Required Credit Hours:0)
CURR	800	Comprehensive Examination	0
CURR	810	Research Proposal	0

			Course Credits
Research Requirements			
Required Courses			
			(Required Credit Hours:30)
CURR	900	Dissertation Research	30
CURR	910	Dissertation Defense	0

Doctor of Philosophy in Language and Literacy Education

Description

The proposed PhD program in Language and Literacy Education prepares students to address key research issues related to Language and Literacy Education in the UAE. Students in the program will acquire expertise in applying and evaluating appropriate research methodologies to inform recent developments in the field of Language and Literacy Education.

Program Objectives

1. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
2. Develop graduates' scholarly inquiry grounded in research and the reality of practice in education.
3. Enhance graduates' professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in educational sectors.
4. Provide opportunities for graduates to adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze educational issues and topics of interest in the field of Language and Literacy Education.
2. Create an original research in Language and Literacy Education that adds to human knowledge.
3. Assess issues, decisions, or practices in Language and Literacy Education applying relevant research methodology to finding a possible solution.
4. Explain the major tenets of Language and Literacy Education orally, and in writing, to different audience.
5. Devise strategies or actions that resolve ethical issues in Language and Literacy Education.
6. Apply research skills in Language and Literacy Education to other work environments and career opportunities inside and outside academia.

Degree Requirements: Total Credit Hours: 60

			Course Credits
Core Courses			
Required Courses			
			(Required Credit Hours:9)
CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Students from Culturally and Linguistically Divers Background	3
Research Methodology Requirements			
			(Required Credit Hours:9)
CURR	710	Quantitative Research Methods in Education	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

			Course Credits

Specialization Elective Courses

Student should take any 3 courses from the following courses			
			(Required Credit Hours:9)
CURR	760	Language, Literacy and Culture	3
CURR	761	Language and Literacy Pedagogy	3
CURR	762	First and Second Language Development and Assessment	3
CURR	763	Social and Psychological Aspects of Learning Language	3
CURR	764	Discourse Analysis and Language Learning	3
CURR	772	Development & Evaluation of Language and Literacy Programs	3
CURR	773	Seminar in Language and Literacy Education Teaching and learning	3
			Course Credits

Electives

Students should take one course only from the following courses			
			(Required Credit Hours:3)
CURR	765	Bilingualism, Biliteracy and Multiliteracy Education	3
CURR	771	Special Topics in Language Education Teaching	3
STAT	712	Advanced Quantitative Research Methods	3
			Course Credits

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
CURR	800	Comprehensive Examination	0
CURR	810	Research Proposal	0
			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
CURR	900	Dissertation Research	30
CURR	910	Dissertation Defense	0

Department of Foundation of Education

Doctor of Philosophy in Leadership and Policy Studies in Education

Description

The proposed PhD program in Leadership and Policy Studies in Education prepares students to address key research issues facing educational leadership in the UAE. Students in the program will acquire expertise in applying and evaluating appropriate research methodologies to recent developments in the field of education relevant to leadership and policy issues.

Program Objectives

1. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
2. Develop graduates' scholarly inquiry grounded in research and the reality of practice in education.
3. Enhance graduates' professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in educational sectors.
4. Provide opportunities for graduates to adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze educational issues and topics of interest in the field of Leadership and Policy Studies in Education.
2. Create an original research in Leadership and Policy Studies in Education that adds to human knowledge.
3. Assess issues, decisions, or practices in Leadership and Policy Studies in Education applying relevant research methodology to finding a possible solution.
4. Explain the major tenets of Leadership and Policy Studies in Education orally, and in writing, to different audience.
5. Devise strategies or actions that resolve ethical issues in Leadership and Policy Studies in Education.
6. Apply research skills in Leadership and Policy Studies in Education to other work environments and career opportunities inside and outside academia.

Degree Requirements: Total Credit Hours: 60

Course Credits

Core Courses

Required Courses			(Required Credit Hours:9)
CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Students from Culturally and Linguistically Divers Background	3

Research Methodology Requirements			
			(Required Credit Hours:9)
CURR	710	Quantitative Research Methods in Education	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3
			Course Credits

Specialization Elective Courses

Student should take any 3 courses from the following list			
			(Required Credit Hours:9)
FOED	704	Philosophy of Education	3
FOED	720	Comparative and International Education	3
FOED	721	Sociology of Education	3
FOED	722	Leading School Change	3
FOED	723	Leadership & Policy in Adult Education	3
FOED	724	Ethics of Educational Leadership	3
			Course Credits

Electives

Students should take one course only from the following courses			
			(Required Credit Hours:3)
FOED	701	Policy studies in Education	3
FOED	733	Independent study	3
STAT	712	Advanced Quantitative Research Methods	3
			Course Credits

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
FOED	800	Comprehensive Examination	0
FOED	810	Research Proposal	0
			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
FOED	900	Dissertation Research	30
FOED	910	Dissertation Defense	0

Department of Special and Gifted Education

Master in Gifted and Talented Education

Description

The master's program in gifted and talented education (MGTE) is the first of its kind to be offered in the country and in the region. The courses are offered by UAEU in face-to-face modality, with the option to take a fully online course by a highly reputable international affiliate partner from the United States of America: College of William and Mary, Center for Gifted Education. The program typically completed in four full-time semesters or five part-time semesters, will enable educators to serve as the Gifted Education specialists in their respective schools or in their communities, as they advocate to meet the learning and social and emotional needs of the multicultural and diverse gifted and talented students in their schools and communities.

Program Objectives

1. Acquire advanced and critical knowledge of educational theory, research, and skills related to the area of gifted and talented education.
2. Promote the use of problem-solving skills and critical thinking abilities to develop, implement, and evaluate challenging collaborative teaching and learning activities. suitable for gifted and talented learners.
3. Ensure the success of gifted and talented students by advocating, nurturing, and sustaining a school culture and instruction program conducive to a differentiated education of gifted and talented learners.
4. Develop the ability to effectively establish theory-practice nexus by applying evidence-based approaches to the education of gifted and talented students.
5. Become culturally responsive and reflective practitioners within the area of gifted and talented education to enhance their students' social and emotional learning skills.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply advanced and critical knowledge of educational theory, research, and skills in gifted and talented education.
2. Develop, implement, and evaluate challenging collaborative teaching and learning activities suitable for gifted and talented learners
3. Advocate, nurture, and sustain a school culture and instruction program conducive to a differentiated education of gifted and talented learners.
4. Apply research skills and evidence-based approaches to the education of gifted and talented students.
5. Use culturally responsive and inclusive approaches and strategies to advocate for and meet the learning and affective needs of gifted and talented students.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Part 1: Core Courses (9 Credit Hours)			
Required Courses			
			(Required Credit Hours:9)
CURR	612	Introduction to Educational Research	3

SPED	620	Understanding the Diverse and Multicultural Gifted and Talented Learner	3
SPED	619 *	Differentiated Curriculum Instruction, Development, and Assessment for Gifted and Talented Learners	3
		* Equivalent to EPPL 612 College of William and Mary (CWM) course – delivered in an online modality	

Course Credits

Part 2: Specialized Core Courses (12 Credit Hours)

Required Code			
			(Required Credit Hours:12)
SPED	626	Social and Emotional Development and Guidance of Multicultural Gifted and Talented Learners	3
SPED	627	Practicum in Gifted/Talented Education	3
SPED	628	Advanced Research Seminar in Gifted/Talented Education	3
SPED	629	Identification of Diverse, Multicultural Gifted and Approaches for Talent Development	3

Course Credits

Part3: Thesis Option (9 Credit Hours)

Required Thesis			
			(Required Credit Hours:9)
SPED	641	Thesis	9

Course Credits

Part 4: Master Graduation Project Option (9 Credit Hours)

Project Course			
			(Required Credit Hours:6)
SPED	642	Master Graduation Project	6

Elective Courses (Students to choose only one from already existing courses)			
			(Required Credit Hours:3)
SPED	618	Human Development and Individual Differences	3
CURR	617	Current Issues in Teaching and Learning	3

Doctor of Philosophy in Special Education

Description

The proposed PhD program in Special Education prepares students to address key research issues facing the field of special education in the UAE. Students in the program will acquire expertise in applying and evaluating appropriate research methodologies to inform recent developments in the field of special education.

Program Objectives

1. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
2. Develop graduates' scholarly inquiry grounded in research and the reality of practice in education.
3. Enhance graduates' professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in educational sectors.
4. Provide opportunities for graduates to adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze educational issues and topics of interest in the field of Special Education.
2. Create an original research in Special Education that adds to human knowledge.
3. Assess issues, decisions, or practices in Special Education applying relevant research methodology to finding a possible solution.
4. Explain the major tenets of Special Education orally, and in writing, to different audience.
5. Devise strategies or actions that resolve ethical issues in Special Education.
6. Apply research skills in Special Education to other work environments and career opportunities inside and outside academia.

Degree Requirements: Total Credit Hours: 60

			Course Credits
Core Courses			
Required Courses			
			(Required Credit Hours:9)
CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Students from Culturally and Linguistically Divers Background	3
Research Methodology Requirements			
			(Required Credit Hours:9)
CURR	710	Quantitative Research Methods in Education	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3
			Course Credits
Specialization Elective Courses			

Student should take any 3 courses from the following list			
			(Required Credit Hours:9)
SPED	701	Advance Application of Assistive Technology in Special Education	3
SPED	720	Education and Development of Gifted Learners	3
SPED	721	Language and Literacy Impairment	3
SPED	722	Advanced Topics in Special Education	3
SPED	724	Developmental Disabilities	3
SPED	732	Assessment and Instruction for Students with Mild/Moderate Disabilities	3
			Course Credits

Electives

Students should take one course only from the following courses			
			(Required Credit Hours:3)
SPED	723	Independent Study in Special Education	3
SPED	725	Internship in Special Education	3
STAT	712	Advanced Quantitative Research Methods	3
			Course Credits

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
SPED	800	Comprehensive Examination	0
SPED	810	Research Proposal	0
			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
SPED	900	Dissertation Research	30
SPED	910	Dissertation Defense	0

Bachelor-Master Accelerated Option in Education (Special Education)

Description

Beginning in Fall 2020, students enrolled in UAEU's BEd in Special Education program can take an optional Accelerated Pathway to a Master's degree in Special Education – earning a Master's degree in Special Education in just five years rather than six.

The Special Education Bachelor-Master Accelerated Option will be administrated by the College of Education Graduate Studies Office and the admission cycle will be the same as that of the Master's program at UAEU.

Students who are admitted to the Bachelor-Master Accelerated Option in Special Education will receive two separate degrees, Bachelor of Education – Special Education and Master's of Education in Special Education.

Objectives

1. Offering a quicker path to complete the Master of Education (MEd) degree.
2. Providing advanced knowledge, skills, and dispositions for the students to become independent learners and leaders in their area of specialty.
3. Preparing the graduates for the job market.

Credit Requirements

As an incentive, students in the Bachelor-Master Accelerated Option in Special Education students will be allowed to earn their Master degree by completing up to 6 CH less than the standard route.

The 6-CH difference is accounted for by double counting courses. The double counted courses are typically courses from the undergraduate program as follows: in the SPED 544/SPED 541/SPED542/SPED 543 and SPED 500 the student who is interested in the accelerated option will be required to carry additional work, such as a final project, and perform at a higher level commensurate with the graduate program expectations. If the students fail this or fail to score a minimum of "B" in these two courses, no graduate credits will be counted for the students. Additionally, students may also take 2 graduate study courses during their junior and/or senior year and complete the rest of the Master of Education in Special Education requirements within one additional year after completing their Bachelor of Education in Special Education degree.

General Admission Requirements

1. Completion of a minimum of 90 CH in the Bachelor of Education degree (SPED).
2. A cumulative GPA of 3.5 or higher.
3. Proficiency in English demonstrated by a score of 6.0 or higher in IELTS or equivalent.
4. Submission of two Letters of Recommendations.

The Early Admission Procedure

1. Interested students should first check on their eligibility with their respective Graduate Program Coordinator, then submit an application by the announced deadline as specified by the University's Admission office

2. Once the early admission requirements are reviewed by the respective Graduate Program Committee, its recommendation for admission is forwarded to the University's Admission Office for official pre-admission to graduate programs.

Academic Advising Guidelines

During the first semester, Bachelor-Master Accelerated Option students will confer with the respective Graduate Program Coordinator and faculty members who correlate with his/her research interests. After potential research areas have been identified and mutually agreed upon with a faculty member and the Graduate Program Committee, the designated faculty member will become the student's academic advisor to recommend and approve his/her course schedule for the rest of the duration of the program. This academic advisor will also supervise the student's thesis or Master's graduation project.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply to the Bachelor-Master Accelerated Option student.

Degree Requirements: Total Credit Hours: 150

			Course Credits
Double Counted Courses			
Below two courses will be double counted toward their Master of Education (Special Education Concentration):			
			(Required Credit Hours:6)
SPED	624	Inclusive Learning Environment	3
SPED	625	Curriculum Modifications for Exceptional Individuals	3

			Course Credits
BSc Replaced Courses for Bachelor of Education in Special Education			
The two courses below of Bachelor of Education in Special Education courses will be replaced by the double counted courses:			
			(Required Credit Hours:6)
SPED	314	Differentiated instruction	3
SPED	500	Practical Experiences in Special Education_AR	3

College of Engineering

Department of Architectural Engineering

Master of Science in Architectural Engineering

Description

The Architectural Engineering Department offers a Master of Science (MSc) degree in Architectural Engineering for students with interests in the design, construction and operation of high performing built environment. The MSc degree prepares students for specialized roles in professional practice as well as for advanced study at the doctoral level. The program includes rigorous architecture engineering course work on topics related to building science, engineering systems, sustainable development and high-performance design at various scales of the built environment. The program culminates in either a research-based project or a thesis. Applicants are expected to have undergraduate architectural or architectural engineering backgrounds, either with a BSc degree in Architectural Engineering from UAE University or equivalent in a closely related area.

Program Objectives

1. Develop meaningful research on interactions between buildings and the surrounding environment at the local, national, and regional levels.
2. Provide research and professional training necessary for graduates to advance and move into higher professional or academic functions.
3. Maintain high international academic standards in research and professional students' learning outcomes.
4. Promote the collaboration between the Architectural Engineering research and graduate studies and the government and industrial sectors nationally and internationally.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply advanced research techniques and methods to the analysis and solution of engineering problems.
2. Demonstrate advanced knowledge sufficient to analyze complex environmental issues related to building and urban systems.
3. Develop comprehensive engineering systems, highly specialized components, or appropriate processes for built environment.
4. Apply advanced knowledge in a specialized and emerging area in high performance built environment.
5. Develop communication skills to present, explain and criticize highly complex issues.
6. Evaluate engineering systems in high performance built environment according to relevant regulations and codes.
7. Evaluate knowledge of contemporary professional practice in high performance built environment.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Architectural Engineering			
Required Courses			
			(Required Credit Hours:12)
ARCH	600	Research Methods	3
ARCH	601	Graduate Research Seminar	0
ARCH	602	Sustainable Urbanism	3
ARCH	603	High Performance Buildings	3
ARCH	608	Design Management for the Built Environment	3

			Course Credits
Elective Courses			
Students should select only 3 courses from the list below			
			(Required Credit Hours:9)
ARCH	614	Sustainable Community Develop	3
ARCH	616	Impact Assessment for the Built Environment	3
ARCH	617	Selected Topics in Architectural Engineering	3
ARCH	623	Integrated Construction Tools and Processes	3
ARCH	631	Advanced Illumination and Daylighting	3
ARCH	632	Climate Research in Build Energy Efficiency	3
ARCH	633	Water Efficiency in the Built Environment	3
ARCH	634	Building Science Experiment Research Lab	3
ARCH	635	Fenestration Analysis & Design	3
ARCH	636	Building Ventilation	3

			Course Credits
Thesis			
Required course			
			(Required Credit Hours:9)
ARCH	699	Thesis	9

Bachelor-Master Accelerated Option in Architectural Engineering

Description

College of Engineering at UAEU offers an optional Accelerated Pathway to a Master's degree in Architectural Engineering for talented undergraduate students to complete their M.Sc. degree in Architectural Engineering, within one additional year, instead of the current two years after the B.Sc. degree. Baccalaureate degree-seeking students after completing a minimum of 90 CHs in the Bachelor degree program with high (at least 3.5) can join the Bachelor-Master Accelerated Option and earn graduate credits while still fulfilling the requirements of the B.Sc. degree. Up to two technical elective courses can be double counted toward both Bachelor's and Master's degrees for the Bachelor-Master Accelerated Option students.

Objectives

1. Make it easier for B.Sc. students to pursue graduate studies.
2. Provide advanced knowledge, skills, and attributes to become independent learners and leaders.
3. Open opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
4. Shorten the time required to earn a graduate degree.
5. Better prepare for the current and future requirements of professional registration within the U.A.E. and internationally.
6. Foster a tradition of graduate research activity.

Credit Requirements

The current B.Sc. degree in College of Engineering requires the completion of 132 CHs. After completing the B.Sc. degree, students can earn M.Sc. degree by completing an additional 30 CHs of graduate course work. For the proposed integrated Bachelor-Master Accelerated Option, outstanding junior and senior undergraduate students will be allowed to choose up to a total of 6 CHs undergraduate electives to be double counted towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 24 CHs of graduate course work. Bachelor-Master Accelerated Option students may also take 1-2 additional courses from the M.Sc. program during their Bachelor's study (these additional courses will only count for their M.Sc. degree). A total of 162 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in 6 years instead of 7.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status with a minimum of 90 CH of the B.Sc. program completed with a cumulative GPA of 3.5 or higher.
2. Minimum number of CHs to apply for the program is 75
3. Proficiency in English demonstrated by a score of 6.0 on IELTS or equivalent.
4. Acceptance of the responsibility and obligation to pay graduate study fees.

Early Admission Procedure

1. Fill the Bachelor-Master Accelerated Option form and submit to the college for review
2. Submission deadline follows the University Master application deadline.

Academic Advising Guidelines

1. **Technical Elective form** must be filled by the Bachelor-Master Accelerated Option student **before the first week of the semester** in which the students will take the Bachelor-Master Accelerated Option technical elective courses and/or master level courses.
2. **Up to two technical elective courses** can be **double counted** for the Bachelor-Master Accelerated Option students and will be transferred to their M.Sc. degrees upon joining the M.Sc. program.
3. For these courses to be **double counted**, the Bachelor-Master Accelerated Option students will be required to carry out **additional work** such as a term project, extra assignments, or other types of extra activities beyond what is required from other B.Sc. students. The additional work will be decided by the course instructor in consultation with the Bachelor-Master Accelerated Option student.
4. **A grade of "B" or better** is required in a course to qualify for the transfer to the M.Sc. degree.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.5 or more for the graduate courses, then she/he will be placed on probation with possible dismissal from the M.Sc. eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 162

			Course Credits
Double Counted Courses			
Below two courses will be double counted toward their Master of Science in Architectural Engineering:			
			(Required Credit Hours:6)
ARCH	602	Sustainable Urbanism	3
ARCH	603	High Performance Buildings	3
ARCH	608	Design Management for the Built Environment	3

			Course Credits
BSc Replaced Courses for BSc in Architectural Engineering Students			
Any two courses from the below list of BSc in Architectural Engineering courses will be replaced by the double counted courses:			
			(Required Credit Hours:6)
ARCH	501	Advanced Building Design Studio	3
ARCH	503	Building Construction Detailing	3
ARCH	509	Modeling and Simulation	3
ARCH	526	Specification and Quantity Surveying	3
ARCH	530	Selected Topics In Architecture Engineering	3
ARCH	532	Sustainable Architecture & Urban Environments in Hot Climate	3

ARCH	542	Housing and Urban Design	3
ARCH	551	Urban Planning & Infrastructure	3
ARCH	562	Construction Contracts	3

Doctor of Philosophy in Architectural Engineering

Description

The Doctor of Philosophy in Architectural Engineering (PhD in Architectural Engineering) provides students with a unique opportunity to demonstrate innovation in a wide range of architectural engineering research areas. The PhD in Architectural Engineering degree is awarded to candidates who successfully complete a program of advanced courses, qualification and research requirements and dissertation defense. Students are expected to carry out an independent investigation in an architectural engineering research area under supervision of experienced researchers. Graduates of the program are anticipated to meet the challenges in the architectural engineering discipline and provide innovative solutions based on the most recent developments in architectural engineering.

Program Objectives

1. Offer a rigorous and innovative engineering education that promotes innovative research in engineering areas related to national priorities
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally
3. Contribute to the advancement of the UAE knowledge-based economy and quality of life through community engagement, knowledge transfer, and industry partnership

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the architectural engineering discipline.
2. Apply advanced theories and research methodologies to critically analyze open research problems in architectural engineering and develop innovative solutions.
3. Produce and defend an original research work that advances the state of the art in the architectural engineering discipline.
4. Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.
5. Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			(Required Credit Hours:6)
GENG	701	PhD Research Seminar	1
GENG	702	Research Methods	2
GENG	710	Optimization Methods for Engineering	3

			Course Credits
Specialization Electives			
Students should take four (4) courses from the following electives as approved by the Advisory Committee			
			(Required Credit Hours:12)
ARCH	710	Advanced Qualitative Research Methods	3
ARCH	711	Behavior and Building Performance	3
ARCH	712	Advanced Critical Thinking in the Built Environment	3
ARCH	713	Planning for Urban Resilience	3
ARCH	714	Housing and Urbanization	3
ARCH	715	Energy Optimization in Built Environment Design	3
ARCH	716	Advanced Intelligent Built Environment Systems	3

			Course Credits
Qualification Requirements			
Required Courses			
			(Required Credit Hours:0)
ARCH	800	Comprehensive Exam	0
ARCH	810	Prospectus Exam	0

			Course Credits
Research Requirements			
Required Courses			
			(Required Credit Hours:30)
ARCH	900	Dissertation Doctoral Research	30
ARCH	910	Dissertation Defense	0

			Course Credits
Free Electives			
Any two (2) 700-level courses offered by the University, as approved by the Advisory Committee			
			(Required Credit Hours:6)

Department of Chemical & Petroleum Engineering

Master of Science in Chemical Engineering

Description

The goal of this program is to graduate master-level chemical engineers who are highly qualified for a rewarding professional experience. Graduates may choose to work in the chemical, petrochemical or biochemical industries, continue on to other graduate level degrees, or join consulting/contracting companies. Prospective students have to be motivated to seek life-long learning and professional development and be capable of becoming professionals and leaders in the global chemical, petrochemical and biochemical industries.(Total credit hours is 30 for theses and 33 for no-theses).

Program Objectives

1. To generate graduates with high levels of competence in fundamental and applied concepts of chemical engineering.
2. To provide opportunities to address industrially important problems and to propose and investigate possible solutions
3. To provide an environment in which students can embrace social and personal development.
4. To motivate the students to seek life-long learning and professional development
5. To enhance students recognition and understanding of the professional and societal responsibilities associated with working in the industry.
6. To develop computational techniques, and written and oral communication skills.
7. To cultivate innovation and entrepreneurship through deeper understanding and advanced knowledge of the Chemical Engineering principles and operations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply advanced concepts of fundamental sciences and engineering to solve complex Chemical Engineering problems.
2. Demonstrate the ability to work effectively both independently and in teams of various backgrounds.
3. Apply innovative and practical solutions to existing or novel processes in research.
4. Search, evaluate and acquire information from relevant chemical engineering literature.
5. Design advanced approaches to conduct chemical engineering experiments.
6. Use advanced quantitative and qualitative methods to interpret research experimental results.
7. Disseminate and discuss their professional and scientific work to the general public, as well as to experts in both writing and oral formats.
8. Observe and apply ethical and professional codes and responsibilities.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Chemical Engineering			
Required Courses			
			(Required Credit Hours:15)
CHME	611	Transport Phenomena	3
CHME	612	Advanced Reaction Engineering	3
CPSE	610	Fluid Phase Equilibria	3
CPSE	600	Graduate Seminar	0
ELEC	600	Numerical Methods in Engineering	3
CIVL	602	Environmental Impact Assessment Principles & Applications	3

			Course Credits
Elective Courses			
Students should only select 2 courses from the list below			
			(Required Credit Hours:6)
CHME	621	Advanced Mass Transfer	3
CHME	622	Biochemical Engineering	3
CHME	623	Advanced Polymer Engineering	3
CHME	624	Advanced Process Dynamics & Controls	3
STAT	612	Experimental Design & Analysis	3
CHME	625	Selected Topics in Chemical Engineering	3

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:9)
CPSE	699	Thesis Research	9

Master of Science in Petroleum Engineering

Description

The goal of this program is to graduate master-level petroleum engineers who are highly qualified for a rewarding professional experience. Graduates may choose to work in the petroleum industry, continue on to other graduate level degrees, or join consulting/contracting companies. Prospective students have to be motivated to seek life-long learning and professional development and be capable of becoming professionals and leaders in the global petroleum industries. (Total credit hours is 30 for theses and 33 for no-theses).

Program Objectives

1. To generate graduates with high levels of competence in fundamental and applied concepts of petroleum engineering.
2. To provide opportunities to address industrially important problems and to propose and investigate possible solutions.
3. To provide an environment in which students can embrace social and personal development.
4. To motivate the students to seek life-long learning and professional development
5. To enhance students recognition and understanding of the professional and societal responsibilities associated with working in the industry.
6. To develop computational techniques, and written and oral communication skills.
7. To cultivate innovation and entrepreneurship through deeper understanding and advanced knowledge of the Petroleum Engineering principles and operations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply advanced concepts of fundamental sciences and engineering to solve complex Petroleum Engineering problems.
2. Demonstrate the ability to work effectively both independently and in teams of various backgrounds.
3. Apply innovative and practical solutions to existing or novel processes in research.
4. Search, evaluate and acquire information from relevant petroleum engineering literature.
5. Design advanced approaches to conduct petroleum engineering experiments.
6. Use advanced quantitative and qualitative methods to interpret research experimental results.
7. Disseminate and discuss their professional and scientific work to the general public, as well as to experts in both writing and oral formats.
8. Observe and apply ethical and professional codes and responsibilities.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Petroleum Engineering			
Required Courses			(Required Credit Hours:15)
PETE	615	Advanced Reservoir Engineering	3
PETE	626	Advanced formation evaluation	3
ELEC	600	Numerical Methods in Engineering	3
PETE	619	Advanced Petroleum Production Engineering	3
PETE	612	Advanced Natural Gas Engineering	3

CPSE	600	Graduate Seminar	0

Course Credits

Elective Courses

Student should only select 2 courses from the list below

(Required Credit Hours:6)

CPSE	624	Well Stimulation	3
PETE	621	Non-Thermal EOR Methods	3
PETE	625	Selected Topics in Petroleum Engineering	3
PETE	608	Advanced Drilling Engineering	3
PETE	627	Advanced Reservoir Simulation	3
STAT	612	Experimental Design & Analysis	3
CPSE	695	Technical Project	3

Course Credits

Thesis

Required Course

(Required Credit Hours:9)

CPSE	699	Thesis Research	9

Bachelor-Master Accelerated Option in Petroleum Engineering

Description

College of Engineering at UAEU offers an optional Accelerated Pathway to a Master's degree in Petroleum Engineering for talented undergraduate students to complete their M.Sc. degree in Petroleum Engineering, within one additional year, instead of the current two years after the B.Sc. degree. Baccalaureate degree-seeking students after completing a minimum of 90 CHs in the Bachelor degree program with high (at least 3.5) can join the Bachelor-Master Accelerated Option and earn graduate credits while still fulfilling the requirements of the B.Sc. degree. Up to two technical elective courses can be double counted toward both Bachelor's and Master's degrees for the Bachelor-Master Accelerated Option students.

Objectives

1. Make it easier for B.Sc. students to pursue graduate studies.
2. Provide advanced knowledge, skills, and attributes to become independent learners and leaders.
3. Open opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
4. Shorten the time required to earn a graduate degree.
5. Better prepare for the current and future requirements of professional registration within the U.A.E. and internationally.
6. Foster a tradition of graduate research activity.

Credit Requirements

The current B.Sc. degree in College of Engineering requires the completion of 132 CHs. After completing the B.Sc. degree, students can earn M.Sc. degree by completing an additional 30 CHs of graduate course work. For the proposed integrated Bachelor-Master Accelerated Option option, outstanding junior and senior undergraduate students will be allowed to choose up to a total of 6 CHs undergraduate electives to be double counted towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 24 CHs of graduate course work. Bachelor-Master Accelerated Option students may also take 1-2 additional courses from the M.Sc. program during their Bachelor's study (these additional courses will only count for their M.Sc. degree). A total of 162 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in 6 years instead of 7.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status with a minimum of 90 CH of the B.Sc. program completed with a cumulative GPA of 3.5 or higher.
2. Minimum number of CHs to apply for the program is 75
3. Proficiency in English demonstrated by a score of 6.0 on IELTS or equivalent.
4. Acceptance of the responsibility and obligation to pay graduate study fees.

Early Admission Procedure

1. Fill the Bachelor-Master Accelerated Option form and submit to the college for review
2. Submission deadline follows the University Master application deadline.

Academic Advising Guidelines

1. **Technical Elective form** must be filled by the Bachelor-Master Accelerated Option student **before the first week of the semester** in which the students will take the Bachelor-Master Accelerated Option technical elective courses and/or master level courses.
2. **Up to two technical elective courses** can be **double counted** for the Bachelor-Master Accelerated OptionS students and will be transferred to their M.Sc. degrees upon joining the M.Sc. program.
3. For these courses to be **double counted**, the Bachelor-Master Accelerated Option students will be required to carry out **additional work** such as a term project, extra assignments, or other types of extra activities beyond what is required from other B.Sc. students. The additional work will be decided by the course instructor in consultation with the Bachelor-Master Accelerated Option student.
4. **A grade of "B" or better** is required in a course to qualify for the transfer to the M.Sc. degree.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.5 or more for the graduate courses, then she/he will be placed on probation with possible dismissal from the M.Sc. eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 162

Double Counted Courses

Any two courses from the list below will be double counted toward their Master of Science in Petroleum Engineering:

(Required Credit Hours:6)

			Course Credits
CPSE	624	Well Stimulation	3
PETE	608	Advanced Drilling Engineering	3
PETE	612	Advanced Natural Gas Engineering	3
PETE	615	Advanced Reservoir Engineering	3
PETE	619	Advanced Petroleum Production Engineering	3
PETE	621	Non-Thermal EOR Methods	3
PETE	625	Selected Topics in Petroleum Engineering	3
PETE	626	Advanced formation evaluation	3
PETE	627	Advanced Reservoir Simulation	3

Course Credits

BSc Replaced Courses for BSc in Petroleum Engineering Students

Any two courses from the below list of BSc in Petroleum Engineering courses will be replaced by the double counted courses:

			(Required Credit Hours:6)
PETE	526	Separation & Treatment Petrol Fluid	3
PETE	547	Applied Reservoir Simulation	3
PETE	557	Enhanced Oil Recovery	3
PETE	570	Special Topics in Petroleum Engineering	3

Bachelor-Master Accelerated Option in Chemical Engineering

Description

College of Engineering at UAEU offers an optional Accelerated Pathway to a Master's degree in Chemical Engineering for talented undergraduate students to complete their M.Sc. degree in Chemical Engineering, within one additional year, instead of the current two years after the B.Sc. degree. Baccalaureate degree-seeking students after completing a minimum of 90 CHs in the Bachelor degree program with high (at least 3.5) can join the Bachelor-Master Accelerated Option and earn graduate credits while still fulfilling the requirements of the B.Sc. degree. Up to two technical elective courses can be double counted toward both Bachelor's and Master's degrees for the Bachelor-Master Accelerated Option students.

Objectives

1. Make it easier for B.Sc. students to pursue graduate studies.
2. Provide advanced knowledge, skills, and attributes to become independent learners and leaders.
3. Open opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
4. Shorten the time required to earn a graduate degree.
5. Better prepare for the current and future requirements of professional registration within the U.A.E. and internationally.
6. Foster a tradition of graduate research activity.

Credit Requirements

The current B.Sc. degree in College of Engineering requires the completion of 132 CHs. After completing the B.Sc. degree, students can earn M.Sc. degree by completing an additional 30 CHs of graduate course work. For the proposed integrated Bachelor-Master Accelerated Option option, outstanding junior and senior undergraduate students will be allowed to choose up to a total of 6 CHs undergraduate electives to be double counted towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 24 CHs of graduate course work. Bachelor-Master Accelerated Option students may also take 1-2 additional courses from the M.Sc. program during their Bachelor’s study (these additional courses will only count for their M.Sc. degree). A total of 162 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in 6 years instead of 7.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status with a minimum of 90 CH of the B.Sc. program completed with a cumulative GPA of 3.5 or higher.
2. Minimum number of CHs to apply for the program is 75
3. Proficiency in English demonstrated by a score of 6.0 on IELTS or equivalent.
4. Acceptance of the responsibility and obligation to pay graduate study fees.

Early Admission Procedure

1. Fill the Bachelor-Master Accelerated Option form and submit to the college for review
2. Submission deadline follows the University Master application deadline.

Academic Advising Guidelines

1. **Technical Elective form** must be filled by the Bachelor-Master Accelerated Option student **before the first week of the semester** in which the students will take the Bachelor-Master Accelerated Option technical elective courses and/or master level courses.
2. **Up to two technical elective courses** can be **double counted** for the Bachelor-Master Accelerated Option students and will be transferred to their M.Sc. degrees upon joining the M.Sc. program.
3. For these courses to be **double counted**, the Bachelor-Master Accelerated Option students will be required to carry out **additional work** such as a term project, extra assignments, or other types of extra activities beyond what is required from other B.Sc. students. The additional work will be decided by the course instructor in consultation with the Bachelor-Master Accelerated Option student.
4. **A grade of "B" or better** is required in a course to qualify for the transfer to the M.Sc. degree.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.5 or more for the graduate courses, then she/he will be placed on probation with possible dismissal from the M.Sc. eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 162

			Course Credits
Double Counted Courses			
Any two courses from the list below will be double counted toward their Master of Science in Chemical Engineering:			
			(Required Credit Hours:6)
CHME	621	Advanced Mass Transfer	3
CHME	622	Biochemical Engineering	3
CHME	623	Advanced Polymer Engineering	3
CHME	624	Advanced Process Dynamics & Controls	3
CHME	625	Selected Topics in Chemical Engineering	3

			Course Credits
BSc Replaced Courses for BSc in Chemical Engineering Students			
Any two courses from the list below will be double counted toward their Master of Science in Chemical Engineering:			
			(Required Credit Hours:6)
CHME	533	Water Desalination	3
CHME	541	Industrial & Wastewater Treatment	3
CHME	542	Corrosion	3

CHME	544	Renewable Energy Sources	3
CHME	553	Biofuels Technology	3
CHME	561	Natural Gas Processing	3
CHME	562	Petroleum Refining Engineering	3
CHME	563	Petrochemical Technology	3
CHME	564	Polymer Engineering	3
CHME	570	Special Topics in Chemical Engineering	3

Doctor of Philosophy in Chemical Engineering

Description

The Doctor of Philosophy in Chemical Engineering (PhD in Chemical Engineering) provides students with a unique opportunity to demonstrate innovation in a wide range of chemical engineering research areas. The PhD in Chemical Engineering degree is awarded to candidates who successfully complete a program of advanced courses, qualification and research requirements and dissertation defense. Students are expected to carry out an independent investigation in a chemical engineering research area under supervision of experienced researchers. Graduates of the program are anticipated to meet the challenges in the chemical engineering discipline and provide innovative solutions based on the most recent developments in chemical engineering.

Program Objectives

1. Offer a rigorous and innovative engineering education that promotes innovative research in engineering areas related to national priorities.
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally.
3. Contribute to the advancement of the UAE knowledge-based economy and quality of life through community engagement, knowledge transfer, and industry partnership.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the chemical engineering discipline.
2. Apply advanced theories and research methodologies to critically analyze open research problems in chemical engineering and develop innovative solutions.
3. Produce and defend an original research work that advances the state of the art in the chemical engineering discipline.
4. Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.
5. Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:6)
GENG	701	PhD Research Seminar	1
GENG	702	Research Methods	2
GENG	710	Optimization Methods for Engineering	3

			Course Credits
Specialization Electives			
Students should take four (4) courses from the following electives as approved by the Advisory Committee			
			(Required Credit Hours:12)

CHME	710	Advanced Modeling and Mathematics for Chemical and Petroleum Engineering	3
CHME	720	Rheology and Rheometry	3
CHME	731	Nanoscience and Nanotechnology	3
CHME	742	Advanced Catalysis	3
CHME	750	Enzyme Technology	3
CHME	760	Advanced Membrane Technology	3

Course Credits

Qualification Requirements

Required Courses

(Required Credit Hours:0)

CHME	800	Comprehensive Exam	0
CHME	810	Prospectus Exam	0

Course Credits

Research Requirements

Required Courses

(Required Credit Hours:30)

CHME	900	Dissertation Doctoral Research	30
CHME	910	Dissertation Defense	0

Course Credits

Free Electives

Any two (2) 700-level courses offered by the University, as approved by the Advisory Committee

(Required Credit Hours:6)

Department of Civil & Environmental Engineering

Master of Science in Civil Engineering

Description

This graduate program covers various Civil Engineering disciplines including Structural Engineering, Geotechnical Engineering, Construction Management, Highway and Transportation, Water Resources, Environmental Engineering, and Surveying. The necessity of maintaining the national development is placing increasing demands upon the government and private sectors to secure proper infrastructures, transportation networks, residential and industrial complexes. To help meet those demands, the program is designed to provide the community and industry with distinguished national manpower and highly qualified civil engineers for the sustainable development of the country. The program will train students intending to pursue their Ph.D. in Civil Engineering. Graduates of the program would provide the link between the advancements in Civil Engineering sciences and corresponding applications.

Program Objectives

1. Provide graduate students with a clear and comprehensive understanding of advanced civil engineering principles.
2. Train graduate students on addressing contemporary, sophisticated, and complex civil engineering issues or projects by utilizing or applying multidisciplinary problem-solving approaches and using modern engineering tools.
3. Serve the life-long learning needs of the engineering community and develop the graduate students' attitude to acquire further learning experiences and motivate them to get engaged in Ph.D. or advanced training programs
4. Provide efficient and productive research environment to carry out fundamental and advanced applied research to address civil engineering problems in general and regional and national problems in particular.
5. Provide the community and industry with quality technical assistance and highly qualified national manpower to lead the national industrial development plans.
6. Enrich the collaboration in research and graduate studies between the UAE University and the national and industrial sectors in the country and worldwide.
7. Provide a solid foundation for establishing a national research center for the Civil Engineering discipline in the country.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Describe highly specialized civil engineering principles, concepts, and methodologies.
2. Evaluate the performance of advanced civil engineering systems and components through the use of applicable research principles, analytical methods or modeling techniques.
3. Conduct advanced research to develop innovative solutions for highly complex civil engineering problems through the use of appropriately selected research methodologies and modern engineering tools.
4. Apply advanced multidisciplinary problem-solving approaches to critically analyze contemporary, sophisticated, and highly complex civil engineering problems.
5. Present and critique highly complex civil engineering issues and communicate effectively at a high level of proficiency.
6. Lead professional activities and manage ethical issues in highly complex civil engineering projects.
7. Implement the social, environmental, ethical, economic and commercial aspects to develop valid decisions affecting highly complex civil engineering projects.

Degree Requirements: Total Credit Hours: 30

Civil Engineering

Required Courses (Required Credit Hours:3)

			Course Credits
CIVL	600	Graduate Seminar	0
STAT	615	Design/Analysis of Experiments	3

Elective Courses

Students should only select 6 courses from the list below (Required Credit Hours:18)

			Course Credits
CIVL	602	Environmental Impact Assessment Principles & Applications	3
CIVL	605	Experimental Methods in Civil Engineering	3
CIVL	610 *	Advanced Mechanics of Materials	3
CIVL	611	Structural Dynamics	3
CIVL	612	Prestressed Concrete Structures	3
CIVL	614	Advanced Steel Design	3
CIVL	615	Bridge Engineering	3
CIVL	616	Rehabilitation of Structures	3
CIVL	618	Construction Equipment & Methods	3
CIVL	620	Construction Cost Estimating	3
CIVL	621	Advanced Foundation Design	3
CIVL	622	Stability of Earth Supported Structures	3
CIVL	623 *	Foundation Dynamics	3
CIVL	624 *	Theory & Design of Pavement Structures	3
CIVL	625	Pavement Management Systems	3
CIVL	626	Advanced Traffic Engineering & Management	3
CIVL	627	Design of Transportation Systems	3
CIVL	628	Map Projections and Geometric Geodesy	3
CIVL	629	Digital Terrain Modeling & Applications	3
CIVL	630	Special Topics in Civil Engineering	3
MECH	633	Finite Element Methods	3
MEME	621	Operations Research for Engineers	3

* CIVL 610,623,624 courses are offered intermittently

			Course Credits
Thesis			
Required course			
			(Required Credit Hours:9)
CIVL	650	Research Thesis	9

Master of Science in Water Resources

Description

The Water Resources Master Program (WRMP) is an interdisciplinary graduate program offers Master of Science degree addressing all areas of Water. The program accepts both full and part time students since its commencement in September 1999. The WRMP offers thesis and non-thesis options. Students with thesis option need to complete 30 CHs for graduation; while non-thesis option students need to complete 33 CHs to graduate. The WRMP covers various aspects related to water resources including (but not limited to) Integrated Water Resources Management and Sustainability, Groundwater Hydrology, Surface Water Hydrology, Subsurface Contaminant Hydrology, Water Quality, Risk Assessment, Environmental Engineering and Protection, Environmental Impact Assessment, Water Science and Technology, Hydrological and Hydrogeological Modeling, Water and Wastewater Treatment, Water Desalination, Hydraulic and Coastal Systems, Water Recycling, Water Infrastructure, Water Resources Planning and Assessment using GIS and Remote Sensing, and Water Economics and Policy. The participation of several experts from different university colleges conforms to the multidisciplinary nature of the program and brings deep knowledge on enormous practical applications related to water resources.

Program Objectives

1. Educate and train graduate students to become competent in relevant issues of water resources.
2. Allow the program graduates, who may already be working in related institutions, to provide leadership and technical assistance to their institutions on water-resource related issues in accordance with the national needs.
3. Enrich and strengthen cooperation and scientific research in the field of water resources on national, regional, and international levels.
4. Motivate students to be easily engaged in life-learning experience in various areas related to Water Resources.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Gain comprehensive knowledge on Water Resources Assessment, Development and Management with specific reference to arid regions conditions
2. Acquire skills to address contemporary issues related to Water Resources and understand their social and economic impacts.
3. Develop skills of utilizing modern assessment and prediction tools related to water resources including field tests and computer software.
4. Communicate effectively and produce professional reports related to various disciplines of Water Resources.
5. Apply basic concepts in management, public policy and leadership in various areas of water resources.

Total Credit Hours: 30

Degree Requirements:

			Course Credits
Water Resources			
Required Courses			
			(Required Credit Hours:9)
WATR	602	Water Resources Management	3
WATR	608	Graduate Seminar	0
WATR	605	Introduction to Water Science and Technology	3
STAT	612	Experimental Design & Analysis	3

			Course Credits
Elective Courses			
Students should select only 4 courses from the list below			
			(Required Credit Hours:12)
CIVL	602	Environmental Impact Assessment Principles & Applications	3
WATR	601	Fluid Mechanics for Non Eng.	3
WATR	615	Groundwater Hydrology	3
WATR	617	Water and Wastewater Treatment	3
WATR	620	Membrane Desalination	3
WATR	631	Special Topics in Water Resources	3
WATR	632	Directed Studies in Water Resources	1
WATR	603	Surface Water Hydrology	3
WATR	606	Water Quality	3
WATR	611	Hydraulics of Closed Conduits	3
WATR	616	Advanced Hydrochemistry	3
WATR	618	Introduction to Water Desalination	3
WATR	622	Coastal Hydrodynamics	3

			Course Credits
Thesis			
Required course			
			(Required Credit Hours:9)
WATR	640	Research Thesis	9

Bachelor-Master Accelerated Option in Water Resources

Description

College of Engineering at UAEU offers an optional Accelerated Pathway to a Master's degree in Water Resources for talented undergraduate students to complete their M.Sc. degree in Water Resources , within one additional year, instead of the current two years after the B.Sc. degree. Baccalaureate degree-seeking students, after completing a minimum of 90 CHs in the Bachelor degree program with high GPA (at least 3.5), can join the Bachelor-Master Accelerated Option and earn graduate credits while still fulfilling the requirements of the B.Sc. degree. Up to two technical elective courses can be double counted toward both the Bachelor's and Master's degrees under the Bachelor-Master Accelerated Option.

Objectives

1. Make it easier for B.Sc. students to pursue graduate studies.
2. Provide advanced knowledge, skills, and attributes to become independent learners and leaders.
3. Open opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
4. Shorten the time required to earn a graduate degree.
5. Better prepare for the current and future requirements of professional registration within the U.A.E. and internationally.
6. Foster a tradition of graduate research activity.

Credit Requirements

The current B.Sc. degree in College of Engineering requires the completion of 132 CHs. Under the Bachelor-Master Accelerated Option, outstanding undergraduate students will be allowed to choose up to 6 CHs of graduate courses to be double counted towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 24 CHs of graduate course work. Bachelor-Master Accelerated Option students may also take 1-2 additional courses from the M.Sc. program during their Bachelor's study (these additional courses will only count for their M.Sc. degree). A total of 156 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in 5.5 years instead of 6.5.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status with a minimum of 90 CH of the B.Sc. program completed with a cumulative GPA of 3.5 or higher.
2. Minimum number of CHs to apply for the program is 75
3. Proficiency in English demonstrated by a score of 6.0 on IELTS or equivalent.
4. Acceptance of the responsibility and obligation to pay graduate study fees.

Early Admission Procedure

1. Fill the Bachelor-Master Accelerated Option form and submit to the college for review
2. Submission deadline follows the University Graduate Studies application deadline.

Academic Advising Guidelines

1. **Technical Elective form** must be filled by the Bachelor-Master Accelerated Option student **before the first week of the semester** in which the students will take the Bachelor-Master Accelerated Option technical elective courses and/or master level courses.
2. **Up to two technical elective courses** can be **double counted** for the Bachelor-Master Accelerated Option students and will be transferred to their M.Sc. degrees upon joining the M.Sc. program.
3. **A grade of "B" or better** is required in a course to qualify for the transfer to the M.Sc. degree.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.0 or more for the graduate courses, then she/he will be placed on probation with possible dismissal from the M.Sc. eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 156

BSc. in Civil Engineering Students
(Double Counted Courses)

Any two courses from the list below will be double counted toward their Master of Science in Water Resources:

			(Required Credit Hours:6)
WATR	602	Water Resources Management	3
WATR	603	Surface Water Hydrology	3
WATR	605	Introduction to Water Science and Technology	3
WATR	606	Water Quality	3
WATR	611	Hydraulics of Closed Conduits	3
WATR	615	Groundwater Hydrology	3
WATR	616	Advanced Hydrochemistry	3
WATR	620	Membrane Desalination	3
WATR	622	Coastal Hydrodynamics	3
CIVL	602	Environmental Impact Assessment Principles & Applications	3

BSc Replaced Courses for BSc in Civil Engineering Students

Any two courses from the below list of BSc in Civil Engineering will be replaced by the double counted courses.

			(Required Credit Hours:6)
CIVL	510	Special Topics in Structural Engineering	3

CIVL	515	Advanced Concrete Technology	3
CIVL	540	Special Topics in Construction Management	3
CIVL	517	Matrix Structural Analysis	3
CIVL	520	Special Topics in Water Resources & Environmental Engineering	3
CIVL	522	Advanced Environmental Engineering	3
CIVL	525	Hydrology	3
CIVL	526	Sustainable Solid Waste Engineering	3
CIVL	529	Coastal Engineering	3
CIVL	530	Special Topics in Transportation Engineering	3
CIVL	531	Topographic Surveying	3
CIVL	534	Computer Aided Mapping	3
CIVL	538	Advanced Highway Engineering	3
CIVL	539	Traffic Engineering	3
CIVL	541	Special Topics in Soil Mechanics & Foundation Engineering	3
CIVL	547	Advanced Construction Management	3
CIVL	548	Advanced Geotechnical Engineering	3
CIVL	552	Advanced Steel Design	3

Course Credits

BSc in Chemical Engineering Students
(Double Counted Courses)

The two courses below will be double counted toward their Master of Science in Water Resources:

(Required Credit Hours:6)

WATR	617	Water and Wastewater Treatment	3
CIVL	602	Environmental Impact Assessment Principles & Applications	3

Course Credits

BSc Replaced Courses for BSc in Chemical Engineering Students

Any two courses from the below list of BSc in Chemical Engineering will be replaced by the double counted courses.

(Required Credit Hours:6)

CHME	533	Water Desalination	3
CHME	541	Industrial & Wastewater Treatment	3
CHME	542	Corrosion	3
CHME	544	Renewable Energy Sources	3

CHME	553	Biofuels Technology	3
CHME	561	Natural Gas Processing	3
CHME	562	Petroleum Refining Engineering	3
CHME	563	Petrochemical Technology	3
CHME	564	Polymer Engineering	3
CHME	570	Special Topics in Chemical Engineering	3

Course Credits

BSc in Petroleum Engineering Students
(Double Counted Courses)

The two courses below will be double counted toward their Master of Science in Water Resources:

(Required Credit Hours:6)

CIVL	602	Environmental Impact Assessment Principles & Applications	3
WATR	602	Water Resources Management	3

Course Credits

BSc Replaced Courses for BSc in Petroleum Engineering Students

Any two courses from the below list of BSc in Petroleum Engineering will be replaced by the double counted courses.

(Required Credit Hours:6)

PETE	526	Separation & Treatment Petrol Fluid	3
PETE	547	Applied Reservoir Simulation	3
PETE	557	Enhanced Oil Recovery	3
PETE	570	Special Topics in Petroleum Engineering	3

Bachelor-Master Accelerated Option in Civil Engineering

Description

College of Engineering at UAEU offers an optional Accelerated Pathway to a Master's degree in Civil Engineering for talented UAEU undergraduate students to complete their M.Sc. degree in Civil Engineering, within one additional year, instead of the current two years after the B.Sc. degree. Baccalaureate degree-seeking students after completing a minimum of 90 CHs in the Bachelor degree program with high GPA (at least 3.5), can join the Bachelor-Master Accelerated Option and earn graduate credits while still fulfilling the requirements of the B.Sc. degree. Up to two technical elective courses can be double counted toward both the Bachelor's and Master's degrees for the Bachelor-Master Accelerated Option.

Objectives

1. Make it easier for B.Sc. students to pursue graduate studies.
2. Provide advanced knowledge, skills, and attributes to become independent learners and leaders.
3. Open opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
4. Shorten the time required to earn a graduate degree.
5. Better prepare for the current and future requirements of professional registration within the U.A.E. and internationally.
6. Foster a tradition of graduate research activity.

Credit Requirements

The current B.Sc. degree in College of Engineering requires the completion of 132 CHs. Under the Bachelor-Master Accelerated Option, outstanding undergraduate students will be allowed to choose up to 6 CHs of graduate courses to be double counted towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 24 CHs of graduate course work. Students enrolled in the Bachelor-Master Accelerated Option can also take 1-2 extra courses from the M.Sc. program while pursuing their Bachelor's degree. It is important to note that these extra courses will solely contribute to their M.Sc. degree and will not be counted towards their Bachelor's degree. Therefore, students enrolled in the Bachelor-Master Accelerated Option can complete a total of 3-4 graduate courses, two of which will be double counted to their B.Sc. and M.Sc. degrees and the remaining courses will be counted exclusively to their M.Sc. program. A total of 156 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in around 5.5 years instead of around 6.5 years.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status with a minimum of 90 CH of the B.Sc. program completed with a cumulative GPA of 3.5 or higher.
2. Minimum number of CHs to apply for the program is 75
3. Proficiency in English demonstrated by a score of 6.0 on IELTS or equivalent.
4. Acceptance of the responsibility and obligation to pay graduate study fees beyond the 6 CHs of double counted courses.

Early Admission Procedure

1. Fill the Bachelor-Master Accelerated Option form and submit to the college for review
2. Submission deadline follows the University Graduate Studies application deadline.

Academic Advising Guidelines

1. **Technical Elective form** must be filled by the Bachelor-Master Accelerated Option student **before the first week of the semester** in which the students will take the Bachelor-Master Accelerated Option technical elective courses and/or master level courses.
2. **Up to two technical elective courses** can be **double counted** for the Bachelor-Master Accelerated Option students and will be transferred to their M.Sc. degrees upon joining the M.Sc. program.
3. **A grade of "B" or better** is required in a course to qualify for the transfer to the M.Sc. degree.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.0 or more for the graduate courses, then she/he will be placed on probation with possible dismissal from the M.Sc. eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 156

			Course Credits
Double Counted Courses			
Any two courses from the list below will be double counted toward their Master of Science in Civil Engineering:			
			(Required Credit Hours:6)
CIVL	602	Environmental Impact Assessment Principles & Applications	3
CIVL	605	Experimental Methods in Civil Engineering	3
CIVL	610	Advanced Mechanics of Materials	3
CIVL	611	Structural Dynamics	3
CIVL	612	Prestressed Concrete Structures	3
CIVL	614	Design of Advanced Steel Systems	3
CIVL	615	Bridge Engineering	3
CIVL	616	Rehabilitation of Structures	3
CIVL	618	Construction Equipment & Methods	3
CIVL	620	Construction Cost Estimating	3
CIVL	621	Advanced Foundation Design	3
CIVL	622	Stability of Earth Supported Structures	3
CIVL	623	Foundation Dynamics	3
CIVL	624	Theory & Design of Pavement Structures	3
CIVL	625	Pavement Management Systems	3
CIVL	626	Advanced Traffic Engineering & Management	3

CIVL	627	Design of Transportation Systems	3
CIVL	628	Map Projections and Geometric Geodesy	3
CIVL	629	Digital Terrain Modeling & Applications	3
CIVL	630	Special Topics in Civil Engineering	3
MECH	633	Finite Element Methods	3
MEME	621	Operations Research for Engineers	3

Course Credits

BSc Replaced Courses for BSc in Civil Engineering Students

Any two courses from the below list of BSc in Civil Engineering courses will be replaced by the double counted courses

(Required Credit Hours:6)

CIVL	510	Special Topics in Structural Engineering	3
CIVL	515	Advanced Concrete Technology	3
CIVL	517	Matrix Structural Analysis	3
CIVL	520	Special Topics in Water Resources & Environmental Engineering	3
CIVL	522	Advanced Environmental Engineering	3
CIVL	525	Hydrology	3
CIVL	526	Sustainable Solid Waste Engineering	3
CIVL	529	Coastal Engineering	3
CIVL	530	Special Topics in Transportation Engineering	3
CIVL	531	Topographic Surveying	3
CIVL	534	Computer Aided Mapping	3
CIVL	538	Advanced Highway Engineering	3
CIVL	539	Traffic Engineering	3
CIVL	540	Special Topics in Construction Management	3
CIVL	541	Special Topics in Soil Mechanics & Foundation Engineering	3
CIVL	547	Advanced Construction Management	3
CIVL	548	Advanced Geotechnical Engineering	3
CIVL	552	Advanced Steel Design	3

Doctor of Philosophy in Civil Engineering

Description

The Doctor of Philosophy in Civil Engineering (PhD in Civil Engineering) provides students with a unique opportunity to demonstrate innovation in a wide range of civil engineering research areas. The PhD in Civil Engineering degree is awarded to candidates who successfully complete a program of advanced courses, qualification and research requirements and dissertation defense. Students are expected to carry out an independent investigation in a civil engineering research area under supervision of experienced researchers. Graduates of the program are anticipated to meet the challenges in the civil engineering discipline and provide innovative solutions based on the most recent developments in civil engineering.

Program Objectives

1. Offer a rigorous and innovative engineering education that promotes innovative research in engineering areas related to national priorities.
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally.
3. Contribute to the advancement of the UAE knowledge-based economy and quality of life through community engagement, knowledge transfer, and industry partnership.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the civil engineering discipline.
2. Apply advanced theories and research methodologies to critically analyze open research problems in civil engineering and develop innovative solutions.
3. Produce and defend an original research work that advances the state of the art in the civil engineering discipline.
4. Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.
5. Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:6)
GENG	701	PhD Research Seminar	1
GENG	702	Research Methods	2
GENG	710	Optimization Methods for Engineering	3

			Course Credits
Specialization Electives			
Students should take Four (4) courses from the following electives as approved by the Advisory Committee			
			(Required Credit Hours:12)

CIVL	732	Sustainable Civil Infrastructure Engineering	3
CIVL	734	Earthquake Engineering	3
CIVL	737	Design of Concrete Structures with Fiber Reinforced Polymers	3
CIVL	738	Tunneling and Deep Excavation	3
CIVL	739	Contaminant Subsurface Hydrology	3
CIVL	742	Sustainable Water Treatment Systems	3
CIVL	743	Urban Traffic Control Systems	3
CIVL	746	Transport Economics and Transit Systems Operation Management	3
CIVL	751	Engineering Risk Assessment and Management	3

Course Credits

Qualification Requirements

Required Courses

(Required Credit Hours:0)

CIVL	800	Comprehensive Exam	0
CIVL	810	Prospectus Exam	0

Course Credits

Research Requirements

Required Courses

(Required Credit Hours:30)

CIVL	900	Dissertation Doctoral Research	30
CIVL	910	Dissertation Defense	0

Course Credits

Free Electives

Any two (2) 700-level courses offered by the University, as approved by the Advisory Committee

Doctor of Philosophy in Water Resources

Description

The Ph.D. Program in Water Resources is in response to the national and international dire need for developing innovative solutions for the effective management of water resources. The program also aims at preparing specialists capable of providing leadership and necessary technical expertise to governmental and private sectors in different areas of water resources. These include surface and ground water resources, urban water resources management, water supply, treatment, and desalination, in addition to management of water resources and demands. The offered program is interdisciplinary and accepts students with backgrounds in Engineering or Science. The Ph.D. degree in Water Resources requires successful completion of a minimum of 24 credit hours of graduate coursework and 30 credit hours in research in addition to passing comprehensive, prospectus, and dissertation defense exams.

Program Objectives

1. Offer a rigorous and innovative education that promotes innovative water resources research related to national priorities.
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally.
3. Contribute to the advancement of the UAE knowledge-based economy and quality of life through community engagement, knowledge transfer, and industry partnership.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate advanced multi-disciplinary knowledge and capacity to apply that knowledge to water resources challenges.
2. Develop and defend an original scholarly research work that contributes to the state of the art in the area of water resources.
3. Communicate research findings at a high level of proficiency to a target audience.
4. Identify ethical issues that may arise in the field of water resources, and articulate strategies to mitigate them.

Degree Requirements: Total Credit Hours: 54

			Course Credits
PhD Seminar			
Students choose between one of these alternative PhD seminar courses			
			(Required Credit Hours:1)
GENG	701	PhD Research Seminar	1
COSS	711	Seminar I	1

			Course Credits
Research Methods			
Students choose one of the alternative PhD Research Methods Courses			
			(Required Credit Hours:2)
GENG	702	Research Methods	2

COSC	701	Research Methods II	2

Course Credits

Specialization Requirements (21 CH)

Group (1)
Students should register 6 to 15 credit hours from the following courses:

(Required Credit Hours: 6 - 15)

WATR	700	Sustainable Water Resources Management	3
WATR	710	Water Resources Systems Analysis	3
WATR	720	Advances in Urban Water Management	3
WATR	730	Subsurface Hydrology	3
ENVE	700	Aquatic Chemistry	3

Group (2)
Students should complete 21 credit hours of Specialization Requirements by registering 6 to 15 credit hours from the following courses:
(Elective courses from outside this list must be approved by the Advisory Committee)

(Required Credit Hours: 6 - 15)

WATR	750	Sediment Transport	3
WATR	760	Water Resources Modeling	3
WATR	770	Hydrometeorology	3
ENVE	710	Contaminant Fate and Transport	3
ENVE	720	Biological Treatment of Waste Streams	3
ENVE	730	Physical and Biochemical Treatment Processes	3
ENVE	740	Advanced Topics in Environmental Engineering	3
CIVL	732	Sustainable Civil Infrastructure Engineering	3
CIVL	739	Contaminant Subsurface Hydrology	3
CIVL	742	Sustainable Water Treatment Systems	3
CHEM	701	Advanced Analytical Chemistry	3
CHEM	741	NanoChemistry	3
GEOL	720	Modeling and Geoinformatics	3
BIOE	765	Global Environmental Changes	3

Course Credits

Qualification Requirements

Required Courses

			(Required Credit Hours:0)
WATR	800	Comprehensive Exam	0
WATR	810	Prospectus Exam	0

			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
WATR	900	Dissertation Doctoral Research	30
WATR	910	Dissertation Defense	0

Doctor of Philosophy in Environmental Engineering

Description

As one of the fastest-growing fields in both developed and developing countries, new methods and technologies are constantly emerging in environmental engineering. The Ph.D. Program in Environmental Engineering is in response to the national and international dire need for developing innovative solutions for environmental protection and combating climate change. This program prepares students to be capable of providing leadership and necessary technical expertise to governmental and private sectors. In this research program, students will implement updates of all aspects of environmental engineering including tools, techniques and regulations. Air quality control, water sanitation and its distribution, water treatment, waste pollutants sources and effects should also be covered. Candidates will draw attention to solid waste collection and transfer operations, hazardous waste remediation and assessment of environmental impacts. The offered program is interdisciplinary within different engineering disciplines. It accepts students with backgrounds in any relevant Engineering program. The Ph.D. degree in Environmental Engineering requires successful completion of a minimum of 24 credit hours of graduate coursework and 30 credit hours in research in addition to passing comprehensive, prospectus, and dissertation defense exams.

Program Objectives

1. To provide a rigorous and specialized educational experience that encourages groundbreaking research in environmental engineering, directly aligned with the national priorities of the UAE.
2. To prepare doctoral graduates to be intellectually curious, exhibit critical reasoning, and emerge as leaders in environmental engineering both nationally and internationally.
3. To actively contribute to the advancement of the UAE's knowledge-based economy and enhance the quality of life through dedicated community engagement, effective knowledge transfer, and strategic industry partnerships in the field of environmental engineering.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate comprehensive and in-depth knowledge in Environmental Engineering and the ability to apply this expertise to complex and evolving environmental challenges, contributing to theoretical and practical advancements in the field.
2. Conduct, complete, and defend original scholarly research that significantly advances the state of the art in Environmental Engineering, showcasing innovation and contributing to academic and practical knowledge in the field.
3. Communicate complex research findings effectively, both orally and in writing, to a diverse range of audiences, including academic peers, industry experts, policymakers, and the general public, ensuring clarity, precision, and professionalism in all forms of dissemination.
4. Identify, analyze, and address ethical challenges specific to Environmental Engineering and develop strategies to address these challenges, reinforcing the integrity and social responsibility of the profession.

Degree Requirements:	Total Credit Hours: 54
	Course Credits
College Requirements (3 CH)	
Required Courses	
	(Required Credit Hours:3)

GENG	701	PhD Research Seminar	1
GENG	702	Research Methods	2

Course Credits

Specialization Requirements (21 CH)

Group (1)
Students should register in 9 to 15 credit hours from the following courses:

(Required Credit Hours: 9 - 15)

ENVE	700	Aquatic Chemistry	3
ENVE	710	Contaminant Fate and Transport	3
ENVE	720	Biological Treatment of Waste Streams	3
ENVE	730	Physical and Biochemical Treatment Processes	3
CIVL	742	Sustainable Water Treatment Systems	3

Group (2)
Students should register in 6 to 12 credit hours from the following courses:

(Required Credit Hours: 6 - 12)

ENVE	740	Advanced Topics in Environmental Engineering	3
WATR	700	Sustainable Water Resources Management	3
WATR	710	Water Resources Systems Analysis	3
WATR	720	Advances in Urban Water Management	3
WATR	730	Subsurface Hydrology	3
WATR	750	Sediment Transport	3
WATR	760	Water Resources Modeling	3
WATR	770	Hydrometeorology	3
CIVL	732	Sustainable Civil Infrastructure Engineering	3
CIVL	739	Contaminant Subsurface Hydrology	3
CHME	731	Nanoscience and Nanotechnology	3
CHME	760	Advanced Membrane Technology	3
MECH	750	Advanced Computational Fluid Dynamics	3
GENG	710	Optimization Methods for Engineering	3

Course Credits

Qualification Requirements

Required Courses

			(Required Credit Hours:0)
ENVE	800	Comprehensive Exam	0
ENVE	810	Prospectus Exam	0

Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
ENVE	900	Dissertation Doctoral Research	30
ENVE	910	Dissertation Defense	0

Department of Electrical and Communication Engineering

Master of Science in Electrical Engineering

Description

The Master of science program in Electrical Engineering provides advanced study opportunities for electrical engineers. The program includes elective courses, enabling students to individually tailor their programs to provide emphasis in a particular specialization (e.g., Power, control, communication, etc.). Areas of study include power systems, power electronics, electronics, control systems, computer engineering and communication systems. The program has a thesis and non-thesis options. The program provides the graduates with all the necessary abilities to pursue in a PhD program and/or actively participate in the management and maintenance of new technological innovations as well as the involvement in the development and design of new products. Other objectives include establishing strong two-way relationships with the local industry and governmental establishments, in addition to promoting scientific research and development (R&D) activities.(Total credit hours is 30 for theses and 33 for no-theses).

Program Objectives

1. Provide graduates with a high level of analytical and applied skills necessary to actively participate in technology innovations in addition to maintaining the present ones in the UAE and abroad.
2. Promote the interaction between UAE University and the local industry. The industry is encouraged not only to actually participate in selecting the various courses and their contents but also to have an effective role in endorsing the research themes of the students, especially those on study leave from the industry. Consequently, co-supervision from qualified scientists and researchers from the industry is encouraged.
3. Promote the creative thinking skills among graduates necessary for lifelong learning.
4. Promote scientific research and development (R&D) activities.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate understanding of highly specialized electrical engineering principles, concepts, and methodologies .
2. Evaluate the performance of advanced electrical engineering systems and components through the use of applicable research principles, analytical methods and modelling techniques.
3. Conduct advanced applied research to develop innovative solutions for highly complex electrical engineering problems through the use of appropriately selected research methodologies and modern engineering tools.
4. Apply advanced multidisciplinary problem-solving approaches to critically analyze contemporary, sophisticated, and highly complex electrical engineering problems.
5. Present and critique highly complex industrial electrical engineering issues and communicate effectively at a high level of proficiency.
6. Demonstrate leadership and management of professional activities and ethical issues in highly complex electrical engineering projects.
7. Recognize the social, environmental, ethical, economic and commercial considerations and professional responsibilities affecting highly complex industrial electrical engineering projects.

Total Credit Hours: 30

Degree Requirements:

			Course Credits
Electrical Engineering			
Required Courses			
			(Required Credit Hours:9)
ELEC	602	Linear Systems	3
ELEC	604	Advanced Digital Signal Processing	3
ELEC	620	Analytical Techniques in Engineering	3
ELEC	691	Graduate Seminar I	0
Elective Courses			
Students should select only 4 courses from the list below			
			(Required Credit Hours:12)
ELEC	612	Communications Networks	3
ELEC	613	Wireless Communications	3
ELEC	615	Adaptive Signal Processing	3
ELEC	617	Antenna Design & Applications	3
ELEC	619	Advanced Topics in Communication Engineering	3
ELEC	622	Power Systems Protection	3
ELEC	625	Power Systems Quality	3
ELEC	629	Advanced Topics in Power Engineering	3
ELEC	637	Sensors Design and Applications	3
ELEC	639	Advanced Topics in Electrical Engineering	3
ELEC	641	Contemporary Digital Systems	3
ELEC	644	Artificial Neural Networks	3
ELEC	646	Computational Vision	3
ELEC	649	Advanced Topics in Computer Engineering	3
ELEC	652	Nonlinear Control	3
ELEC	656	Optimal Control	3
ELEC	659	Advanced Topics in Control Systems	3
Thesis			
Required course			
			(Required Credit Hours:9)
ELEC	693	Master's Research Thesis	9

Doctor of Philosophy in Electrical Engineering

Description

The Doctor of Philosophy in Electrical Engineering (PhD in Electrical Engineering) provides students with a unique opportunity to demonstrate innovation in a wide range of electrical engineering research areas. The PhD in Electrical Engineering degree is awarded to candidates who successfully complete a program of advanced courses, qualification and research requirements and dissertation defense. Students are expected to carry out an independent investigation in a electrical engineering research area under supervision of experienced researchers. Graduates of the program are anticipated to meet the challenges in the electrical engineering discipline and provide innovative solutions based on the most recent developments in electrical engineering.

Program Objectives

1. Offer a rigorous and innovative engineering education that promotes innovative research in engineering areas related to national priorities.
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally.
3. Contribute to the advancement of the UAE knowledge-based economy and quality of life through community engagement, knowledge transfer, and industry partnership.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the electrical engineering discipline.
2. Apply advanced theories and research methodologies to critically analyze open research problems in electrical engineering and develop innovative solutions.
3. Produce and defend an original research work that advances the state of the art in the electrical engineering discipline.
4. Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.
5. Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			(Required Credit Hours:6)
GENG	701	PhD Research Seminar	1
GENG	702	Research Methods	2
GENG	710	Optimization Methods for Engineering	3

			Course Credits
Specialization Electives			
Students should take four (4) courses from the following electives as approved by the Advisory Committee			
			(Required Credit Hours:12)
ELEC	711	Micro and Nano Systems	3
ELEC	712	Advanced Circuits and Systems	3
ELEC	731	Power System Planning	3
ELEC	733	Multivariable Feedback Control	3
ELEC	742	Detection and Estimation Theory	3
ELEC	743	Information Transmission Systems	3
CENG	742	Advanced Computer Architecture	3
CSPG	751	Software Engineering	3
ELEC	709	Machine Learning in Engineering	3

			Course Credits
Qualification Requirements			
Required Courses			
			(Required Credit Hours:0)
ELEC	800	Comprehensive Exam	0
ELEC	810	Prospectus Exam	0

			Course Credits
Research Requirements			
Required Courses			
			(Required Credit Hours:30)
ELEC	900	Dissertation Doctoral Research	30
ELEC	910	Dissertation Defense	0

			Course Credits
Free Electives			
Any two (2) 700-level courses offered by the University, as approved by the Advisory Committee			
			(Required Credit Hours:6)

Bachelor-Master Accelerated Option in Electrical Engineering

Description

College of Engineering at UAEU offers an optional Accelerated Pathway to a Master's degree in Electrical Engineering for talented undergraduate students to complete their M.Sc. degree in Electrical Engineering, within one additional year, instead of the current two years after the B.Sc. degree. Baccalaureate degree-seeking students after completing a minimum of 90 CHs in the Bachelor degree program with high GPA (at least 3.5), can join the Bachelor-Master Accelerated Option and earn graduate credits while still fulfilling the requirements of the B.Sc. degree. Up to two technical elective courses can be double counted toward both the Bachelor's and Master's degrees under the Bachelor-Master Accelerated Option.

Objectives

1. Make it easier for B.Sc. students to pursue graduate studies.
2. Provide advanced knowledge, skills, and attributes to become independent learners and leaders.
3. Open opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
4. Shorten the time required to earn a graduate degree.
5. Better prepare for the current and future requirements of professional registration within the U.A.E. and internationally.
6. Foster a tradition of graduate research activity.

Credit Requirements

The current B.Sc. degree in College of Engineering requires the completion of 132 CHs. Under the Bachelor-Master Accelerated Option, outstanding undergraduate students will be allowed to choose up to 6 CHs of graduate courses to be double counted towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 24 CHs of graduate course work. Bachelor-Master Accelerated Option students may also take 1-2 additional courses from the M.Sc. program during their Bachelor's study (these additional courses will only count for their M.Sc. degree). A total of 156 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in 5.5 years instead of 6.5.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status with a minimum of 90 CH of the B.Sc. program completed with a cumulative GPA of 3.5 or higher.
2. Minimum number of CHs to apply for the program is 75
3. Proficiency in English demonstrated by a score of 6.0 on IELTS or equivalent.
4. Acceptance of the responsibility and obligation to pay graduate study fees.

Early Admission Procedure

1. Fill the Bachelor-Master Accelerated Option form and submit to the college for review
2. Submission deadline follows the University Graduate Studies application deadline.

Academic Advising Guidelines

1. **Technical Elective form** must be filled by the Bachelor-Master Accelerated Option student **before the first week of the semester** in which the students will take the Bachelor-Master Accelerated Option technical elective courses and/or master level courses.
2. **Up to two technical elective courses** can be **double counted** for the Bachelor-Master Accelerated Option students and will be transferred to their M.Sc. degrees upon joining the M.Sc. program.
3. **A grade of "B" or better** is required in a course to qualify for the transfer to the M.Sc. degree.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.5 or more for the graduate courses, then she/he will be placed on probation with possible dismissal from the M.Sc. eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 156

			Course Credits
Double Counted Courses			
Any two courses from the list below will be double counted toward their Master of Science in Electrical Engineering:			
			(Required Credit Hours:6)
ELEC	612	Communications Networks	3
ELEC	613	Advanced Wireless Communications	3
ELEC	615	Adaptive Signal Processing	3
ELEC	617	Antenna Design & Applications	3
ELEC	619	Advanced Topics in Communication Engineering	3
ELEC	622	Power Systems Protection	3
ELEC	625	Power Systems Quality	3
ELEC	629	Advanced Topics in Power Engineering	3
ELEC	637	Sensors Design and Applications	3
ELEC	639	Advanced Topics in Electrical Engineering	3
ELEC	641	Contemporary Digital Systems	3
ELEC	644	Artificial Neural Networks	3
ELEC	646	Computational Vision	3
ELEC	649	Advanced Topics in Computer Engineering	3
ELEC	652	Nonlinear Control	3
ELEC	656	Optimal Control	3

ELEC	659	Advanced Topics in Control Systems	3

Course Credits

BSc Replaced Courses for BSc in Electrical Engineering Students

Any two courses from the list below will be double counted toward their Master of Science in Electrical Engineering:

(Required Credit Hours:6)

ELEC	512	Digital Electronics	3
ELEC	521	Advanced Control Systems	3
ELEC	522	Industrial Automation	3
ELEC	530	Special Topics in Power & Control Engineering	3
ELEC	531	Power Systems Analysis	3
ELEC	533	Very Large Scale Integrated Circuits (VLSI)	3
ELEC	534	Power System Distribution	3
ELEC	551	Digital Image Processing	3
ELEC	561	Java Programming Applications	3
ELEC	562	Embedded System Design	3
ELEC	570	Special Topics in Computer Engineering	3
ELEC	580	Special Topics in Electronic Engineering	3
ELEC	582	Analog Integrated Circuit Design	3
ELEC	592	Power Electronics	3

Course Credits

BSc Replaced Courses for BSc in Communication Engineering

Any two courses from the list below will be double counted toward their Master of Science in Electrical Engineering:

(Required Credit Hours:6)

ECOM	532	Antenna Engineering	3
ECOM	542	Wireless Communications	3
ECOM	561	Information Theory & Coding	3
ECOM	562	Satellite Communications Systems	3
ECOM	571	Communication Circuits	3
ECOM	580	Special Topics in Communications	3

Department of Mechanical and Aerospace Engineering

Master of Engineering Management

Description

Engineering Management is the Process of Planning, Organizing, Staffing, leading and influencing People and Controlling Activities which have a Technological Component. These functions require foundation skills from engineering managers to manage themselves, staff, teams, projects, technologies and global issues of importance. These requirements being partly technical and partly business related, the Colleges of Engineering, and Business and Economics got together and launched the program in 2006. The program focuses on product development, process management, Quality Engineering and Project management from the technical side and leadership, management of technical innovations, supply chain, finance and decision making from the business side. The knowledge and skills thus gained are integrated through an action project.

Program Objectives

1. Management decision-making skills.
2. Professional leadership and management skills.
3. Knowledge of cost, financial and economic analysis.
4. Knowledge about management of existing and emerging technologies.
5. Continued intellectual growth in the engineering field.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Describe the designing process and synthesize strategies to manage designing an overall engineering system or product that meets desired needs.
2. Apply knowledge of mathematics, engineering and technology in managing engineering processes.
3. Analyze engineering problems relating to Quality and manufacturing operations and Synthesize Solutions.
4. Describe supply chain concepts and apply them to improve the business' overall and supply chain performance
5. Apply concepts to manage technological innovations and synthesize relevant business strategy.
6. Apply the accounting information for decision-making
7. Apply knowledge of applied statistics and decision techniques in managing engineering processes.
8. Analyze subjects with technical and business content and synthesize effective written reports and oral presentations
9. Apply theories of human behavior to analyze and evaluate the role of managers and leaders in driving effective employee behaviors in industrial organizational contexts.

Degree Requirements: Total Credit Hours: 33

Engineering Management

Required Courses			(Required Credit Hours:33)
ACCT	603	Management Accounting & Financial Analysis	3
MEME	621	Operations Research for Engineers	3
MEME	635	Project Management for Engineers	3
MEME	651	Quality Engineering	3
MEME	661	Engineering Process Management	3
MEME	676	Product Development and Marketing	3
MEME	685	Action Project (Capstone)	3
MGMT	675	Management and Leadership	3
MIST	625	Management of Technology	3
SCML	655	Supply Chain Management	3
STAT	609	Decision Techniques and Data Analysis	3

Bridging Course

This bridging course is only needed for students who did not take an undergraduate statistics course and is a prerequisite for the "Decision Techniques and Data Analysis (STAT 609)" MEM course.			(Required Credit Hours:1)
STAT	500	Bridging Statistics	1

Master of Science in Mechanical Engineering

Description

Mechanical engineering is one of the broadest and oldest branches of engineering and can require work that ranges from the design and manufacture of very fine and sensitive instruments with micro and nano scales, to the design and fabrication of huge power plants. The ME program emphasizes a fundamental approach to engineering in which the student learns to identify needs, define problems and apply basic principles and techniques to obtain a solution. This philosophy is incorporated in the classroom lectures, laboratory activities, design projects and research. ME graduates are expected to deal with moving devices and complex systems. Students learn about materials, design, manufacturing, solid and fluid mechanics, thermodynamics, heat transfer, control, and instrumentation, to understand mechanical systems. Specialized ME subjects include energy conversion, energy management, air conditioning, turbumachinery, composite materials and materials processing, combustion, fracture mechanics, selected topics in mechatronics and vibration, control engineering, introduction to robotics, selected topics in manufacturing and design, maintenance engineering, biomechanics and selected topics in bioengineering. (Total credit hours is 30 for thesis and 33 for no-thesis).

Program Objectives

1. Foster high quality graduate level mechanical engineering education and research and generate graduates with high levels of competence in fundamental and applied concepts of mechanical engineering.
2. Prepare graduates for successful careers in industry and/or academia and to promote and instil ethical practice and life-long learning.
3. Enrich the research collaboration between the university and the industrial sectors in the country and worldwide.
4. Graduate professionals and leaders in the global industries.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply knowledge and skills ethically for solving mechanical engineering problems and drawing conclusions.
2. Conduct mechanical engineering studies utilizing experimental, computer software and other modern tools.
3. Communicate effectively, both orally and in writing to present technical and research work.
4. Conduct independently and with a team quality scientific and applied research.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Mechanical Engineering			
Required Courses			
			(Required Credit Hours:12)
ELEC	620	Analytical Techniques in Engineering	3
MECH	615	Advanced Dynamics	3
MECH	630	Advanced Solid Mechanics	3
MECH	650	Advanced Fluid Mechanics	3
MECH	660	Mechanical Engineering Seminar	0

			Course Credits
Elective Courses			
Student should take only 3 courses from the list below			
			(Required Credit Hours:9)
MECH	612	Advanced Mechanical Vibrations	3
MECH	614	Advanced Control Systems	3
MECH	633	Finite Element Methods	3
MECH	626	Fatigue & Fracture Mechanics	3
MECH	632	Advanced CAD/CAM	3
MECH	645	Advanced Heat Transfer	3
MECH	654	Advanced Thermodynamics	3
MECH	640	Directed Studies in Mechanical Engineering	3

			Course Credits
Thesis			
Required Courses			
			(Required Credit Hours:9)
MECH	690	Thesis	9

Bachelor-Master Accelerated Option in Mechanical Engineering

Description

College of Engineering at UAEU offers an optional Accelerated Pathway to a Master's degree in Mechanical Engineering for talented undergraduate students to complete their M.Sc. degree in Mechanical Engineering, within one additional year, instead of the current two years after the B.Sc. degree. Baccalaureate degree-seeking students after completing a minimum of 90 CHs in the Bachelor degree program with high (at least 3.5) can join the Bachelor-Master Accelerated Option and earn graduate credits while still fulfilling the requirements of the B.Sc. degree. Up to two technical elective courses can be double counted toward both Bachelor's and Master's degrees for the Bachelor-Master Accelerated Option students.

Objectives

1. Make it easier for B.Sc. students to pursue graduate studies.
2. Provide advanced knowledge, skills, and attributes to become independent learners and leaders.
3. Open opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
4. Shorten the time required to earn a graduate degree.
5. Better prepare for the current and future requirements of professional registration within the U.A.E. and internationally.
6. Foster a tradition of graduate research activity.

Credit Requirements

The current B.Sc. degree in College of Engineering requires the completion of 132 CHs. After completing the B.Sc. degree, students can earn M.Sc. degree by completing an additional 30 CHs of graduate course work. For the proposed integrated Bachelor-Master Accelerated Option, outstanding junior and senior undergraduate students will be allowed to choose up to a total of 6 CHs undergraduate electives to be double counted towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 24 CHs of graduate course work. Bachelor-Master Accelerated Option students may also take 1-2 additional courses from the M.Sc. program during their Bachelor's study (these additional courses will only count for their M.Sc. degree). A total of 162 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in 6 years instead of 7.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status with a minimum of 90 CH of the B.Sc. program completed with a cumulative GPA of 3.5 or higher.
2. Minimum number of CHs to apply for the program is 75
3. Proficiency in English demonstrated by a score of 6.0 on IELTS or equivalent.
4. Acceptance of the responsibility and obligation to pay graduate study fees.

Early Admission Procedure

1. Fill the Bachelor-Master Accelerated Option form and submit to the college for review
2. Submission deadline follows the University Master application deadline.

Academic Advising Guidelines

1. **Technical Elective form** must be filled by the Bachelor-Master Accelerated Option student **before the first week of the semester** in which the students will take the Bachelor-Master Accelerated Option technical elective courses and/or master level courses.
2. **Up to two technical elective courses** can be **double counted** for the Bachelor-Master Accelerated Option students and will be transferred to their M.Sc. degrees upon joining the M.Sc. program.
3. For these courses to be **double counted**, the Bachelor-Master Accelerated Option students will be required to carry out **additional work** such as a term project, extra assignments, or other types of extra activities beyond what is required from other B.Sc. students. The additional work will be decided by the course instructor in consultation with the Bachelor-Master Accelerated Option student.
4. **A grade of "B" or better** is required in a course to qualify for the transfer to the M.Sc. degree.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.5 or more for the graduate courses, then she/he will be placed on probation with possible dismissal from the M.Sc. eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 162

			Course Credits
Double Counted Courses			
Any two courses from the list below will be double counted toward their Master of Science in Mechanical Engineering:			
			(Required Credit Hours:6)
MECH	612	Advanced Mechanical Vibrations	3
MECH	614	Linear Systems Theory	3
MECH	615	Advanced Dynamics	3
MECH	626	Fatigue & Fracture Mechanics	3
MECH	630	Advanced Solid Mechanics	3
MECH	632	Advanced CAD/CAM	3
MECH	633	Finite Element Methods	3
MECH	645	Advanced Heat Transfer	3
MECH	650	Advanced Fluid Mechanics	3
MECH	654	Advanced Thermodynamics	3
AERO	601	Spacecraft Systems	3
AERO	602	Spacecraft Dynamics and Attitude Control	3

Course Credits

BSc Replaced Courses for BSc in Mechanical Engineering Students

Any two courses from the list below will be double counted toward their Master of Science in Mechanical Engineering:

(Required Credit Hours:6)

MECH	513	Air Conditioning Systems	3
MECH	514	Heat Engines	3
MECH	531	Introduction to Robotics	3
MECH	533	Mechanical Vibration	3
MECH	541	Non-conventional Manufacturing	3
MECH	553	Flight Dynamics, Stability and Control	3
MECH	554	Aerospace Propulsion	3

Course Credits

BSc Replaced Courses for BSc in Aerospace Engineering Students

Any two courses from the list below will be double counted toward their Master of Science in Mechanical Engineering:

(Required Credit Hours:6)

AERO	500	Computational Fluid Dynamics	3
AERO	505	Spacecraft Propulsion	3
AERO	515	Aviation Regulations and Certifications	3

Doctor of Philosophy in Mechanical Engneering

Description

The Doctor of Philosophy in Mechanical Engineering (PhD in Mechanical Engineering) provides students with a unique opportunity to demonstrate innovation in a wide range of mechanical engineering research areas. The PhD in Mechanical Engineering degree is awarded to candidates who successfully complete a program of advanced courses, qualification and research requirements and dissertation defense. Students are expected to carry out an independent investigation in a mechanical engineering research area under supervision of experienced researchers. Graduates of the program are anticipated to meet the challenges in the mechanical engineering discipline and provide innovative solutions based on the most recent developments in mechanical engineering.

Program Objectives

1. Offer a rigorous and innovative engineering education that promotes innovative research in engineering areas related to national priorities.
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally.
3. Contribute to the advancement of the UAE knowledge-based economy and quality of life through community engagement, knowledge transfer, and industry partnership.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Identify gaps in the current state of knowledge and outline directions to produce new knowledge at the frontier of the mechanical engineering discipline.
2. Apply advanced theories and research methodologies to critically analyze open research problems in mechanical engineering and develop innovative solutions.
3. Produce and defend an original research work that advances the state of the art in the mechanical engineering discipline.
4. Communicate research findings, orally and in writing, at a high level of proficiency to faculty, peers, and the lay public.
5. Evaluate and manage complex professional engineering activities and diverse ethical issues within the work context.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:6)
GENG	701	PhD Research Seminar	1
GENG	702	Research Methods	2
GENG	710	Optimization Methods for Engineering	3

			Course Credits
Specialization Electives			
Students should take four (4) courses from the following electives as approved by the Advisory Committee			
			(Required Credit Hours:12)

MECH	711	Optimal and Robust Control	3
MECH	712	Nonlinear Systems and Control	3
MECH	720	Failure Analysis and Prevention	3
MECH	730	Advances in Manufacturing Processes	3
MECH	742	Convective Heat Transfer	3
MECH	750	Advanced Computational Fluid Dynamics	3
MECH	760	Measurements and Instrumentation	3

Course Credits

Qualification Requirements

Required Courses

(Required Credit Hours:0)

MECH	800	Comprehensive Exam	0
MECH	810	Prospectus Exam	0

Course Credits

Research Requirements

Required Courses

(Required Credit Hours:30)

MECH	900	Dissertation Doctoral Research	30
MECH	910	Dissertation Defense	0

Course Credits

Free Electives

Any two (2) 700-level courses offered by the University, as approved by the Advisory Committee

(Required Credit Hours:6

College of Food Agriculture and Veterinary Medicine

Department of Food Science

Master of Science in Food Science

Description

MSc Food Science program aims to give students an opportunity to gain advanced knowledge related to Food Quality and Safety, Food Chemistry and Analysis, Food Processing and Engineering as well as Innovative and Functional Foods. The program is designed to reinforce and enhance the student's knowledge of scientific principles and processes used to produce safe and high-quality foods. In addition, the program provides a science-based professional education that encompasses theory, practical research, and application of science and technology to conventional and novel foods. The program is designed to produce expert food science postgraduates with the knowledge and skills to develop and further excel in the professional world.

Program Objectives

1. Foster a deep comprehension of food science theory and research to solve practical problems within the food system.
2. Prepare highly trained graduates for leadership roles in national and international professional careers as innovators in food science.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Discuss advanced concepts, theories, and emerging food science methodologies.
2. Apply core knowledge of food science to identify problems and propose solutions in the field.
3. Design and conduct scientific research in the field of food science, and use quantitative methods to analyze results.
4. Communicate scientific and technical knowledge in written and oral forms to diverse audiences.
5. Demonstrate knowledge of food science contemporary issues, ethics, and professional responsibility.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Food Science			
Required Courses			(Required Credit Hours:15)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1
FDSC	605	Graduate Seminar	1
FDSC	610	Advanced Food Chemistry - 1	2
FDSC	622	Advanced Food Analysis - I	2
FDSC	633	Advanced Food Processing - I	3

FDSC	640	Advanced Food Microbiology - I	3
STAT	503	Applied Statistics	2

Elective Courses			
			(Required Credit Hours:6)
FDSC	631	Enzymes Technology and Fermentation	3
FDSC	645	Advanced Food Quality	3
FDSC	660	Novel and Functional Foods	3
FDSC	691	Special Topics in Food Science	3
FDSC	620	Food structure and rheology	3
FDSC	625	Food waste and by-product utilization	3
FDSC	715 *	Advanced Shelf Life of Stored Foods	3
		* Students can take this courses when approved by the Advisory Committee	

Project or Thesis			
			(Required Credit Hours:9)
FDSC	699	Research Thesis	9

Bachelor-Master Accelerated Option in Food Science

Description

The students enrolled in BSc Food Science with a high-grade point average (GPA) can be pre-admitted to the MSc Food Science program and can earn graduate credits while still fulfilling the requirements for the BSc degree. This option offers these students an accelerated path to complete their targeted master's degree after completion of their bachelor's, within one additional year instead of the current two years. The objective of Bachelor-Master Accelerated Option model is to boost students' enrolment at a higher-level degree (i.e., MSc Food Science). A comparatively less cost as well as time-saving nature of Bachelor-Master Accelerated Option model would be attractive to BSc Food Science students to enrol in this program. The Bachelor-Master Accelerated Option in Food Science program was approved in AY 2021-2022 and is available to current BSc students for admission.

Objectives

1. Provide students with advanced theoretical and research knowledge in the field
2. Empower students to integrate and apply knowledge of food science to real-world issues in food systems, components, products, and processes
3. Produce highly trained graduates able to meet the leadership needs of national and international professional careers
4. Develop well-prepared graduates to become research leaders and innovators in the food science field

Credit Requirements

In this program, students must first complete the requirements for BSc in Food Science degree (i.e., 120 CH) but may take some courses from the master's program during this time. After completing the BSc degree, students can earn MSc degree in Food Science by completing the required credit hours of graduate course work. The Bachelor-Master Accelerated Option students will be advised on their training/internship, electives, and senior project selections so that they are oriented earlier for graduate study in their selected discipline. As an incentive, Bachelor-Master Accelerated Option students will be allowed to earn their master's degree by completing up to 6 CH during their B.Sc. program. The 6-CH difference is accounted for by double-counting up to two 500-level courses within the undergraduate elective requirements. In this case, the student will be required to carry out additional work, such as a term project, and perform at a higher level commensurate with the graduate program expectations. If they fail this requirement, no graduate credits will be counted.

General Admission Requirements

1. The applicant may apply for the Bachelor-Master Accelerated Option after successful completion of 75 CH. However, he/she can only join the program after completing a minimum of 90 CH in the Bachelor's degree program with a cumulative GPA of 3.5 or higher.
2. Proficiency in English is demonstrated by a score of 6.0 or higher in IELTS or equivalent.
3. Acceptance of the obligation and responsibility for the graduate study fees.
4. A statement of professional goals.
5. An interview

The Early Admission Procedure

Interested students should first check on their eligibility with their respective Graduate Program Coordinator, then apply by the announced deadline as specified by the university's admission office.

Once the requirements are reviewed by the respective Graduate Program Committee, its recommendation for admission is forwarded to the University's Admission Office for official pre-admission to graduate programs.

Academic Advising Guidelines

During the first semester, the Bachelor-Master Accelerated Option student will confer with the respective Graduate Program Coordinator and faculty members who correlate with his/her research interests. After potential research areas have been identified and mutually agreed upon with a faculty member and the Graduate Program Committee, the designated faculty member will become the student's academic advisor to recommend and approve his/her course schedule for the rest of the duration of the program. This academic advisor will also supervise the student's thesis if the thesis option is chosen.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding the academic progress of students will apply to the undergraduate portion of the studies and the graduate portion. For example, Bachelor-Master Accelerated Option students who cannot maintain a cumulative grade point average (GPA) of 3.5 or more in the graduate courses taken at UAEU will be placed on probation with possible dismissal from the MSc eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 144

			Course Credits
Double Counted Courses			
Any two courses from the list below will be double counted toward their Master of Science in Food Science:			
			(Required Credit Hours:6)
FDSC	620	Food structure and rheology	3
FDSC	625	Food waste and by-product utilization	3
FDSC	631	Enzymes Technology and Fermentation	3
FDSC	633	Advanced Food Processing - I	3
FDSC	640	Advanced Food Microbiology - I	3
FDSC	645	Advanced Food Quality	3
FDSC	660	Novel and Functional Foods	3
FDSC	691	Special Topics in Food Science	3

			Course Credits
BSc Replaced Courses for BSc in Food Science Students			
Any two courses from the below list of BSc in Food Science courses will be replaced by the double counted courses			
			(Required Credit Hours:6)
FDSC	455	Food Inspection	3
FDSC	458	Dairy Product Technology	3
FDSC	466	Food Product Development	3
FDSC	477	Oil and Fat Technology	3
FDSC	510	Food Safety Management	3

Doctor of Philosophy in Food Science and Technology

Description

The PhD program in Food Science and Technology aims to provide students an opportunity to gain advanced knowledge related to Food Quality and Safety, Food Chemistry and Analysis, Food Process technology and Engineering as well as Innovative and Functional Foods. The program is designed to reinforce and enhance the knowledge of the students in scientific principles and processes used to produce safe and high-quality foods. In addition, the program provides a science-based professional education that encompasses theory, practical research, and application of science and technology to conventional and novel foods. Furthermore, this program is designed to produce food science postgraduate experts with the knowledge and skills essential for excelling in the professional world. PhD graduates in Food Science and technology will have an opportunity to be academic leaders, research scientists, and take managerial positions in industrial sectors.

Program Objectives

1. To prepare and create future leaders of excellence in research, industry, and government sectors.
2. To enhance R & D capabilities with advanced skills among the graduates to serve the society.
3. To improve student's competencies in critical thinking, problem solving, leadership, team work and effective communication.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Prove deep understanding of diverse aspects of food science.
2. Conduct original research and apply multidisciplinary approach for the development of food science discipline.
3. Display competence in scholarly writing and oral communication of the scientific topics related to food science.
4. Collect and interpret the scientific data using advanced techniques.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirement			
Required Courses			(Required Credit Hours:18)
STAT	715	Design and Analysis of Experiments in Applied Sciences	3
COSC	702	Ethics of Scientific Research II	1
COFA	760	Advance Scientific Writing	2
FDSC	750	Advanced Food Chemistry II	3
FDSC	760	Advanced Food Processing 2	3
FDSC	805	Advanced Food Analysis II	3
FDSC	820	Advanced Food Microbiology 2	3

			Course Credits
Prgram Elective			
Students should either select two courses from the list below or one course from the list below and any 3-credit hour 700-level course offered by UAEU and approved by the Advisory Committee.			
			(Required Credit Hours:6)
FDSC	715	Advanced Shelf Life of Stored Foods	3
FDSC	710	Advanced Food Physics	3
FDSC	790	Conceptual & Multidisciplinary Food Science Studies	3

			Course Credits
Qualification Requirements			
Required Courses			
			(Required Credit Hours:0)
FDSC	800	Comprehensive Exam	0
FDSC	810	Research Proposal	0

			Course Credits
Research Requirements			
Required Courses			
			(Required Credit Hours:30)
FDSC	900	Dissertation Research	30
FDSC	910	Dissertation Defense	0

Department of Integrative Agriculture

Master of Science in Horticulture

Description

Graduates from the Master's Degree in Horticulture are in high demand in the current job market. The occupational positions which can be filled by graduates of this proposed program include, but are not limited to, horticulture architects and designers, city horticulturists, research assistants and university instructors, among many others. Students can focus their study in the areas of horticulture, agro-ecology, biotechnology, breeding, crop physiology, crop production, mineral nutrition, modeling and quantitative horticulture, plant growth and development, post-harvest physiology, renegotiation/restoration, as well as sustainable water management.

Program Objectives

1. To prepare future leaders for industry, business and government agencies.
2. To prepare students for PhD programs in various Horticultural science disciplines.
3. To train students in interdisciplinary programs with emphasis on achieving career goals and objectives.
4. To graduate students who are competitive in national and international job markets.
5. To enhance students' abilities in scientific methodology in collecting, summarizing and analyzing research data.
6. To prepare students to engage in high-level, horticultural problem solving.
7. To train students to meet job requirements, enhance skills and to pursue life-long learning.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Discuss contemporary issues related to horticultural challenges.
2. Evaluate horticultural components, processes and the role of anthropogenic factors.
3. Evaluate available resources, issues and challenges related to horticultural in UAE.
4. Design and conduct scientific horticulture research, and use quantitative methods to analyze results.
5. Demonstrate the ability to apply knowledge and skills to resolve problems, creatively and independently.
6. Evaluate issues of ethical behavior in science, critically and reflectively.
7. Demonstrate strong written and oral presentation skills.

Degree Requirements: Total Credit Hours: 36

			Course Credits
Horticulure			
Required Courses			
			(Required Credit Hours:7)
HORT	610	Seminar in Horticulture	1
HORT	611	Ecology and Agriculture	3
STAT	612	Experimental Design & Analysis	3
Elective Courses			
			(Required Credit Hours:3)
HORT	620	Plant Communities in UAE	3
HORT	622	Research Perspectives in Horticulture	3
STAT	621	Multivariate Systems & Modeling	3
Specialization Courses - Selected with Academic Advisor			
			(Required Credit Hours:20)
HORT	630	Greenhouse & Nursery Crop Production	3
HORT	631	Post Harvest Technology of Horticulture Crops	3
HORT	632	Small Fruit Production	2
HORT	633	Crop Management Systems for Vegetable Production	3
HORT	634	Forage Crop Ecology	3
HORT	635	Systems Analysis in Agriculture and Resource Management	3
HORT	636	Physiological Principles in Environmental Horticulture	3
HORT	638	Turfgrass and Amenity Grassland Utilization and Management	3
HORT	639	Woody Plants in the Landscape: Growth, Ecology and Management	3
HORT	640	Tree Biotechnology	3
HORT	641	Modeling Horticultural System	3
HORT	642	Water Quality, Soil, Salinity and Reclamation	3
HORT	643	Irrigation & Drainage Systems	3
HORT	644	Landscape Ecology	2
HORT	646	UAE Floristics	3
HORT	647	Ecology of Crop Systems	3

HORT	648	Conservation of Plant Genetic Resources	3
HORT	650	Reproductive Biology of Flowering Plants	3
HORT	649	Plant Propagation	3
HORT	651	Concepts & Systems of Plant Protection and Pest Management	3

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
HORT	699	Thesis	6

Bachelor-Master Accelerated Option in Horticulture

Description

Bachelor degree students with high grade point average (GPA) can get pre-admitted in the MS degree program and earn graduate credits while still fulfilling the requirements for the BS degree. This option offers these students a quicker path to complete their targeted MS degree, within one additional year, instead of the current two years after the B.Sc., with proper advising and guidance. The pre-admission option will be offered for students studying in the B.Sc. Horticulture who may want to earn a master degree in M.Sc. Horticulture, if they are eligible for it.

Objectives

1. Make it easier for B.Sc. students to continue on to graduate study to provide them advanced knowledge, skills, and attributes to become independent learners and leaders in their own major or in an interdisciplinary area and open up opportunities for successful careers at the forefront of industrial development, governmental, consulting, or academic areas.
2. Shorten the study period to earn graduate degrees for outstanding students, as they may be able to complete their MS degree within one year after the BS instead of the typical two years in the regular admission route.
3. Better prepare the engineering graduates for the current and future requirements of professional registration with the U.A.E. and internationally, for which having a MS would be an advantage.
4. Foster a tradition of graduate research activity in the engineering departments with the expectation that there will be ancillary benefits to the undergraduate program.

Credit Requirements

The B.Sc. Horticulture typically require the completion of 120 CHs. After completing the B.Sc., students can earn a M.Sc. by completing an additional 36 CH of graduate course work with thesis. For the Bachelor-Master Accelerated Option students, they would be advised on their technical electives and senior project selections so as they get them oriented earlier for graduate study in their selected discipline. As an incentive, Bachelor-Master Accelerated Option students will also be allowed to earn their M.Sc. by completing 30 CH of graduate work after the B.Sc., i.e. up to 6 CH less than the standard route. The 6-CH difference is accounted for by double counting electives in both the B.Sc. and M.Sc. programs.

The “Elective” courses are typically applied courses that provide additional instruction to students beyond the core B.Sc. courses, making them suitable for both undergraduate and graduate credits. When students take these for both undergraduate and graduate credits as Bachelor-Master Accelerated Option students, they will be required to carry additional work, such as a term project, and perform at a higher level commensurate with the graduate program expectations. If they fail this, no graduate credits will be counted for the students.

General Admission Requirements

1. Advanced level (Junior or Senior) status in BSc in Horticulture program. The applicant may apply for the Bachelor-Master Accelerated Option after successful completion of 75 CH. However, he/she can only join the program after successfully completing a minimum of 90 CH in the Bachelor degree program with a cumulative GPA of 3.5 or higher.
2. Proficiency in English demonstrated by a score of 6 IELTS or equivalent.
3. Acceptance of the obligation and responsibility for the graduate study fees.
4. A statement of professional goals.

5. An interview

Modes of Enrollment:

Students enroll as full-time Bachelor-Master Accelerated Option students, with the MS classes held after 4 p.m.

The Early Admission Procedure

Interested students should first check on their eligibility with their respective Graduate Program Coordinator, then submit an application as specified by the University's Admission office to the Departmental Chairperson by the announced deadline. Such an application should be simpler than the regular graduate program application, as the student information is already on file with the Registrar's office.

Once the early admission requirements are reviewed and recommended by respective Graduate Program Committee, they will be forwarded to the University's Admission Office for official pre-admission by the announced university deadline for regular admission to graduate programs. Student can apply when they have 65 CHs but will only be admitted when they have successfully completed 80 CHs.

Academic Advising Guidelines

During the first semester, the Bachelor-Master Accelerated Option student will confer with the respective Graduate Program Coordinator and faculty members who correlate with his/her research interests. After potential research areas have been identified and mutually agreed to with a faculty member and the Graduate Program Committee, the designated faculty member will become the student's academic advisor to recommend and approve his/her course schedule for the rest of the duration of the program. This academic advisor will also supervise the student's thesis if the thesis option is chosen.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. Thus, if the Bachelor-Master Accelerated Option student, for example, cannot maintain a cumulative grade point average (GPA) for the graduate courses taken at UAEU of 3.0 or more, he/she will be placed on probation with possible dismissal from the MS eligibility for failing to raise the GPA within the specified number of semesters.

Changing the MS major within the Bachelor-Master Accelerated Option option

Students wishing to change their MS program major should get the approval of the respective Graduate Program Coordinators and accept to take any additional course requirements as stipulated by the new MS program to be enrolled in. They may then submit their request to the Registrar's office through the Assistant Dean for Research and Graduate Studies.

Degree Requirements: Total Credit Hours: 150

			Course Credits
Double Counted Courses			
Below two courses will be double counted toward their Master of Science in Horticulture:			
			(Required Credit Hours:6)
HORT	534	Forage Crop Ecology	3
HORT	546	UAE Floristics	3

			Course Credits
BSc Replaced Courses for BSc in Horticulture Students			
Any two courses from the below list of BSc in Food Science courses will be replaced by the double counted courses:			
			(Required Credit Hours:6)
ARAG	323	Post-Harvest Physiology of Plant and Animal Systems	3
ARAG	401	Sustainable Agriculture in Arid Lands	3
ARAG	414	Plant Breeding and Horticultural Biotechnology	3
ARAG	437	Disease and Insect Pests	3
ARAG	439	Pesticides	3
AGRB	352	Agribusiness Entrepreneurship	3
BIOE	230	Microbiology	3

Doctor of Philosophy in Horticultural Sciences

Description

The Ph. D. in Horticultural Science provides students with a solid foundation from where to begin an international academic career in life sciences. Graduates will have gained the ability to conduct original interdisciplinary research and scholarly work related to horticultural production systems and - plants at the highest level without supervision. The findings of the student's research work advance the development of sustainable horticultural production practices and technologies, adapted plant germplasm, novel sources of food, and concepts for urban greenery. Accompanying coursework provides students with competencies related to the proper planning, conduction and statistical analysis of horticultural experimental work. It broadens their horizon and allows them to place their specialized research findings into a wider academic-, ecological-, or socio-economic context. Students train their ability to critically reflect on experimental results of their own and others and interact collaboratively with researchers and students from other disciplines. The coursework also broadens student's technical competencies, builds their confidence in oral and written communication, and polishes their leadership skills.

Program Objectives

1. To prepare and create future leaders of excellence in research, industry, and government sectors.
2. To enhance R & D capabilities with advanced skills among the graduates to serve the society.
3. To improve student's competencies in critical thinking, problem solving, leadership, team work and effective communication.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Appraise advanced and in-depth understanding of the area of specialization within the horticultural sciences.
2. Independently identify gaps in the current global understanding of horticultural system functioning and management, and conduct interdisciplinary scientific research targeted at closing these.
3. Deploy advanced techniques to analyze, interpret and critically reflect on scientific results in broad and narrow contexts.
4. Apply professional written and oral communication skills to deliver scientific outputs in the horticultural field.
5. Demonstrate leadership qualities in the area of specialization.

Degree Requirements: Total Credit Hours: 54

Program Requirement			
Required Courses			
			(Required Credit Hours:18)
COSC	702	Ethics of Scientific Research II	1
STAT	715	Design and Analysis of Experiments in Applied Sciences	3
COFA	760	Advance Scientific Writing	2
COFA	770	Sustainable Food and Agriculture	3
HORT	805	Molecular approaches in plant research	3
HORT	815	Assessment of energy and element fluxes in agroecosytems	3

HORT	820	Urban landscape planning, policy and management	3

Course Credits

Program Elective

Students should either select two courses from the list below or one course from the list below and any 3-credit hour 700-level course offered by UAEU and approved by the Advisory Committee.

(Required Credit Hours:6)

HORT	741	Modeling Horticultural System	3
HORT	748	Conservation of Plant Genetic Resources	3
HORT	720	Innovative Technologies for Horticultural Production Systems	3
HORT	725	Methods in agricultural microbiology	3

Course Credits

Qualification Requirements

Required Courses

(Required Credit Hours:0)

HORT	800	Comprehensive Exam	0
HORT	810	Research Proposal	0

Course Credits

Research Requirements

Required Courses

(Required Credit Hours:30)

HORT	900	Dissertation Research	30
HORT	910	Dissertation Defense	0

College of Humanities and Social Sciences

Department of Arabic Language & Literature

Master of Arts in Arabic Language and Literature

Description

The Master's degree in Arabic Language and Literature is a one-track program that combines several fields of Arabic linguistics and literary criticism. Students' area of specialization is based on their dissertation topic. The program requires completing 30 credit hours, composed of 18 mandatory credits, 6 elective credits, and 6 credits for the dissertation. Students are expected to complete the Master's degree within three academic semesters. The program is offered to both female and male students. The lectures are mixed-gender and take place in the male section. This program requires regular attendance in compliance with UAEU regulations and the academic calendar for both full-time and part-time students.

Program Objectives

1. Develop the students' knowledge of the branches of the specialization and their sources, which enables them to evaluate their cognitive achievement.
2. Enable the student to study the Arab heritage in light of contemporary literary and linguistic criticism to achieve authenticity and modernity.
3. Produce research within a general framework of high skill and innovation, which enables the student to demonstrate intellectual independence and self-creation

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze the literary texts in light of ancient and modern criticism theories.
2. Explain the structural elements in the linguistic and literary lesson and the stages of their development.
3. Address the questions of the linguistic phenomenon at its various levels, based on the student's readings and research.
4. Evaluate published critique and rhetoric according to their knowledge of Arabic literature and its theoretical and practical connections with other kinds of literature.
5. Conduct research according to academic writing and its scholarly standards.

Degree Requirements: Total Credit Hours: 30

Core Courses (Req. CH:18)

Required Courses			(Required Credit Hours:18)
ARB	605	Rhetorical and Stylistic Issues	3
ARB	613	Research Methods and Editing Texts	3
ARB	630	Studies in Linguistics	3
ARB	635	Modern Schools of Criticism	3
ARB	640	Syntactical and Linguistic Schools	3
ARB	661	Studies in Syntax	3

			Course Credits
Elective Courses (Req. CH:6)			
Student mast select 2 courses from the list below			
			(Required Credit Hours:6)
ARB	600	Contemporary Arabic Language Issues	3
ARB	611	Critical Thinking Among Arabs	3
ARB	655	Selected Literary and Linguistic Texts in English	3
ARB	660	Special Topics	3
ARB	670	Genres of Arabic Literature	3

			Course Credits
Thesis (Req. CH:6)			
Required Course			
			(Required Credit Hours:6)
ARB	699	Thesis	6

Department of Geography and Urban Sustainability

Master of Science in Remote Sensing and Geographic Information Systems

Description

The Remote Sensing and Geographic Information Systems Master of Science Program at UAE University is the first of its kind in the region. It is designed to provide you with the theoretical background and practical skills to start or advance your career in remote sensing and GIS. Our curriculum has been specifically developed to suit students from diverse academic backgrounds and professional occupations. No prior remote sensing or GIS experience is required to excel in the program. (Total credit hours is 30 for theses and 34 for no-theses).

Program Objectives

1. Discuss the theoretical background and practical skills for a career in Remote Sensing or GIS.
2. Identify the recent advances in Remote Sensing, GIS and GNSS relating that with scientific research and its role in the society.
3. Apply analytical and spatial thinking skills needed for successful use of remote sensing and GIS in solving spatial problems.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Discuss the theoretical principles of remote sensing and GIS and their role in modeling and solving environmental, urban and social issues.
2. Recognize advanced analysis and interpretation skills needed in remote sensing and GIS.
3. Apply practical remote sensing and GIS procedures for assessing and solving environmental, urban, geologic and societal problems.
4. Communicate remote sensing and GIS related ideas and results both orally and in writing.
5. Develop remote sensing and GIS project management, team work and leadership skills.
6. Produce scientific research related to the applications of remote sensing and GIS.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Remote Sensing and GIS			
Required Courses			
			(Required Credit Hours:18)
RGIS	601	Principles of Remote Sensing	2
RGIS	602	Fundamentals of GIS	3
RGIS	603	Digital Image Processing in RS	3
RGIS	604	Spatial Analysis Using GIS	3
RGIS	605	Local & Web Based Services GIS	2
RGIS	606	Database Management Systems	2
RGIS	607	Seminar on Management Issues in RS&GIS	1
STAT	661	Geo-Statistics	2
Elective Courses - 6CH for Thesis option and 12CH for Non-Thesis option			
			(Required Credit Hours:12)
BIOE	625	Coastal Management	2
RGIS	610	Spatial Data Collection	2
RGIS	611	Advanced Remote Sensing	2
RGIS	612	Satellite Positioning	2
RGIS	613	Software Engineering for GIS	2
RGIS	614	Selected Topics	2
RGIS	615	Project Management	2
RGIS	616	Transport Applications of GIS	2
RGIS	617	Urban and Environmental Applications of Remote sensing and GIS	2
RGIS	618	Remote Sensing and GIS for Petroleum	2
			Course Credits
Thesis or Capstone			
Required Courses (Min CH:4 and Max CH:6)			
			(Required Credit Hours:6)
RGIS	620 *	Capstone	4
RGIS	630 **	Thesis	6
		* Required for Non-Thesis	
		** Required for Thesis	

Doctor of Philosophy in Geographic Information Science

Description

The PhD in Geographic Information Science (GIS) is designed to meet the market demand of various sectors, such as academia, municipalities, urban planning departments, environmental agencies, police, and military. Students are expected to formulate their research on a variety of topics, including GIS, remote sensing, climate change, population studies, natural hazards, and coastal zone management. The Program aspires to contribute to both the academy and to the UAE by training nationals to meet the nation's vision. The PhD consists of two major components: taught courses (**24** credit hours) and a research dissertation (**30** credit hours).

Program Objectives

1. To provide essential knowledge about the latest theories and advances in the field of geospatial science.
2. To develop research, critical thinking, analytical, and problem-solving skills in the GIS field.
3. To offer students the opportunity to integrate their educational and professional experience.
4. To produce graduates who can advance GIS theory and practice.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply theories, methodologies, and knowledge to address questions related to Geographic Information Science.
2. Develop research of significance and originality which extends knowledge in Geographic Information Science.
3. Show evidence of skills in oral and written communication sufficient to publish and present work related to Geographic Information Science and to prepare grant proposals.
4. Demonstrate an insight into the transferable nature of research skills to other work environments and the range of career opportunities available to them inside and outside academia.
5. Identify and manage ethical issues and principles relevant to Geographic Information Science and to academia more widely.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Part 1: General College Requirements (6 credits)			
Required Courses			
			(Required Credit Hours:6)
CHSS	700	Research Methods and Ethics	2
CHSS	702	Critical Reading and Writing	2
CHSS	703	Digital Applications in Humanities and Social Sciences	2

			Course Credits
Part 2: Geography Requirements (18 credits)			
Required Courses			

			(Required Credit Hours:18)
GEOG	703	Geographic Information Systems: Applications in Geographical Research	3
GEOG	707	Global Navigation Satellite Systems (GNSS)	2
GEOG	708	GIS Modeling	3
GEOG	709	Internet and Mobile GIS	3
GEOG	710	GIS & Accuracy Assessment	3
GEOG	712	GIS Programming	2
GEOG	718	Spatial Analysis and Geo-statistics	2
			Course Credits

Part 3: Qualification Requirements (0 hours)

Qualification Requirements			
			(Required Credit Hours:0)
GEOG	800	Comprehensive Examination	0
GEOG	810	Research Proposal	0
			Course Credits

Part 4: Research Requirements (30 hours)

Dissertation Research			
			(Required Credit Hours:30)
GEOG	900	Dissertation Research	36
GEOG	910	Dissertation Defense	0

Department of Government and Society

Master of Governance and Public Policy

Description

The Master of Governance and Public Policy (MGPP) degree aims to impart knowledge, skills, and analytic capability about the rational application of methods, practical tools and techniques in public governance including the formulation, implementation, and evaluation of public policy in the dynamic and complex era of globalization. The Program combines relevant contemporary theories, professional skills, practical knowledge, high level research skills and critical thinking to approach the questions of governance and policy management in the new millennium. The MGPP equips students with cutting-edge skills to undertake open, accountable, responsive, and inclusive leadership to address the administrative, ethical, financial, organizational, and political challenges in delivering superior governmental services and making effectual decisions.

Program Objectives

1. To prepare professionals and public policy leaders to discuss, analyze, and evaluate public policies.
2. To appreciate the complex and cross-sectorial nature of public policy, public policy challenges, and public policy solutions.
3. To implement skills necessary to address important criteria of transparency, accountability, responsive, effectiveness, efficiency, and inclusive in all policy processes.
4. To develop leadership skills necessary to lead national and local institutions and perform administrative, financial, organizational, and political activities.
5. To exercise ethical and moral standards in public policy processes and leadership behaviors.
6. To equip students with various analytical tools to effectively diagnose and proffer solutions to complex public policy issues .

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Comprehend selected theories and methods in public governance, policy analysis, market-government relations, macro and micro economics, public budgeting, leadership, and research in the analysis and formulation of public policy.
2. Conduct governance and public policy research using appropriate research methods, ethics procedures, and statistical analysis
3. Apply qualitative and quantitative skills in the formulation of public policy independently and in teams.
4. Use different tools and techniques in policy analysis, stakeholder management, successful policy implementation, effective program evaluation, and financial management
5. Communicate descriptive and analytical knowledge effectively in written and oral format to various audiences.
6. Demonstrate preparedness for continued reflective practice and lifelong learning in public policy and governance.

Degree Requirements: Total Credit Hours: 36

			Course Credits
Governance and Public Policy			
Required Courses			
			(Required Credit Hours:24)
ECON	541	Economics for Policy Analysis	3
ECON	544	Financial Management and Public Budgeting	3
PSG	501	Public Policy Analysis Theory & Practice	3
PSG	504	New Public Man & Governments	3
PSG	505	Research Methods for Political Analysis	3
PSG	517	Government, Leadership, & Pubic Management	3
PSG	518	Public Policy Design and Tools	3
PSG	527	Seminar in Government & Public Policy in the UAE	3
Elective Courses			
			(Required Credit Hours:6)
PSG	513	Globalization, International Agencies & Public Policy	3
PSG	521	Environmental Policy & Sustainable Development Management	3
PSG	522	Implementation, Evaluation & Monitoring of Strategic Issues	3
PSG	526	Comparative Political Institutions	3

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
PSG	699	Master Degree Thesis	6

Department of Social Wellbeing

Master of Social Work

Description

Master of Social Work (MSW) programs prepare graduates for advanced professional practice in an area of concentration. The MSW program will prepare UAEU graduates to enter the job force as specialized practitioners, accepting leadership roles within the areas of health/mental health, criminal justice, applied research, policy analysis, community education, schools and in the planning and provision of social services in other areas. The Master of Social Work consists of 30 credit hours of specialized coursework and practicum for students with a Bachelor degree in Social Work (BSW).

Program Objectives

1. Practice in accordance with social work values and ethics that acknowledge the history and laws of UAE society.
2. Practice in a culturally competent manner that promotes quality of life and well-being, human rights and social and economic justice, with diverse Arab, Muslim and expatriate populations of the UAE and GCC.
3. Use, produce and apply research knowledge to enhance their skills for practice with the diverse Arab/Muslim families, children, individuals, groups, organizations, communities, and societies of the UAE and GCC.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Use communication/facilitation skills ethically in building empowering relationships with the diverse populations in the UAE, the Arab Gulf and internationally.
2. Employ skills for influencing policy formulation and change in communities that advance social and economic justice.
3. Apply knowledge and leadership skills in managing projects, and working with community groups and/or organizations to address populations at risk and engage in community resource development
4. Demonstrate skills in quantitative/qualitative research design, data analysis, program evaluation, practice evaluation, community needs assessments, and knowledge dissemination.
5. Apply the knowledge, values, ethical principles, and skills of a generalist social work perspective to practice with diverse social systems in the UAE, the Arab Gulf and internationally.
6. Analyze social policies at a local, regional, national, and international level.
7. Evaluate existing research studies and one’s own practice interventions.
8. Function within the structure of organizations and service delivery systems and seek necessary organizational change.

Degree Requirements: Total Credit Hours: 30

Social Work

			Course Credits
Required Courses			
			(Required Credit Hours:21)
SWK	640	Models and Methods of Social Work Practice	3
SWK	642	Leadership & Supervision	3
SWK	645	Intermediate Social Work Research	3
SWK	695	Field Practicum II	9
SWK	699	Directed Readings	3
Elective Courses - 9CH (3 courses) from a specialization track			
			(Required Credit Hours:9)
Health/Mental Health			
			(Required Credit Hours:9)
SWK	671	Social Work Practice with At Risk Students	3
SWK	690	Social Work & Traditional Help Seeking Behavior	3
SWK	691	Social Work in Behavioral Health Settings	3
Criminal Justice/Substance Abuse			
			(Required Credit Hours:9)
SWK	680	Social Work in Criminal Justice Settings	3
SWK	681	Social Work & Addictions	3
SWK	682	Techniques in Rehabilitation Counseling	3

Department of Languages and Literature

Master of Arts in English

Description

The MA in English (MAE) offers specializations in the disciplines housed in the Department of Languages and Literature at UAEU, including literature and cinema studies, as well as theater and their intersections. Expanding on analytical and critical thinking skills gained throughout their undergraduate programs, students receive qualifications for careers revolving around informed, eloquent text analysis and creative expression. These careers include but are not limited to teachers, literary translators, editors, and writers. Successful graduates will further be capable to demonstrate the significance of creative representations of their own cultural background for global markets in the areas of literature, film production, and theater.

Program Objectives

1. Illustrate essential principles and advanced terminology in the field of English Studies
2. Apply solid knowledge about historical and cultural contexts in which to situate selected literary texts
3. Practice advanced research methodologies
4. Demonstrate different theories and approaches to text analysis
5. Practice the competencies required for the creation of literary print or digital texts
6. Evaluate discipline-specific teaching methodologies

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Assess advanced discipline-specific terminology in speech and writing
2. Critique a wide variety of literary texts from different periods and cultures
3. Explain advanced research methodologies
4. Appraise key critical approaches within literary criticism
5. Create literary print or digital texts
6. Prepare discipline-specific teaching methodologies

Degree Requirements: Total Credit Hours: 30

			Course Credits
English Degree			
Required Courses			(Required Credit Hours:18)
ENGL	601	Storytelling in the World	3
ENGL	602	Advanced Methods of Research in English Studies	3
ENGL	605	Literature and the Performing Arts	3
ENGL	606	Modern Literary Theory	3
ENGL	622	English Studies for the Workplace	3
ENGL	623	Literature of the Arab World and its Diaspora	3

Elective Courses (Student should take two courses from the following)			
			(Required Credit Hours:6)
ENGL	613	Literary Themes and Motives	3
ENGL	614	Romanticisms and Realisms	3
ENGL	615	Critical Theory	3
ENGL	616	Digital Culture and Literature	3
ENGL	617	Drama and Film Studies	3

			Course Credits

Thesis Research

Required Courses			
			(Required Credit Hours:6)
ENGL	699	Thesis	6

Department of Media and Creative Industries

Master of Arts in Communication

Description

The Master of Arts in Communication is a two-year full-time or five-year part time program. The program has two concentrations from which prospective candidates can choose either: Media Studies or Media Practices. Both concentrations require a 6-credit hour thesis. The master's program in Media and Communication is aimed at the following: graduates of media and communication who desire higher academic exposure and qualifications, and who may wish to use an MA qualification as a pathway to PhD studies; graduates of Media and Communication who are working as media and communication researchers but desire more in-depth knowledge and competence in the field; media and communication professionals who require a higher degree for career progression.

Program Objectives

1. To provide students with an up-to-date understanding of essential theories and concepts of media communication as they relate to the discipline's practices and discourses within national, regional, and international contexts.
2. To enable students to produce a sound scholarly research based on a chosen relevant subject of enquiry using appropriate methods and procedures.
3. To provide a specialized practice-based curriculum that prepares students for a career in strategic communication and allied industry.
4. To familiarize students with current new media and digital technologies in the media and communication industries; as well as a critical understanding of their transformative and disruptive potentials.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply theories and concepts of communication as they relate to the discipline's practices and discourses within national, regional, and international contexts.
2. Demonstrate strategic level analysis and critical thinking when evaluating communication programs of an organization.
3. Design knowledge driven strategic communication plans using appropriate hardware and software technologies.
4. Conduct a sound academic research based on a socially relevant topic; and using appropriate research tools and methodologies.

Degree Requirements: Total Credit Hours: 36

			Course Credits
Core Courses (Req CH:9)			
Required Courses			(Required Credit Hours:9)
MASC	611	Mass Communication Theory	3
MASC	612	Mass Communication Research Methods	3
MASC	641	Media Ethics	3

Course Credits

Concentration Requirements (Req CH:27)

Students should take one of the following Concentration:

(Required Credit Hours:27)

Course Credits

1- Media Practices Concentration (Req CH:27)

Required Courses

(Required Credit Hours:9)

MASC	613	Multimedia Storytelling	3
MASC	621	New Media Data Analysis	3
MASC	630	Media Management	3

Elective Courses
((Students must select four courses from the list below))

(Required Credit Hours:12)

MASC	620	Integrated Communication Campaigns and Strategies	3
MASC	622	Contemporary Journalism in Context	3
MASC	623	Multimedia Production	3
MASC	633	Seminar in Media and National Identity	3
MASC	642	Seminar in Media, Innovation, and the Creative Industries	3

Thesis

(Required Credit Hours:6)

MASC	650	Thesis	6

Course Credits

2- Media Studies Concentration (Req CH:27)

Required Courses

(Required Credit Hours:18)

MASC	610	Communication and Social Change	3
MASC	625	History of Mass Media	3
MASC	631	Media in a Global Context	3
MASC	632	Media, Policy, and Regulation	3
MASC	633	Seminar in Media and National Identity	3
MASC	642	Seminar in Media, Innovation, and the Creative Industries	3

Elective Courses (Students must select one course from the list below)			
			(Required Credit Hours:3)
MASC	620	Integrated Communication Campaigns and Strategies	3
MASC	622	Contemporary Journalism in Context	3
MASC	623	Multimedia Production	3

Thesis			
			(Required Credit Hours:6)
MASC	650	Thesis	6

College of Information Technology

Department of Information Systems and Security

Master of Science in Information Security

Description

The Master of Science in Information Security program, offered by the College of Information Technology, is designed to develop expertise in leadership and operations in the area of information security. The program is geared towards meeting the growing need for information technology specialists in information security. The program provides graduates with depth courses designed to enhance their skill set and knowledge in information security as well as breadth information technology courses. The program provides the needed technical and managerial expertise to plan, acquire, operate, manage and evaluate an organization's information security system of operations. Students enrolled in this program are expected to pursue a plan of study to assure professional competence and breadth of knowledge in the field of information security. The emphasis of this specialization is on applying proven and innovative practices for building industry-standard secure systems, applications and networks. This program is for highly motivated groups of working professionals and recent Bachelor's degree graduates. The program is designed to impart knowledge and develop the skills needed to meet current and future information security needs of the government and corporate organizations, as well as preparing students to pursue a Ph.D. in information security or related areas.

Program Objectives

1. Identify and effectively use techniques and tools necessary in information security practice;
2. Develop project management and leadership skills to secure enterprise IT architectures;
3. Apply security principles, legal and ethical responsibilities to the development, and deployment of information security policies;
4. Improve skills and expand knowledge for life-long learning and professional growth;
5. Comply with international information security standard and local regulatory policies.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply information security knowledge and effective security strategies and standards.
2. Design effective security solutions based on given requirements.
3. Evaluate in depth enterprise security systems.
4. Execute ethically project work or research that contributes significantly to the information security discipline.
5. Demonstrate advanced oral and written communication skills individually and collectively.
6. Analyze critically emerging information security concepts, models, techniques, and solutions.

Degree Requirements: Total Credit Hours: 30

			Course Credits
College of Information Technology			
Required Courses			
			(Required Credit Hours:9)
ITCO	601	Current Emerging Trends in Information Technology	3
ITCO	602	Management and Leadership in Information Technology	3
ITCO	603	System Analysis, Modeling & Design	3

			Course Credits
Information Security			
Required Courses			
			(Required Credit Hours:12)
SECB	621	Information Security Fundamentals	3
SECB	622	Advanced Network Security	3
SECB	623	Cryptography and Secure Communications	3
SECB	624	Software Security	3
Elective Courses - 3CH for Thesis option and 6CH Non-Thesis option			
			(Required Credit Hours: 3 - 6)
ECBP	614	Mobile Commerce	3
SECB	626	Secure Electronic Commerce	3
SECB	627	Ethics, Law and Policy in Cyberspace	3
SECB	628	Computer Crimes and Forensics	3
ITPG	698	Special Topics in Information Technology	3

			Course Credits
Project or Thesis **(If Project option is chosen, an additional elective will need to be taken for 3 CH)**			
Thesis Option			
			(Required Credit Hours:6)
ITPG	699	Research Thesis	6
Project Option			
			(Required Credit Hours:3)
ITPG	690	Practicum Project	3

Master of Science in Information Technology Management

Description

The College of Information Technology offers the Master of Science in Information Technology Management program that produces graduates who have a thorough understanding of information systems and technologies along with relevant management, communication, and decision-making skills. Students learn how to integrate information systems technology expertise and management skills to effectively implement organizational solutions. This combination of advanced technical knowledge and management skills with organizational strategy put graduates of this program in a position to succeed as IT leaders and technical experts.

Program Objectives

1. Develop in depth knowledge in information systems and technologies.
2. Integrate information systems technology expertise and management skills to effectively implement organizational solutions.
3. Lead IT projects and take a major role in building tomorrow's economy.
4. Improve their skills and expand their knowledge for life-long learning and professional growth.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate advanced understandings of the complex body of knowledge that involve the different IT management approaches.
2. Evaluate in depth enterprise architectures for developing and delivering products and services to the marketplace.
3. Develop ethically project work or research that contributes significantly to the current business needs and compliant with cutting-edge technology.
4. Develop enterprise-wide IT management skills and expand the knowledge for lifelong learning and professional development.
5. Critically analyze, synthesize, and make use of management information to solve complex IT management problems
6. Demonstrate advanced oral and written communication skills in a teamwork environment.

Degree Requirements: Total Credit Hours: 30

			Course Credits
College of Information Technology			
Required Courses			
			(Required Credit Hours:9)
ITCO	601	Current Emerging Trends in Information Technology	3
ITCO	602	Management and Leadership in Information Technology	3
ITCO	603	System Analysis, Modeling & Design	3

			Course Credits
Information Technology Management			
Required Courses			
			(Required Credit Hours:12)
ISBP	631	Information Systems Management	3
ISBP	632	Applied Data Mining	3
ISBP	634	Enterprise Computing	3
ISBP	635	Knowledge Management	3
Elective Courses - 3CH for Thesis option and 6CH for Non-Thesis option			
			(Required Credit Hours: 3 - 6)
ISBP	633	Managing the IT Venture	3
ISBP	636	IT Legislation	3
ISBP	637	E-Governance	3
ITPG	698	Special Topics in Information Technology	3

			Course Credits
Project or Thesis **(If Project option is chosen, an additional elective will need to be taken for 3 CH)**			
Thesis Option			
			(Required Credit Hours:6)
ITPG	699	Research Thesis	6
Project Option			
			(Required Credit Hours:3)
ITPG	690	Practicum Project	3

Department of Computer Science and Software Engineering

Master of Science in Software Engineering

Description

The Master of Science in Software Engineering offered by the College of Information Technology is designed to develop technical and managerial expertise in software engineering. The program focuses on meeting the growing needs for software engineers. Students acquire solid foundations in theory and practice in software engineering, with in-depth exposure to the state-of-the-art in software development processes, methodologies, and tools. The program is designed to impart knowledge and develop the skills needed to meet current and future information technology needs of government and corporate organizations, as well as to prepare students for Ph.D. degree programs in IT and related areas. Teamwork is emphasized throughout the curriculum to provide students with essential skills to be successful software engineering professionals. The program is intended for highly motivated groups of working professionals and recent Bachelor's degree graduates.

Program Objectives

1. Assume leadership roles to promote professional and organizational goals that address the needs of the community;
2. Uphold and apply the principles of professional and ethical responsibilities to the design, development, and deployment of computing artifacts;
3. Maintain professional competency in light of the advancements in the related disciplines, and develop professionally through continuing training and advanced education in response to changes in roles and responsibilities;
4. Contribute to the body of novel software products, services, and knowledge;
5. Collaborate professionally within or outside of their disciplines at national and international levels.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply software engineering knowledge to build robust, reliable, and maintainable software.
2. Design complex systems based on efficiency, cost and data availability.
3. Evaluate in depth the relative merits of software systems and artifacts at different levels of system architecture.
4. Analyze Critically emerging software models, techniques, and technologies.
5. Execute ethically project work or research that contribute significantly to Software Engineering discipline.
6. Demonstrate advanced oral and writing communication skills individually and collectively

Degree Requirements: Total Credit Hours: 30

			Course Credits
College of Information Technology			
Required Courses			
			(Required Credit Hours:9)
ITCO	601	Current Emerging Trends in Information Technology	3
ITCO	602	Management and Leadership in Information Technology	3
ITCO	603	System Analysis, Modeling & Design	3

			Course Credits
Software Engineering			
Required Courses			
			(Required Credit Hours:12)
SWEB	651	Software Construction	3
SWEB	652	Requirements Engineering	3
SWEB	653	Software Testing & Quality Assurance	3
SWEB	654	HCI and Usability	3
Elective Courses - 3CH for Thesis option and 6CH for Non-Thesis option			
			(Required Credit Hours: 3 - 6)
SWEB	655	Web Applications	3
SWEB	656	Special Topics in Software Engineering	3
SWEB	657	Embedded Software	3
ITPG	698	Special Topics in Information Technology	3

			Course Credits
Thesis or Project **(If Project option is chosen, an additional elective will need to be taken for 3 CH)**			
Thesis Option			
			(Required Credit Hours:6)
ITPG	699	Research Thesis	6
Project Option			
			(Required Credit Hours:3)
ITPG	690	Practicum Project	3

Doctor of Philosophy in Informatics and Computing

Description

The Doctor of Philosophy (PhD) program in Informatics and Computing is an interdisciplinary research program that provides students with a unique opportunity to study the application of the latest information and computing technologies to a vast variety of fields while considering their impact on individuals, organizations, and society. It fosters innovations in a wide range of research areas including High Performance and Parallel Computing, Big Data and Cloud Computing, Internet of Things, Design and Analysis of Next-generation Networks, Bio/Health Informatics, and Cyber and Information Security. The program is designed to prepare specialists capable of providing leadership and necessary technical expertise to governmental, private, and academic sectors, and to empower them with the knowledge and skills to develop and further excel in the professional world.

Program Objectives

1. Offer rigorous and innovative informatics and computing education, promoting innovative research in areas related to national priorities
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally.
3. Enrich the UAE quality of life and contribute to the advancement of its knowledge-based economy

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate breadth of knowledge in emerging trends in informatics and computing disciplines and in-depth knowledge in specific areas of interest. (Knowledge)
2. Apply theory and advanced methodologies to implement innovative informatics and computing solutions. (Skills)
3. Analyze and critique the state of learning in informatics and computing, and propose solutions for identified open research problems (Skills, Self-Development)
4. Create and defend original research work that advances the state of the art in informatics and computing. (Autonomy and Responsibility)
5. Communicate complex research findings orally and in writing to faculty, peers, and the lay public. (Role in Context)
6. Articulate strategies to mitigate highly complex and diverse ethical issues related to informatics and computing ethical issues. (Self-Development)
7. Demonstrate self-direction and originality in tackling, solving and furthering autonomy in the study of advanced informatics and computing systems. (Self-Development, Autonomy and Responsibility)

Degree Requirements: Total Credit Hours: 54

			Course Credits
General Requirements (Req. CH: 24)			
Core Requirements			(Required Credit Hours:12)
CSPG	701	Advanced Design and Analysis of Algorithms	3
GENG	701	PhD Research Seminar	1
GENG	702	Research Methods	2
ITPG	708	Foundations of Computational Science and Informatics	3
STAT	710	Advanced Statistical Models	3

Elective Requirements (Req CH:6) Students should take two courses from the list below			
			(Required Credit Hours:6)
ITPG	720	Numerical Optimization Methods	3
ITPG	760	Special Topics in Informatics and Computing	3
CSPG	730	Data Mining for Advanced Analytics	3
CSPG	731	Distributed and Parallel Computing	3
CSPG	751	Software Engineering	3
CENG	709	Modeling, Simulation and Performance Evaluation	3
CENG	742	Advanced Computer Architecture	3
CENG	750	Advanced Design and Analysis of Networks	3
ISEC	755	Advanced Systems and Data Security.	3

Free Electives (Req CH:6) (Two free elective courses may be taken from 700-level courses offered by the CIT or other colleges with the approval of the student advisor.)			
			(Required Credit Hours:6)

			Course Credits

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
ITPG	800	Comprehensive Exam	0
ITPG	810	Research Proposal	0

			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
ITPG	900	Dissertation Research	30
ITPG	910	Dissertation Defense	0

Department of Computer and Network Engineering

Master of Science in Internet of Things

Description

The Master of Science in Internet of things (IoT) is an interdisciplinary program that provides students with a unique opportunity to study the application of the latest information and communication technologies to a vast variety of fields while considering their impact on individuals, organizations, and society. It fosters innovations in a wide range of areas including Embedded Systems Design, Wireless and Mobile Connectivity, Application and Service Development, Data Mining, and Information Security. The program is designed to prepare specialists capable of providing leadership and necessary technical expertise to governmental, private, and academic sectors, and to provide them with the knowledge and skills to develop and further excel in the professional world.

Program Objectives

1. Offer rigorous and innovative computing education, promoting innovative research in areas related to national priorities
2. Prepare graduates to be inquisitive, to reason critically, and to lead nationally and globally.
3. Enrich the UAE quality of life and contribute to the advancement of its knowledge-based economy.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Discuss the evolution of the IoT paradigm, the different application areas, inter-disciplinary and emerging developments in this field.
2. Evaluate the technologies associated with the IoT to reflect on, justify and recommend decisions.
3. Design an IoT solution for a single or a system of devices to solve problems to meet a set of requirements.
4. Develop project or research work that contributes to the IoT discipline taking into account relevant considerations such as ethics, economics, society, environment and sustainability.
5. Demonstrate advanced oral and written communication skills individually and collectively.

Degree Requirements:

Total Credit Hours: 30

			Course Credits
Core Requirements			
Required Courses			(Required Credit Hours:9)
CENG	601	Embedded Systems Design	3
CENG	602	Wireless and Mobile Networks	3
CENG	603	Internet of Things (IoT) Systems and Platforms	3

Major Elective

Students should select 3 courses from the list below			
			(Required Credit Hours:9)
CENG	604	Sensors, Data Acquisition and Interfaces	3
CENG	640	Internet of Things Security	3
CENG	655	Special topics in Computer Engineering	3
SWEB	645	Application and Service Development for the IoT	3
ISBP	632	Applied Data Mining	3
ISEC	755 *	Advanced Systems and Data Security.	3
		* Needs approval of student advisor	

Course Credits

Free Elective

Free electives may be taken from master level courses offered by the CIT or other colleges with the approval of the student advisor. Some examples are as follows: (1) Students interested in pursuing a PhD might be interested in an elective course on research methods run by the College of IT, (2) Students interested in technology for healthcare might be interested in an elective course run by the College of Medicine, (3) Students interested in applying IoT in the manufacturing/industry 4.0 area might be interested in an elective course run by the College of Engineering.

(Required Credit Hours:6)

Course Credits

Thesis

Required Course			
			(Required Credit Hours:6)
ITPG	699	Research Thesis	6

College of Law

Doctor of Philosophy in Law

Description

The awarded degree in recognition of the completion of the requirements of this program is "Doctorate of Philosophy in Law", and it will be offered in Arabic. However, there will be an opportunity for the students to specialize in one branch of law through the elective courses studied and the subject of the dissertation which they will argue/defend. The Program will be offered at UAEU in Al Ain campus.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the field of law.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in different sectors.
4. Adhere to professional integrity and research ethics, and be committed to values related to the field of law.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Compare the Legislative, Jurisprudential and Judiciary trends in the field of specialization.
2. Criticize legal provisions, jurisprudential opinions and judicial trends in the UAE and comparative legal systems.
3. Undertake research that includes knowledge in the field of specialization.
4. Communicate the key concepts in the field of specialization using appropriate language.
5. Develop innovative solutions for contemporary legal issues.
6. Express commitment to the relevant ethical and professional rules in the field of law.
7. Demonstrate self-learning skills with regard to real and novel issues.

Degree Requirements: Total Credit Hours: 60

			Course Credits
Part 1: Core Requirement (12 Cr. Hrs.)			
Required Courses			(Required Credit Hours:12)
LAW	700	Quantitative and Qualitative Research Methods	3
LAW	701	Advanced Legal Research: Writing and Presentation	3
LAW	702	Selected Legal Readings - E	3
LAW	703	Advanced Studies in Comparative Legal Systems	3
			Course Credits

Part 2: Elective Requirement
(12 Cr. Hrs including at least 9 Cr. Hrs. of courses taught in English)

First Group: Public Law			
			(Required Credit Hours:12)
PUBL	705	Criminal Law	3
PUBL	706	Administrative Law	3
PUBL	709	Public International Law - E	3
PUBL	710	Criminal Procedure Law- E	3
PUBL	713	International Crimes and Judicial System - E	3
PUBL	714	Constitutional Law - E	3
PUBL	715	Contemporary Crimes- E	3

Second Group: Private Law			
			(Required Credit Hours:12)
PRVT	707	Civil Law	3
PRVT	708	Commercial law	3
PRVT	711	Civil Procedures Law - E	3
PRVT	712	Companies Law and Investment Legislation - E	3
PRVT	716	Real-Estate Legislation- E	3
PRVT	717	Private International Law- E	3
PRVT	718	Securities and their Governing Legislation - E	3

Course Credits

Part 3: Qualification Requirements

Comprehensive Examination			
			(Required Credit Hours:0)
LAW	800	Comprehensive Examination	0

Course Credits

Part 4: Research Requirements

Dissertation Research			
			(Required Credit Hours:36)
LAW	900 *	Dissertation Research	36
		* 12 Credit Hours per semester	

Department of Public Law

Master of Public Law

Description

The public law specialty emphasizes the laws related to the state, as sovereign state, such as Criminal Law, Administrative Law, International Law, and Constitutional Law. The program is designed to enhance the graduates' professional skills, their abilities to think critically, to analyze legal arguments, to articulate ideas, to research efficiently, to write effectively, and to support the college's academic position as a remarkable university within the UAE and abroad

Program Objectives

1. Build and develop in depth a solid and advanced scientific base of knowledge in public law among the students.
2. Enable students to conduct in depth researches and specialized legal studies in different areas of public law.
3. Develop creativity and an advanced continuous knowledge in the field of Public Law.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze cases and legal texts in a correct scientific manner.
2. Criticize jurisprudential and judicial view points and trends in general, and within the UAE legal system in particular.
3. Conduct in depth a legal research in the field of public law, and analyzes the findings, in accordance with the correct scientific methodologies.
4. Present his/her scholarly activity orally in a correct scientific manner.
5. Demonstrate self-learning skills with regard to real and novel issues.
6. Undertake his/her duties professionally in accordance with ethical principles.

Degree Requirements:

Total Credit Hours: 31

Program Requirements
Part 1: Core Requirements

Required Courses			(Required Credit Hours:18)
			Course Credits
PUBL	630	Advanced Studies in Criminal Law	3
PUBL	631	Advanced Studies in Constitutional Law	3
PUBL	633	Advance Studies in International Criminal Law	3
PUBL	634	Advanced Studies in Criminal Procedures	3
PUBL	635	Advanced Studies in Administrative Law	3
LAW	666	Legal Research	3

Group 1: Arabic Courses

			(Required Credit Hours:3)
PUBL	637	Advanced Studies in Administrative Contracts	3
PUBL	640	Advanced Studies in Criminal Law-Specific Crimes	3

Group 2: English Courses			
			(Required Credit Hours:3)
PUBL	639	Human Rights (E)	3
PUBL	638	International Relations & Organizations(E)	3

			Course Credits

Part 3: Research Requirements

Required Courses			
			(Required Credit Hours:7)
PUBL	636	Thesis	7

Department of Private Law

Master of Private Law

Description

Private Law is the branch of law that deals with the relations between individuals or institutions, rather than relations between these and the state. This specialty attracts the law graduates who are looking to get recruited in trading companies, law firms, economic establishments, and the judiciary. The program aims at providing graduates with adequate research and professional skills through focusing on financial transactions between individuals whether it be civil or commercial transactions.

Program Objectives

1. Build and develop in depth a solid and advanced scientific base of knowledge in private law among the students.
2. Enable students to conduct in depth researches and specialized legal studies in different areas of private law.
3. Develop creativity and an advanced continuous knowledge in the field of Private Law.
4. Provide students with the highest values and ethics necessary for the exercise of the legal profession.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Analyze cases and legal texts soundly and scientifically.
2. Compare jurisprudence, various judicial and legislative trends, especially in the UAE legal system.
3. Undertake in-depth scientific research in a field of the Private Law utilizing curriculum-based legal research methods and drawing from scientific sources.
4. Present legal arguments in a sound and proper manner.
5. Perform tasks assigned to him/her in a professional and ethical manner
6. Demonstrate self-learning skills with regard to real and novel issues.

Degree Requirements: Total Credit Hours: 31

Program Requirements
Part 1: Core Requirements

			Course Credits
Required Courses			(Required Credit Hours:18)
PRVT	600	Advanced Studies in Civil Law	3
PRVT	601	Advanced Studies in Commercial Law	3
PRVT	603	International Trade Contracts (E)	3
PRVT	604	Alternative Dispute Resolution (E)	3
PRVT	611	Advanced Studies in Civil Procedure	3
LAW	666	Legal Research	3

			Course Credits
Part 2: Elective Requirements (Req. Ch:6)			
First Group: Arabic Courses			
			(Required Credit Hours:3)
PRVT	609	Advanced St.In Prvt.Int. Law	3
PRVT	612	Advanced Studies in Insurance	3
PRVT	613	Advanced Studies in Intellectual Property	3

Second Group: English Courses			
			(Required Credit Hours:3)
PRVT	607	World Trade Agreements (E)	3
PRVT	608	E-Commerce (E)	3

			Course Credits
Part 3: Research Requirements			
Required Courses			
			(Required Credit Hours:7)
PRVT	606	Thesis	7

College of Medicine

Master of Science in Genomic Medicine

Description

The M.Sc. in Genomic Medicine is a ground-breaking program and the first of its kind in the United Arab Emirates. The program is designed to address the critical need for the professional development of healthcare workforce from different disciplines (e.g. medicine, nursing, scientists and biotechnologists) in genomic knowledge that will impact on their service delivery to patients in the United Arab Emirates. In this program, the students will learn from experts in the field to prepare for a new era of personalized healthcare. It consists of courses, laboratory- and computer-based practical sessions. This program will also promote and foster students'; intellectual curiosity, creativity, and critical thinking in the practical application of genomics and bioinformatics through an original research project chosen from a wide selection of translational topics in the field of Genomic Medicine.

The degree awarded in recognition of the completion of the requirements of this program is "M.Sc. in Genomic Medicine". The corresponding study plan consists of 33 Credit Hours (CH). A student enrolled in the program must complete all requirements in a maximum of six semesters after enrolment. The program requires the completion of a thesis. The 33 CH are partitioned as follows: 20 CH as compulsory courses, 4 CH as elective courses, 9 CH of research and associated thesis on a state-of-the-art project related to genomic medicine. The program allows for both full and part time modes of study.

Program Objectives

1. Deliver graduates equipped with the necessary skills to understand and integrate genomic medicine in current and future clinical practice.
2. Prepare competent graduates to lead national and global health systems forward in the genomic era.
3. Promoting state-of-the-art research in national health-related priority areas contributing to the advancement of knowledge in the field of Medical Genetics and Genomics.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Explain genetics concepts and the genetic basis of disease.
2. Critically discuss genome technologies and their actual and potential impact in clinical practice.
3. Interpret genomic information as part of a diagnostic service or treatment protocol.
4. Identify the latest developments in research methodologies and clinical application.
5. Formulate a research hypothesis, collect and analyse scientific data, and undertake professionally relevant research.

Degree Requirements: Total Credit Hours: 33

			Course Credits
Core Courses			
Required Courses			
			(Required Credit Hours:20)
ETHC	600	Ethical Conduct in Medical Research	1
PRR	600	Principles of Research	1
MGEN	600	Molecular Biology of the Gene	3
MGEN	601	Human Genetics	2
MGEN	602	Molecular Basis of Human Diseases	2
MGEN	605	OMICS in Medicine	2
MGEN	603	Bioinformatics and Genomics	2
CMPH	602	Biostatistics	2
MGEN	604	Genetic & Genomic Diagnostics	3
JRC	601	Biomedical Sc Journal Club 1	1
SEM	601	Biomedical Sc. Seminar I	1

			Course Credits
Elective Courses			
Students must select 4 credits hours from the list below. They can also select any 600-level courses offered at CMHS or UAEU after the approval of the student's advisory committee.			
			(Required Credit Hours:4)
MGEN	606	Translational Medicine: From Bench to Bedside	2
MGEN	607	Pharmacogenomics and Stratified Medicine	2
MGEN	608	Principles of Genetic Counseling	2

			Course Credits
Research			
Required			
			(Required Credit Hours:9)
RSCH	602	Research Thesis	9

Master of Medical Sciences

Description

The Master of Medical Sciences programs are designed to cater to the needs and aspirations of individual students, the expressed needs of the relevant institutions in the UAE, and the current strengths in different disciplines in the CMHS. Currently the structure of the M. Med. Sc. curriculum is organized into three tracks: “Microbiology & Immunology”, “Pharmacology and Toxicology” and “Biochemistry and Molecular Biology (BMB)”. 1- Biochemistry & Molecular Biology The Biochemistry and Molecular Biology tack is a multi-disciplinary program which provides students with a foundation in Biochemistry and Molecular and Cellular Biology as well as intensive state-of-the-art laboratory research training. Research areas in the Biochemistry Department focus on the Biochemical, Molecular and Cellular basis of human diseases including Cancer Biology, Diabetes, and Neurodegenerative disorders, in addition to areas in Gene Regulation, Bioinformatics, Proteomics, Epigenetic, Signal Transduction, Oxidative Stress, Mitochondrial Dysfunction, and Immunology and Biochemical Toxicology. 2- Microbiology & Immunology The Microbiology and Immunology track provides students with core knowledge at the respective levels in basic immunology, the pathogenesis of autoimmune and infectious diseases, the molecular details of host-pathogen interactions, the molecular biology and molecular epidemiology of selected pathogens, and the genetic manipulation of pathogens. 3- Pharmacology & Toxicology The Department of Pharmacology and Therapeutics offers a multidisciplinary program designed to prepare highly qualified individuals to be successful scientists in academic and industrial biomedical research. The pharmacology and toxicology faculty members carry out research in cancer pharmacology, neuropharmacology, cardiovascular pharmacology, drug metabolism, toxicology, proteomics, molecular pharmacology, receptors and signal transduction, and drug design.

Program Objectives

1. Biomedical Knowledge.
2. Interpersonal & Communication Skills.
3. Scholarly Research.
4. Professionalism and ethics.
5. Publications and presentations.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply the knowledge of biomedical sciences in their scholarly activities.
2. Demonstrate communication skills (with peers and colleagues) that are effective in the exchange and translation of knowledge and information.
3. Apply professional ethics and commitment to their scholarly activities.
4. Engage in collaborative health science research.
5. use quantitative and qualitative methods present and defend their scientific research findings.

Degree Requirements: Total Credit Hours: 36

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:8)
PRR	600	Principles of Research	1
ETHC	600	Ethical Conduct in Medical Research	1
STA	600	Biostatistics & Experimental Design	2
JRC	601	Biomedical Sc Journal Club 1	1
JRC	602	Biomedical Sc. Journal Club II	1
SEM	601	Biomedical Sc. Seminar I	1
SEM	602	Biomedical Sc. Seminar II	1
			Course Credits
Biochemistry and Molecular Biology Track			
Required Courses			
			(Required Credit Hours:9)
BMB	601	Techniques in Biochemistry	2
BMB	602	Advanced Molecular Biology	3
BMB	603	Advanced Cell Biology	2
BMB	604	Advanced Topics in Biochemistry	2
Microbiology and Immunology Track			
Required Courses			
			(Required Credit Hours:6)
MMIM	601	Molecular Bacteriology – Gene, Structure, Pathogenesis	2
MMIM	602	Principles of Cellular and Molecular Immunology	2
MMIM	603	Molecular Principles of Viral Replication and Pathogensis	2
			Course Credits
Pharmacology and Toxicology Track			
Required Courses			
			(Required Credit Hours:8)
PHTX	601	General Systemic Pharmacology	2
PHTX	602	Molecular Mechanism of Drug Action	2
PHTX	603	Neurotransmitters in Health and Diseases	2

PHTX	604	Molecular Principles of Organ Toxicity	2

Thesis/Project (CH. Req. 4 to 18)

18 Credit Hours for Thesis option and 4 Credit Hours for non-thesis option			
			(Required Credit Hours: 4 - 18)
RSCH	600 *	Research	18
RSCH	601 **	Research Project	4
		* Thesis Only	
		** Non-Thesis Only	

Elective Courses (CH. Req. 1-18)

(Thesis option: 1 CH. for BM track, 4 CHs. for MI track, 2 CHs. for PT track) (Non-Thesis option: 15 CHs. for BM track, 18 CHs. for MI track, 16 CHs. for PT track)			
			(Required Credit Hours: 1 - 18)
BMB	603	Advanced Cell Biology	2
BMB	604	Advanced Topics in Biochemistry	2
BMB	606	Special topics in Biochemistry	1
PHTX	619	Advances in Pharmacology	1
PHTX	601	General Systemic Pharmacology	2
PHTX	604	Molecular Principles of Organ Toxicity	2
PHTX	624	Modern Medicinal Chemistry and Drug Design	1
PHY	601	Human Physiology 1	2
PHY	602	Human Physiology 2	2
PHY	603	Human Physiology 3	2
PHY	611	Advanced Electrophysiology	2
MMIM	603	Molecular Principles of Viral Replication and Pathogensis	2
MMIM	605	Gene Therapy	1
MMIM	606	Molecular Techniques Viral Pathogenesis	1
MMIM	607	Antibiotics and Antibiotic Resistance	1
MMIM	608	Immune-Mediated Diseases	2
MMIM	609	Microbiome in health and disease	2
MGEN	601	Human Genetics	2
CANB	601	Basic Cancer Biology	2
ANAT	605	Human Gross Anatomy	3
MMIM	612	Basic Medical Parasitology and Entomology	3
MMIM	620	Emerging bacterial infectious diseases	3

Master of Public Health

Description

The program is designed to meet the development needs of professionals working in the field of public health or related fields such as occupational health, environmental health, primary care or health promotion. It is appropriate for those working in health and social care organizations, including health authorities, government departments and health service providers such as hospitals and clinics. The course will also be appropriate for those who wish to pursue a career in academic public health or to learn more about epidemiology and statistics for research or health service evaluation. The program is part-time. The program is modular with teaching taking place during intensive courses 0830-1700 Wednesday-Saturday.

Program Objectives

1. History and philosophy of public health as well as its core values, concepts, functions, and leadership roles.
2. Population health concepts, and the processes, approaches, and interventions that identify and address the major health-related needs and concerns of populations.
3. Concepts, methods, and tools of public health data collection, analysis and interpretation, and the evidence-based reasoning and informatics approaches that are essential to public health practice.
4. Biological, environmental, socio-economic, behavioral, cultural, and other factors that impact human health, influence the global and societal burden of disease, and contribute to health disparities.
5. Identification and pursuit of opportunities for promoting health and preventing disease across the lifespan and for enhancing public health preparedness.
6. Characteristics and organizational structures of selected health care systems.
7. Legal, ethical, economic, and regulatory dimensions of health care and public health policy.
8. Public health-specific communication and social marketing, including technical and professional writing.
9. The cultural context of public health issues.
10. Globalization and sustainable development and their relationship to population health.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Use advanced concepts, methods, and tools of public health data collection, analysis and interpretation.
2. Identify and address the major health-related needs and concerns of populations using population health concepts and methods
3. Analyze the biological, environmental, socio-economic, behavioral, cultural, and other factors that impact human health.
4. Use effective communication and strategies for promoting health and preventing disease across the lifespan.
5. Compare the characteristics and organizational structures of health care systems in selected countries.
6. Explain the legal, ethical, economic, and regulatory dimensions of health care and public health policy.

Degree Requirements: Total Credit Hours: 34

			Course Credits
Public Health Major			
Required Courses			
			(Required Credit Hours:18)
CMPH	601	Fundamentals of Public Health	2
CMPH	602	Biostatistics I	2
CMPH	603	Epidemiological Methods	2
CMPH	606	Health Promotion and Disease Prevention	2
CMPH	609	Introduction to Public Health	2
CMPH	614	Public Health Assignments I	2
CMPH	616	Public Health Assignments II	2
CMPH	623	Public Health Assignments III	2
CMPH	629	Skills for Public Health Practice	2

Elective Courses (Not offered every year, Students must select 8 courses out of the list)			
			(Required Credit Hours:16)
Biomedical sciencesCMPH	605	Public Health Management	2
CMPH	607	Health Protection	2
CMPH	613	Occupational Health	2
CMPH	615	Clinical Epidemiology	2
CMPH	617	Environmental Public Health	2
CMPH	618	Current Issues in Public Health	2
CMPH	620	Maternal and Child Health	2
CMPH	622	Chronic Disease Epidemiology	2
CMPH	627	Advanced Epidemiological Methods	2
CMPH	628	Global Health	2
CMPH	630	Advanced Biostatistics	2
CMPH	633	Advanced Public Health	2
CMPH	631	Advanced Environmental Health	2

Master of Science in Clinical Research

Description

The program for Master of Science in Clinical Research (Clin Res MSc) is a two-year graduate-degree program designed to provide candidates with in-depth knowledge and practical skills to plan and implement a clinical research program, and translate their research findings into actions that will inform clinical practice and improve health and patient outcomes. Students must complete all planned courses totaling 30 credit hours, and successfully defend their research thesis, for graduation. This comprises 17 credit hours of compulsory courses, 4 credit hours of elective courses, and 9 credit hours for the thesis research project. In addition to formal classroom teaching, students are expected to spend time on self-directed study and homework assignments. For every hour spent in the classroom, students should aim to spend two hours on self-directed study.

Program Objectives

1. To equip graduates with in-depth knowledge and practical skills to conduct clinical research in various settings and health priority areas;
2. To promote the use of research evidence and integration of evidence-based medicine in clinical practice at healthcare settings to improve patient outcomes;
3. To cultivate a culture of scientific research among graduates to help develop clinical research networks in healthcare organizations.
4. To prepare graduates to lead evidence-based research and practice in health care facilities.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Develop and conduct clinical research that applies appropriate study designs and methods to address research questions and hypotheses;
2. Perform human research that complies with legal, ethical, and regulatory principles and guidelines;
3. Critically appraise various types of studies and consider translation of evidence into practice.
4. Accurately select, use and interpret commonly used statistics;
5. Develop the understanding and skills required to lead evidence-based research and practice in their local context.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Core Courses			
Required Courses			
			(Required Credit Hours:17)
CSR	651	Fundamentals of Clinical Research	3
CSR	652	Clinical Studies-I	4
CSR	653	Clinical Studies-II	4
CSR	654	Critical Analysis of Clinical Research	3
CSR	655	Research Design Practicum	3

Course Credits

Elective Courses

The student can choose the 4-credit hour course or any two of the 2-credit hour courses from the list below:			
			(Required Credit Hours:4)
CSR	656	Clinical Research Teaching and Leadership	4
MGEN	606	Translational Medicine: From Bench to Bedside	2
MGEN	607	Pharmacogenomics and Stratified Medicine	2
MGEN	608	Principles of Genetic Counseling	2
CMPH	620	Maternal and Child Health	2
CMPH	622	Chronic Disease Epidemiology	2
CMPH	628	Global Health	2
CMPH	633	Advanced Public Health	2
CMPH	631	Advanced Environmental Health	2

			Course Credits

Research

Required course			
			(Required Credit Hours:9)
RSCH	605	Thesis Research Project	9

Doctor of Pharmacy

Description

The Postgraduate Doctor of Pharmacy is a QFEmirates level 9 professional program (Master's degree) offered to licensed pharmacists with an accredited baccalaureate degree in pharmacy who wish to earn a higher degree relevant to clinical practice. The program is designed and developed to satisfy the needs of practicing pharmacists at health care centers within the country and internationally. The duration of the program is 2 years full time and includes 1,440 hours (36 weeks) of placement in clinical environments. The College of Medicine & Health Sciences has a high global rating and is accredited by the General Medical Council. It is listed and accepted by the World Health Organization (WHO) and the Educational Commission for Foreign Medical Graduates and recognized by American and Canadian Universities and Health Institutions.

Program Objectives

1. Provide Optimal Patient Education and Care
2. Apply Advanced Therapeutic Knowledge to Pharmacy Practice
3. Develop Interpersonal & Communication Skills.
4. Conduct Health-Related Research.
5. Identify and Use the Appropriate Health-Related Resources.
6. Demonstrate Professional Behavior and Ethics with Patients and Other Health Care Providers

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply knowledge of advanced pharmacotherapeutics and pharmaceutical sciences in recommending and delivering optimal patient care.
2. Evaluate the medical literature and utilize evidence-based medicine in problem solving and decision-making process.
3. Communicate effectively while displaying empathy with patients and provide drug information to patients and healthcare providers.
4. Design and monitor an individualized pharmaceutical care plan in collaboration with other healthcare providers and take leadership roles in promoting health and wellness in the community.
5. Exhibit a capacity for self-evaluation, moral reflection and ethical reasoning to form the basis for self-directed and lifelong learning.
6. Design, conduct, and analyze advanced clinical research projects.

Degree Requirements: Total Credit Hours: 60

			Course Credits
Year 1			
Fall Semester Required Courses			
			(Required Credit Hours:13)
CMPH	600	Biostatistics & Clinical Research Design	3
PHTX	607	Advanced Pharmacotherapy 1	3
PHTX	608	Advanced Pharmacotherapy 2	3
PHTX	612	Medication Management and Pharmaceutical Care	3
PHTX	623	Research Project 1	1

Spring Semester Required Courses			
			(Required Credit Hours:14)
PHTX	609	Advanced Pharmacotherapy 3	2
PHTX	610	Advanced Pharmacotherapy 4	3
PHTX	631	Advanced Pharmacotherapy 5	3
PHTX	632	Advanced Pharmacy Practice Experience 1: Hospital Pharmacy	4
PHTX	634	Advanced Clinical Pharmacokinetics	2

			Course Credits

Year 2

Fall Semester Required Courses			
			(Required Credit Hours:16)
PHTX	614	Advanced Pharmacy Practice Experience 2: General Internal Medicine 1	4
PHTX	627	Advanced Pharmacy Practice Experience 3: General Internal Medicine 2	4
PHTX	613	Advanced Pharmacy Practice Experience 4: Ambulatory Care	4
PHTX	618	Advanced Pharmacy Practice Experience 5: Infectious Diseases	4

Spring Semester Required Courses			
			(Required Credit Hours:17)
PHTX	626	Advanced Pharmacy Practice Experience 6: General Surgery	4
PHTX	620	Advanced Pharmacy Practice Experience 7: General Pediatric	4
PHTX	621	Advanced Pharmacy Practice Experience 8: Critical Care Medicine	4
PHTX	616	Advanced Pharmacy Practice Experience 9: Adult Oncology	4
PHTX	633	Research Project 2	1

Doctor of Philosophy in Public Health

Description

The Doctor of Philosophy (PhD) program in Public Health is designed to provide student with sufficient knowledge, research skills and competency in a wide variety of areas that will prepare him/her for a career in public health and epidemiology research, academia and leadership. The program embraces both course work as well as original research work completion. The combination of unique courses will cover several public health topics, epidemiology, bio-statistics, and research methodology. This 54-credit hours PhD program is typically finished in four to six years. The program will intend to contribute to the advancement of the UAE knowledge-based economy through community engagement and knowledge transfer. The program will enhance scientific innovation through research and establish the UAEU as a leader in public health research within the country and region.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the discipline area.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in different sectors.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Synthesize new knowledge by engaging in original research using advanced concepts and methods of public health data collection, analysis and interpretation.
2. Evaluate major health-related needs, concerns and trends using public health concepts and methods to improve the human health.
3. Analyze, critically, the biological, occupational, environmental, socio-economic, behavioral, cultural, and other determinants that impact human health.
4. Design effective communications, policies and strategies for promoting health and preventing diseases.
5. Evaluate the legal, ethical, economic, and regulatory dimensions of public health.

Degree Requirements: Total Credit Hours: 54

General Requirements			
Required Courses			
			(Required Credit Hours:9)
CMHS	731	Research Proposal Development	1
CMHS	702	Journal Club I	2
CMHS	703	Journal Club II	2
CMHS	704	Journal Club III	2
CMHS	705	Journal Club IV	2
			Course Credits
Program Requirements			

Required Courses			
			(Required Credit Hours:9)
CMPH	743	Essentials of Population Health	2
CMPH	744	Health Interventions, Policy & Practice	2
CMPH	741	Epidemiology I	2
CMPH	742	Biostatistics I	2
CMPH	713	Qualitative Research Methods	1
			Course Credits

Elective Courses

Students should take 3 courses from the following list. (Or can also enroll (as an elective) in any relevant courses from the pool of all the UAEU 700-level courses (matching QFEmirates level 10) after consultation and approval from their supervisors and PhD program coordinator)			
			(Required Credit Hours:6)
CMPH	751	Epidemiology II	2
CMPH	752	Biostatistics II	2
CMPH	753	Environment and Human Health	2
CMPH	754	Health Promotion Programs - Strategies for Development and Evaluation	2
CMPH	755	Infectious Diseases Prevention and Control	2
CMPH	756	Introduction to Health Policy and Health Economics	2
			Course Credits

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
CMCE	800	Comprehensive Examination	0
			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
RSCH	900	Dissertation Research	30
RSCH	910	Dissertation Defense	0

Doctor of Philosophy in Biomedical Sciences

Description

The Doctor of Philosophy (PhD) program in Biomedical Sciences is designed to provide student with sufficient knowledge, research skills and competency in a wide variety of areas that will prepare him/her for a career in Biomedical Sciences research, academia and leadership. The program embraces both course work as well as original research work completion. The combination of unique courses will cover several Biomedical Sciences topics, bio-statistics, and research methodology. This 54-credit hours PhD program is typically finished in four to six years. The program will intend to contribute to the advancement of the UAE knowledge-based economy through community engagement and knowledge transfer. The program will enhance scientific innovation through research and establish the UAEU as a leader in Biomedical Sciences research within the country and region.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the discipline area.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in different sectors.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate depth and breadth of the translational biomedical knowledge used in their scholarly activities.
2. Demonstrate effective communication skills, with peers and colleagues, that are effective in the exchange and translation of knowledge and scientific findings.
3. Synthesize new translational biomedical sciences knowledge by engaging in collaborative research, and in scholarships and through oral, written and publication platforms
4. Demonstrate professionalism and ethical attitudes in data management, ownership and sharing.
5. Evaluate the significance of translational biomedical research.

Degree Requirements: Total Credit Hours: 54

General Requirements

Required Courses			(Required Credit Hours:9)
CMHS	731	Research Proposal Development	1
CMHS	702	Journal Club I	2
CMHS	703	Journal Club II	2
CMHS	704	Journal Club III	2
CMHS	705	Journal Club IV	2
			Course Credits

Program Requirements

Required Courses			
			(Required Credit Hours:9)
BMSC	700	Recent Advances in Molecular Biology	3
BMSC	701	Advanced Research Techniques	3
BMSC	707	Medical Cell and Tissue Biology	3
			Course Credits

Elective Courses

Students should take 2 courses from the following list. (Or can also enroll (as an elective) in any relevant courses from the pool of all the UAEU 700-level courses (matching QFEmirates level 10) after consultation and approval from their supervisors and PhD program coordinator)			
			(Required Credit Hours:6)
BMSC	702	Advances in General Pathology	3
BMSC	703	Microbial Pathogenesis and Host Defense	3
BMSC	704	Current Advances in Pharmacological Sciences	3
BMSC	705	Advances in Genetics	3
BMSC	708	Advanced Topics in Neuroscience	3
BMSC	709	Advanced Pathophysiology	3
BMSC	710	Computational Biochemistry and Artificial Intelligence for Medical Applications	3
BMSC	711	Advanced Human Microbiome	3
BMSC	712	Advanced Molecular and Cellular Virology	3
BMSC	713	Advanced Immunology	3
			Course Credits

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
CMCE	800	Comprehensive Examination	0
			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
RSCH	900	Dissertation Research	30
RSCH	910	Dissertation Defense	0

Department of Nutrition and Health

Doctor of Philosophy in Nutritional Sciences

Description

The PhD Program in Nutritional Sciences aims to give students the opportunity to gain advanced knowledge related to various aspects of nutritional sciences. The program will give an opportunity to the students to conduct high quality research, which will enhance the knowledge of the ways various nutrients, foods and dietary patterns could mitigate the risk of diseases and promote prevention. In addition, the program provides guidance for improving lifestyle and preventing and/or treating diseases through nutrition education and helps gather data for policy makers, to design and implement strategies for improving health of all individuals.

Program Objectives

1. To prepare and create future leaders of excellence in research, industry, and government sectors.
2. To enhance R & D capabilities with advanced skills among the graduates to serve the society.
3. To improve student's competencies in critical thinking, problem solving, leadership, team work and effective communication.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate advanced level of knowledge in Nutritional Sciences.
2. Ethically conduct original interdisciplinary research, including development of a relevant methodology, data collection and analysis, interpretation of scientific results and literature, drawing conclusion and recommendations to improve health and well-being at the local, national and international levels.
3. Identify issues to problems in nutritional science by proposing alternative solutions/ideas.
4. Communicate evidence-based nutritional science information using appropriate (written, visual, and oral) means, according to the level of the audiences (professional or general).
5. Demonstrate leadership qualities in the field of nutritional science to contribute to a future successful career in academia, industry or policy- making.

Degree Requirements: Total Credit Hours: 55

			Course Credits
College Requirement			
Required Courses			
			(Required Credit Hours:10)
COSC	702	Ethics of Scientific Research II	1
CMPH	742	Biostatistics I	2
CMPH	752	Biostatistics II	2
COFA	770	Sustainable Food and Agriculture	3
COFA	760	Advance Scientific Writing	2

			Course Credits
Core Course Requirements			
Required Courses			
			(Required Credit Hours:9)
NUTR	805	Advanced Macronutrient Metabolism	3
NUTR	820	Advanced Micronutrient Metabolism	3
NUTR	830	Human Nutrition Assessment	3

			Course Credits
Elective Courses			
Students should either select two courses from the list below or one course from the list below and any 3-credit hour 700-level course offered by UAEU and approved by the Advisory Committee.			
			(Required Credit Hours:6)
NUTR	705	Advanced Community Nutrition	3
NUTR	720	Nutritional Immunology	3
NUTR	740	Physical Activity and Fitness	3
NUTR	750	Selected Topics in Nutritional Sciences	3

			Course Credits
Qualification Requirements			
Required Courses			
			(Required Credit Hours:0)
NUTR	800	Comprehensive Exam	0
NUTR	810	Research Proposal	0

			Course Credits
Research Requirements			
Required Courses			
			(Required Credit Hours:30)
NUTR	900	Dissertation Research	30
NUTR	910	Dissertation Defense	0

Master of Science in Human Nutrition

Description

The Master of Science in Human Nutrition Program will be a full-time program delivered through a duration of 2 years. The completion time of the program is two years (4 semesters) for full time students and four years (8 semesters) for part-time students. Students can be enrolled in the Program in every Fall semester of the academic year. The first 2 semesters (first academic year) courses will be delivered in the UAEU, on the 3rd semester students will be based in United Kingdom (UK) and courses will be delivered in the University College London (UCL), while the 4th semester students will be back in UAEU to carry on their remaining courses and will also be conducting their thesis research which will be co-supervised by one faculty member from UAEU and another faculty from UCL.

Program Objectives

1. Equip students with advanced knowledge, scientific research and problem-solving skills in human nutrition at the individual, family and community levels.
2. Provide students with comprehensive educational experience to perform outcome-based research, as well as prepare graduates to pursue more advanced degree.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Evaluate the impact of nutrition on health status of individuals and communities.
2. Design nutrition interventions using scientific evidence in improving health and well-being of individuals and communities.
3. Conduct outcome-based research by using ethical guidelines and appropriate research methods of assessments and analysis
4. Demonstrate advanced writing and oral communication skills using the scientific literature

Degree Requirements: Total Credit Hours: 32

			Course Credits
Human Nutrition			
Required Courses			(Required Credit Hours:17)
CMPH	602	Biostatistics I	2
NUTR	635	Papers and Research Proposal Writing in Nutrition Related Subjects	1
NUTR	615	Community Nutrition and Health Promotion	3
NUTR	665	Fundamentals of Nutrition and Metabolism (UCL-GASNG002)	2
NUTR	670	Practical Nutrition Assessment (UCL-GASNG005)	2
NUTR	650	Current Topics in Nutrition	3
NUTR	675	Experimental Design and Research Methods (UCL-GASNG007)	2
NUTR	660	Disease-related malnutrition (UCL-GASNG001)	2

Elective Courses			
			(Required Credit Hours:6)
NUTR	605	Advanced Nutrition Counseling Techniques	3
NUTR	625	Sport and Exercise Nutrition	3
NUTR	630	Pediatric Diet Therapy	3
NUTR	645	Advanced Nutrition and Chronic Diseases	3

Thesis			
			(Required Credit Hours:9)
NUTR	655 *	Thesis Research	9
		* The student may register 2 Credits per semester from Thesis Research (NUTR655) starting from the 2nd semester	

Bachelor-Master Accelerated Option in Human Nutrition

Description

The Bachelor-Master Accelerated Option provides early admission into Master of Science (MSc) in Human Nutrition (HN) degree program. By integrating advanced coursework with closely supervised research, this program expands opportunities for students by providing superior preparation for PhD studies or employment.

Objectives

1. Create the path for BSc students to pursue graduate studies, enhancing their readiness for careers in various sectors by providing advanced learning.
2. Influence graduates to meet professional standards in the UAE and internationally, emphasizing the advantage of holding a Master's degree.
3. Develop a culture of graduate research in human nutrition to benefit undergraduate programs.

Credit Requirements

Currently, DNH offers two BSc degree programs; namely, Nutritional Science, and Dietetics. Each typically requires the completion of 120 credit hours (CHs). Conventionally, after completing the BSc, students can earn MSc degree by completing an additional 32 CHs of graduate courses. For the proposed integrated Bachelor-Master Accelerated Option, outstanding senior undergraduate students will be allowed to choose up to the total of 6 CHs undergraduate electives from the 600-level Graduate Courses (Core + Electives) with double counting of such CHs towards their BSc and MSc degrees. This will allow students to obtain their MSc degree after their BSc by completing the remaining 26 CHs of graduate courses. A total of 146 CHs will be sufficient for talented students to obtain integrated BSc and MSc degrees.

The double counted courses (6 CHs) will be taken from relevant MSc courses (600-level, Core and/or elective courses). This will replace two courses (6 CHs) from Supporting Elective Courses Major/Non-Major basket and based on the advice of the student’s supervisor. The Bachelor-Master Accelerated Option students will be advised on their training/internship, electives, and senior project selections so as they are oriented earlier for graduate study in their selected discipline. As an incentive, Bachelor-Master Accelerated Option students will also be allowed to earn their MSc degree by completing up to 6 CH less than the standard route. The 6-CH difference is accounted for by double counting up to two 600-level courses within the undergraduate elective requirements or two 600-level courses from the MS program.

The Bachelor-Master Accelerated Option students will not pay fees for the double counted courses if their BS tuition fees are paid by the Federal Government because the courses are part of the requirements for BS degree.

General Admission Requirements

1. Minimum number of CHs to apply for the program is 75.
2. Advanced level (Junior or Senior) BS status with a minimum of 90 CHs of the BSc program completed at a cumulative overall GPA of 3.5 or higher.
3. Proficiency in English demonstrated by a score of 6.0 or higher in the IELTS (International English Language Testing System) Academic exam or equivalent.
4. Acceptance of the obligation and responsibility for the graduate study fees.
5. A statement of professional goals.

When there are class limits within the graduate/MSc program in Human Nutrition, admission will be processed on a competitive basis based on the student's GPA, and career objectives. Not more than 50% of the capacity of the MSc program will be accepted from the BSc graduates of Bachelor-Master Accelerated Option.

Modes of enrollment

Students enroll in full-time Bachelor-Master Accelerated Option for the completion of requirements for BS program. However, the students will be eligible for enrolling on part-time basis for the completion of requirements for MS program, with the MSc classes typically held after 5 PM.

Early Admission Procedure

Interested students should first check on their eligibility with the Graduate Program Coordinator, then submit application as specified by the University's Admission office to the Department Chairperson by the announced deadline. Such an application should be simpler than the regular graduate program application, as the student information is already on file with the Registrar's office.

Once the early admission requirements are reviewed and recommended by Graduate Program Committee, they will be forwarded to the University's Admission Office for official pre-admission by the announced university deadline for regular admission to graduate programs.

Academic Advising Guidelines

During the first semester, the Bachelor-Master Accelerated Option student will confer with the Graduate Program Coordinator and faculty members who correlate with his/her research interests. After potential research areas have been identified and mutually agreed to with a faculty member and the Graduate Program Committee, the designated faculty member will become the student's academic advisor to recommend and approve his/her course schedule for the rest of the duration of the program. This academic advisor will also supervise the student's thesis.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. Thus, if the Bachelor-Master Accelerated Option student, for example, cannot maintain a cumulative grade point average (GPA) for the graduate courses taken at UAEU of 3.0 or more, he/she will be placed on probation with possible dismissal from the MS eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 146

			Course Credits
Double Counted Courses			
Below two courses will be double counted toward their Master of Science in Human Nutrition.			
			(Required Credit Hours:6)
NUTR	625	Sport and Exercise Nutrition	3
NUTR	650	Current Topics in Nutrition	3
			Course Credits

BSc Replaced Courses for BSc in Dietetics Students

Any two courses from the below list of BSc in Dietetics courses will be replaced by the double counted courses

(Required Credit Hours:6)

NUTR	396	Sports Nutrition	3
NUTR	443	Meal Planning	3
NUTR	379	Functional Food and Health	3
FDSC	352	Food Safety	3

Course Credits

BSc Replaced Courses for BSc in Nutritional Science Students

Any two courses from the below list of BSc in Nutritional Science courses will be replaced by the double counted courses

(Required Credit Hours:6)

NUTR	379	Functional Food and Health	3
NUTR	396	Sports Nutrition	3
NUTR	443	Meal Planning	3
NUTR	478	Medical Nutrition Therapy II (NS Program)	3
FDSC	309	Sensory evaluation	3
AGRB	360	Global Agri-food Trade	3
AGRB	395	Contemporary Food Sustainability and Nutrition	3
PHYS	110	General Physics II	3

Department of Clinical Psychology

Master of Science in Clinical Psychology

Description

This Masters of Science (MSc) in clinical Psychology Program, Department of Clinical Psychology, is currently offered in Al Ain city (Maqam Campus). The need for qualified clinicians and mental health professionals to serve the community necessitated the establishment of this program. We are proud that our program is the first and the only masters in clinical psychology in the country. The Master of Science program is designed to provide proper training for Masters level psychologists to work in a variety of clinical settings including hospitals, schools, public agencies, and private practice. It also provides a foundation for students interested in pursuing advanced doctoral studies. The program focuses on the field of clinical psychology. The program continued to steadily thrive and increasing attracting more and more national and international students.

The curriculum is structured to enable students pursue a plan of study to assure increased professional competence and breadth of knowledge in the field of clinical psychology. This program requires 39 semester hours of study, including two internship courses (600 clock hours) of supervised practicum experience in an approved mental health or rehabilitation setting. Students also have the opportunity to curry out research in clinical psychology and write a thesis and defend it. All degree courses and the thesis are in English.

Program Objectives

1. To provide students with advanced knowledge of current developments in clinical psychology.
2. To train students on the application of clinical knowledge to solve psychological problems.
3. To train students to act independently in planning and implementing tasks at a professional level.
4. To enable students to communicate clinical issues and conclusions clearly to all parties involved.
5. To provide students with knowledge that enables them to conduct clinical research under minimal supervision.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate clinical knowledge that is culturally sound and relevant to professional and ethical practices in the field of mental health.
2. Conduct proper psychological assessment.
3. Diagnose successfully clients' clinical problems using DSM/ ICD.
4. Create suitable treatment plans for diverse psychological disorders.
5. Apply therapeutic skills to help clients (individuals and groups) overcome their psychological disorders.
6. Communicate comprehensive and understandable psychological reports to all parties involved.
7. Apply appropriate methodology to conduct research in clinical psychology.

Degree Requirements: Total Credit Hours: 39

			Course Credits
Clinical Psychology			
Required Courses			
			(Required Credit Hours:33)
PSY	521	Advanced Clinical Psychology	3
PSY	522	Cross-Cultural Issues	2
PSY	523	Advanced Psychopathology	3
PSY	524	Personality Self-report Measures	4
PSY	526	Child & Family Therapy	3
PSY	527	Intellectual Assessment	4
PSY	528	Psychotherapy: Theories & Techniques	3
PSY	529	Advanced Behavioral Statistics	3
PSY	631	Internship I	2
PSY	632	Health Psychology	2
PSY	633	Scientific and Professional Ethics	2
PSY	634	Internship II	2
Elective Courses (CH:6)			
Students should select two courses from the list below			
(Required Credit Hours:6)			
PSY	522	Cross Cultural Issues	3
PSY	628	Master's Thesis	3
PSY	621	Research Design and Methods	3
PSY	622	Seminar in Mental Health	3
PSY	623	Neuropsychology	3
PSY	624	Personality Perfomance-based Measures	3
PSY	626	Psychopharmacology	3
Bridge Courses			
These two courses will be limited to students with insufficient background in mental health and psychological assessment. And should be taken with the approval of the program coordinator.			
			(Required Credit Hours:6)
PSY	509	Introduction to Mental Health	3
PSY	510	Foundation of psychological Assessment	3

College of Science

Department of Biology

Master of Science in Environmental Sciences and Sustainability

Description

The M.Sc. in Environmental Sciences is a 30 credit hour program that is offered both full and part time within the Biology Department. Students are required to complete 24 credit hours of coursework in addition to 6 credit hours assigned to research and a completion of a M.Sc. thesis. The coursework includes 4 credit hours of College of Science requirements (Ethics, Research Methods and Statistics), 10 credit hours of core environmental sciences courses and elective courses (10 credit hours) that allow the student to specialize in any specific topic relating to environmental sciences. Student progress is overseen by a research supervisor (and co-supervisors) and a thesis defense committee. The program is a fee-based program open for all students who meet the entry requirements.

Program Objectives

1. Develop proficiency of basic concepts in cellular and molecular biology, ecology and environmental sciences, and general biology.
2. Foster teamwork and improve oral and communication skills.
3. Foster a student-oriented research program that results in professional publications.
4. Embrace student-oriented teaching methods that nurture critical thinking abilities and apply their knowledge to solve theoretical and empirical real-life problems.
5. Prepare students for future job market and careers.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Discuss contemporary issues relating to environmental challenges, ethics, and professional responsibilities.
2. Describe relationships between environmental components and processes and the role of anthropogenic factors.
3. Evaluate material from available resources on issues and challenges relating to environmental problems facing the UAE.
4. Evaluate the means by which human society can conserve and restore the environment using approaches drawn from various sciences and fields of study.
5. Demonstrate strong written and oral presentation skills.
6. Conduct scientific environmental research, and use quantitative methods to analyze results.

Degree Requirements: Total Credit Hours: 30

College of Science

Required Courses			
			(Required Credit Hours:2)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1

Environmental Science

Required Courses			
			(Required Credit Hours:9)
BIOE	611	Environmental Science I	3
BIOE	602	Applied Ecology	2
BIOE	624	Sustainable Development	2
PUBL	655	Environmental Law	2
Elective Courses			
			(Required Credit Hours:13)
BIOE	599	Independent Study	3
BIOE	603	Field Survey and Environmental Assessment	2
BIOE	604	Complementary Alternative Medicine	2
BIOE	615	Coastal and Marine Management	2
BIOE	616	Genetically Modified Organisms	2
BIOE	620	Environmental Awareness and Education	2
BIOE	623	Environmental Microbiology	2
BIOE	626	Air Quality and Climate Change	2
BIOE	627	Desert Ecology	2
BIOE	636	Seminar in Environmental Science	1
GEOL	574	Energy Resources	2
GEOL	632	Remote Sensing and GIS for Biodiversity Monitoring	2
CHME	626	Waste Management	2
WATR	602	Water Resources Management	3
RGIS	611	Advanced Remote Sensing	2
STAT	503	Applied Statistics	2

Thesis

Required Course			(Required Credit Hours:6)
COSR	699	Thesis	6

Master of Science in Molecular Biology and Biotechnology

Description

The M.Sc. in Molecular Biology and Biotechnology is 30 credit hours that is offered both full- and part-time within the Department of Biology. Students are required to complete 24 credit hours of coursework in addition to 6 credit hours assigned to research and a completion of a M.Sc. thesis. The coursework includes 2 credit hours of College of Science requirements (Ethics, Research Methods), 12 credit hours of 4 core Molecular Biology and Biotechnology courses in addition to 10 credit hours of intercollege (College of Science and College of Medicine and Health Sciences) elective courses that allows the student to specialize in any specific topic related to Molecular Biology and/or Biotechnology. Students can take up to 6 credit hours of elective courses offered by the CMHS. Student progress is overseen by a research supervisor (and co-supervisors) and a thesis defense committee. The program is a fee-based program open for all students who meet the entry requirements.

Program Objectives

1. Develop proficiency of basic concepts in cellular and molecular biology, ecology and environmental sciences, and general biology.
2. Foster teamwork and improve oral and communication skills.
3. Foster a student-oriented research program that results in professional publications.
4. Embrace student-oriented teaching methods that nurture critical thinking abilities and apply their knowledge to solve theoretical and empirical real-life problems.
5. Prepare students for future job market and careers.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate leading edge knowledge in a chosen specialized area of molecular biology and/or biotechnology
2. Gain insight into the most significant and recent biotechnology and molecular-based methods used to expand the understanding of biology.
3. Manage and analyze data stored in databases, familiarize with various bioinformatics analysis tools available to analyze biological data.
4. Conduct scientific molecular biology and/or biotechnology research, and use quantitative methods to analyze results
5. Evaluate methods and results within the field of specialization critically and ethically.
6. Work independently or in a team on complex project that requires multidisciplinary collaboration
7. Communicate scientific results to both experts and general audience through writing structured reports and contributions for scientific publications and posters, and by oral presentations.

Degree Requirements: Total Credit Hours: 30

			Course Credits
College of Science			
Required Courses			
			(Required Credit Hours:2)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1

			Course Credits
Molecular Biology and Biotechnology			
Required Courses			
			(Required Credit Hours:12)
BIOM	508	Advanced Gene Expression	3
BIOM	512	Advanced Genetic Engineering	3
BIOM	516	Advanced Molecular Biology Techniques I	3
BIOM	600	Advanced Molecular Biology Techniques II	3

			Course Credits
Electives Courses (CH. Req. 10)			
COS Electives Courses (Students need to take a total of 10 CH of elective credits. A student can choose to take all courses from COS electives or courses from COS electives and a maximum of 6 credits from CMHS elective courses.)			
			(Required Credit Hours: 4 - 10)
STAT	503	Applied Statistics	2
BIOM	525	Applications of Bioinformatics	3
BIOM	541	Environmental Biotechnology	3
BIOM	544	Epigenetics & Cell Different	3
BIOM	555	Biotechnology Applications in Forensic Science	3
BIOM	552	Molecular & Genetic Aspects of Plant Responses to Pathogens	3
BIOM	571	Seminar in Biotechnology & Molecular Biology	1
CMHS Elective Courses			
			(Required Credit Hours:6)
MMIM	601	Molecular Bacteriology – Gene, Structure, Pathogenesis	2
MMIM	602	Principles of Cellular and Molecular Immunology	2
MMIM	603	Molecular Principles of Viral Replication and Pathogensis	2

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
COSR	699	Thesis	6

Doctor of Philosophy in Cellular and Molecular Biology

Description

The awarded degree, in recognition of the completion of the requirements of this program, is "Doctor in Cellular and Molecular Biology". The study plan for the Ph.D. Program shall consist of a total of 54 credit hours. The Ph.D. students must complete all degree requirements in a minimum of six (6) and a maximum of twelve (12) semesters after matriculation. The Program includes 6 credit hours of College of Science (COS) mandatory courses, 9 credit hours of Program compulsory courses, 6 CH credit hours of Program electives and 30 credit hours for Thesis. The PhD in Cellular and Molecular Biology is a full-time and English based program. Applicants must have successfully completed a Master degree or equivalent in Biology or related filed, with associated cumulative GPA of 3.3 or more (on scale of 4) and should provide a proof of proficiency in English. IELTS of less than two years with a minimum score of 6 is required. TOEFL is also accepted.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the sciences.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in relation with Science.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Retrieve and Apply advanced knowledge to solve problems in Cellular and Molecular Biology.
2. Perform independently an original work of advanced research on a topic in Cellular and Molecular Biology.
3. Analyze quantitatively and critically open problems in Cellular and Molecular Biology.
4. Communicate effectively Cellular and Molecular Biology finding to a specialized audience as well as the general public.
5. Articulate strategies to tackle identified ethical and safety issues that may arise in the field.
6. Supervise effectively group efforts to achieve specific tasks.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:6)
COSC	701	Research Methods II	2
COSC	702	Ethics of Scientific Research II	1
COSS	711	Seminar I	1
COSS	722	Seminar II	1
COSS	733	Journal Club	1

			Course Credits
Major Requirements			
Required Courses			
			(Required Credit Hours:9)
BIOM	700	Laboratory Rotations	3
BIOM	720	Advanced Genetics	3
BIOM	793	Advanced topics in Cellular and Molecular Biology: A literature review	3

			Course Credits
Elective Courses			
Students should take any 3 courses from the following courses			
			(Required Credit Hours:9)
BIOM	730	Molecular Basis of Diseases	3
BIOM	735	Applied Immunobiology	3
BIOM	740	Molecular Physiology	3
BIOM	745	Selected Topics in Biotechnology	3
BIOM	787	Developmental Biology	3
BIOM	794	Genomics	3

			Course Credits
Qualification Requirements			
Required Courses			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

			Course Credits
Research Requirements			
Required Courses			
			(Required Credit Hours:30)
COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Doctor of Philosophy in Ecology and Environmental Sciences

Description

Our Ph.D. program in Ecology and Environmental Sciences (EES) equips students with skills and training in the basic and applied sciences with the objectives of improving society's understanding of environmental problems and helping manage, mitigate, and avoid those problems. The program in environmental science is a rigorous, interdisciplinary course of study. The overall objectives of the program are: (1) to clarify and improve understanding of environmental problems and to identify solutions to these problems; and (2) to foster collaborative, interdisciplinary research amongst scientists from various disciplines. This Ph.D. Program in in Ecology and Environmental Sciences consists of a total of 54 credit hours. The Ph.D. students must complete all degree requirements in a minimum of six (6) and a maximum of twelve (12) semesters. The Program includes 6 credit hours of College of Science (COS) mandatory courses, 9 credit hours specialization core courses, 9 credit hours EES electives and 30 credit hours for Thesis. The mode of study is on a full-time basis. Applicants must have successfully completed a Master degree or equivalent in Biology or related subjects, with associated cumulative GPA of 3.3 or more (on scale of 4). All degree courses and written thesis must be prepared in the English language. Therefore, a minimum IELTS requirements of 6.5, achieved not more than two years prior to enrollment in the Ph.D. program, is mandatory.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the sciences.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in relation with Science.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Retrieve and Apply advanced knowledge to solve problems in Ecology and Environmental Sciences.
2. Perform independently an original work of advanced research on a topic in Ecology and Environmental Sciences.
3. Analyze quantitatively and critically open problems in Ecology and Environmental Sciences.
4. Communicate effectively Ecology and Environmental Sciences finding to a specialized audience as well as the general public.
5. Articulate strategies to tackle identified ethical and safety issues that may arise in the field.
6. Supervise effectively group efforts to achieve specific tasks.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			(Required Credit Hours:6)
COSC	701	Research Methods II	2
COSC	702	Ethics of Scientific Research II	1

COSS	711	Seminar I	1
COSS	722	Seminar II	1
COSS	733	Journal Club	1

Course Credits

Major Requirements

Required Courses

(Required Credit Hours:9)

BIOE	710	Field Ecology	3
BIOE	700	Lab Rotations	3
BIOE	720	Ecosystem Management & Sustainability	3

Course Credits

Elective Courses

Students should take any 3 courses from the following courses

(Required Credit Hours:9)

BIOE	730	Topics In Ecology and Environmental Sciences	3
BIOE	731	Aquatic Ecology	3
BIOE	740	Wildlife Disease Ecology	3
BIOE	759	Conservation Biology	3
BIOE	765	Global Environmental Changes	3
BIOE	782	Desert Ecology	3
BIOE	703	Applied Biostatistics	3

Course Credits

Qualification Requirements

Required Courses

(Required Credit Hours:0)

COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Course Credits

Research Requirements

Required Courses

(Required Credit Hours:30)

COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Department of Chemistry

Master of Science in Chemistry

Description

The M.Sc. in Chemistry is a 30 CH's program that is offered both full and part time within the Department of Chemistry. Students are required to complete 24 credit hours of coursework in addition to 6 credit hours assigned to research and a completion of a M.Sc. thesis. In addition to 2 CH of college requirements, the coursework includes 5 compulsory courses in chemistry, namely 2 supportive courses (4 CH) and 3 core chemistry courses (9 CH), and 3 elective courses (9 CH), that allow the student to specialize in any specific topic related chemistry. Student progress is overseen by a research supervisor (and co-supervisors) and a thesis defense committee. The program is a fee-based program open for all students who meet the entry requirements.

Program Objectives

1. To provide students with in-depth knowledge of advanced topics in their chosen sub-discipline of chemistry.
2. To graduate students with the skills necessary to carry out independent research.
3. To develop students' communication and team-work skills.
4. To produce graduates who are well prepared for the workplace or further studies (Ph.D.) in chemistry.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Solve complex problems in chemical applications.
2. Use modern methods to carry out research and solve real life problems.
3. Properly document and present the results of research work.
4. Work effectively in teams and manage group tasks.
5. Apply appropriate ethical standards to issues related to science, research, and work.
6. Critically evaluate new information in the field of chemistry

Degree Requirements: Total Credit Hours: 30

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:2)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1
			Course Credits
Chemistry Required Courses			
Compulsory Supportive Courses			
			(Required Credit Hours:4)
CHEM	636	Seminar	2
STAT	503	Applied Statistics	2

Core Courses (Student should take only 3 courses from the following)			
			(Required Credit Hours:9)
CHEM	526	Chemical Instrumentation	3
CHEM	531	Advanced Organic Synthesis	3
CHEM	541	Advanced Biochemistry I	3
CHEM	551	Advanced Inorganic Chemistry I	3
CHEM	561	Advanced Physical Chemistry I	3

Elective Courses			
			(Required Credit Hours:9)
CHEM	522	Analytical Spectroscopy	3
CHEM	523	Separation & Chromatographic Techniques	3
CHEM	524	Electroanalytical Techniques	3
CHEM	533	Organic Reaction Mechanisms	3
CHEM	534	Catalysis in Organic Chemistry	3
CHEM	535	Polymer Chemistry	3
CHEM	641	Advanced Biochemistry II	3
CHEM	651	Advanced Inorganic Chemistry II	3
CHEM	661	Advanced Physical Chemistry II	3
CHEM	598	Selected Topics	3

			Course Credits

Thesis

Required Course			
			(Required Credit Hours:6)
COSR	699	Thesis	6

Master of Science in Forensic Science

Description

Forensic science covers a wide spectrum of interrelated topics including the rigorous scientific collection, analysis and presentation of crime-related data as well as the legal and ethical aspects associated with the crime. A forensic scientist needs to be equipped with extensive hands-on, and interdisciplinary skills. Thus, the main objective of this program is to provide a strong foundation to students aspiring to engage within this field. The program offers classroom lectures, extensive hand-on laboratory exposure using state-of-the-art techniques and equipment, and independent thesis work. Students need to earn a minimum of 30 credit hours (CH) that include 2 CH of core college courses, 13 CH of forensic science core courses, 6 CH of electives and 9 CH of thesis work

Program Objectives

1. Equip students with in-depth knowledge and skills in various topics in forensic science, including toxicology, instrumentation, forensic biology, DNA analysis and crime scene investigation.
2. Develop problem-solving and critical thinking skills by undertaking independent research in forensic science.
3. Enhance communication and teamwork skills to produce graduates who are well prepared for the workplace or further studies in forensic science.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Identify and explain the underlying principles and theories of forensic science, and recognize their application in various forensic contexts.
2. Demonstrate substantial practical skills in the various areas of forensic science, highlighting both breadth and depth of knowledge.
3. Apply techniques for the collection, transfer, analysis and reporting of biological and toxicological forensic samples, ensuring an uninterrupted chain of custody, and apply strategic thinking to solve complex forensic challenges.
4. Analyze and apply legal and ethical principles in forensic science by evaluating case studies, identifying ethical challenges, and making decisions that align with professional standards and legal requirements.
5. Develop and showcase advanced professional competencies, including collaborative teamwork, problem-solving, and critical thinking. Additionally, apply an impartial approach to the analysis of evidence, underlining the importance of objectivity and lack of bias in evaluations.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Core College Courses			
Required Courses			
			(Required Credit Hours:2)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1

			Course Credits
Core courses			

Required Courses			
			(Required Credit Hours:13)
FORS	600	Fundamentals of Forensic Science	3
FORS	601	Forensic DNA Analysis	3
FORS	602	Forensic Chemistry and Toxicology	3
FORS	603	Crime Scene Investigation	3
FORS	636	Graduate Seminar	1

Course Credits

Elective Courses

Student should select two courses from list below:			
			(Required Credit Hours:6)
FORS	604	Forensic Biology	3
FORS	605	Forensic Analytical Chemistry and Instrumentation	3
FORS	607	Application in Forensic Geosciences	3
FORS	610	Digital Forensics	3
PUBL	642	Advanced Studies in Pre-trial Procedures	3

Course Credits

Thesis Research

Required Courses			
			(Required Credit Hours:9)
COSR	698	Research Thesis	9

Doctor of Philosophy in Chemistry

Description

The awarded degree, in recognition of the completion of the requirements of this program, is "Doctor of Philosophy in Chemistry". The study plan for the Ph.D. Program in Chemistry shall consist of a total of at least 54 credit hours. The Ph.D. students must complete all degree requirements in a minimum of six (6) and a maximum of twelve (12) semesters after matriculation. The Program includes 6 credit hours of College of Science (COS) mandatory courses, 18 credit hours (divided as: 9 credit hours of compulsory courses, and 9 credit hours from a basket of elective courses of the Chemistry PhD program), and 30 credit hours for Thesis. The mode of study is on a full-time basis. Applicants must have successfully completed a Master degree or equivalent in Chemistry, with associated cumulative GPA of 3.3 or more (on scale of 4). All degree courses and written thesis are in English, leading to minimum IELTS requirements of 6.5, achieved not more than two years prior to enrollment in the Chemistry Ph.D. program. Other documentation may be recommended as described below.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the sciences.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in relation with Science.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Retrieve and Apply advanced knowledge to solve problems in the chemical sciences.
2. Perform independently an original work of advanced research on a topic in chemistry.PLO3: Analyze quantitatively and critically open problems in chemistry.
3. Analyze quantitatively and critically open problems in chemistry.
4. Communicate effectively the major tenets in the field of chemistry and their own work orally and in writing.
5. Articulate strategies to tackle identified ethical and safety issues that may arise in the field.
6. Supervise effectively group efforts to achieve specific tasks.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			(Required Credit Hours:6)
COSC	701	Research Methods II	2
COSC	702	Ethics of Scientific Research II	1
COSS	711	Seminar I	1

COSS	722	Seminar II	1
COSS	733	Journal Club	1

Course Credits

Major Requirements

Required Courses

(Required Credit Hours:9)

CHEM	701	Advanced Analytical Chemistry	3
CHEM	722	Advanced Organic Chemistry and Biocatalysis	3
CHEM	733	Molecular Structure and Bonding	3

Course Credits

Elective Courses

Students should take any 3 courses from the following courses

(Required Credit Hours:9)

CHEM	723	Selected Topics in Organic Chemistry	3
CHEM	724	Selected Topics in Biochemistry	3
CHEM	734	Selected Topics in Inorganic Chemistry	3
CHEM	712	Selected Topics in Analytical Chemistry	3
CHEM	735	Selected Topics in Physical Chemistry	3
CHEM	740	Advanced Spectroscopic Methods	3
CHEM	741	NanoChemistry	3

Course Credits

Qualification Requirements

Required Courses

(Required Credit Hours:0)

COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Course Credits

Research Requirements

Required Courses

(Required Credit Hours:30)

COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Bachelor-Master Accelerated Option in Chemistry

Description

The Bachelor-Master Accelerated Option is a promising venue for talented Chemistry and Biochemistry students to progress in their careers through the engagement in graduate courses and Thesis research during the last year of their undergraduate (BSc) studies at the Department of Chemistry. Students enrolled in the Bachelor-Master Accelerated Option in Chemistry are required to register for four (4) MSc courses at the 500-level or 600-level during their year 4 of BSc studies and their first year at the Bachelor-Master Accelerated Option. Two (2) of these courses will be double counted towards their BSc degree and MSc degree. Therefore, a total of 6 Credit Hours will be considered for both degrees. During year 5; the Bachelor-Master Accelerated Option year, the enrolled student will have to register for the remaining courses of the MSc degree, including the COS-required courses and the Thesis research hours. Students involved in an employment after getting their BSc degree may be advised to continue their MSc degree as part-time students, hence their Bachelor-Master Accelerated Option duration may be extended to a total of 6 years. Accordingly, a Bachelor-Master Accelerated Option student will normally earn BSc and MSc degrees with a total of 144 credit hours of undergraduate and graduate course work.

Objectives

1. Shorten the study period to earn graduate degrees for outstanding students, as they may be able to complete their MSc degree within an additional 1,5 years after the BSc instead of the typical 2-3 years in the regular admission route.
2. Make it easier for BSc students to continue on to graduate studies to provide them with advanced knowledge, skills, and attributes that will make them ready for successful careers at the forefront of academic and industrial development.
3. Better prepare the Chemistry and Biochemistry graduates for the current and future requirements of professional registration within the UAE and internationally, for which having an MSc would be an advantage.
4. Foster a tradition of graduate research activity in the Department of Chemistry with the expectation that there will be an additional benefit to the undergraduate program.

Credit Requirements

The current BSc degrees in Chemistry and Biochemistry typically require the completion of 120 credit hours. After the completion of these credit hours, Chemistry BSc graduates can apply for an MSc degree in Chemistry by completing an additional 30 credit hours of graduate course work. For the proposed integrated Bachelor-Master Accelerated Option, outstanding senior undergraduate students will be allowed to choose up to 6 credit hours of undergraduate electives from the 500-level or 600-level Chemistry graduate courses (electives) with double counting of such credit hours towards their BSc and MSc degrees. This will allow students to obtain their MSc degree after their BSc by completing the remaining 24 credit hours of graduate course work. A total of 144 Credit Hours will be sufficient for talented students to obtain integrated BSc and MSc degrees in a maximum of 5.5 years for full-time students and could be extended to 6 years for part-time students. The double counted courses (6 Credit Hours) have been selected to contribute to the efficient employability of the Bachelor-Master Accelerated Option graduates. These include CHEM 526 (Chemical Instrumentation) and CHEM 534 (Catalysis in Organic Chemistry). These will replace two courses (6 Credit Hours) from the supporting elective courses in the non-Chemistry basket based on the advice of the student's academic and/or Thesis advisor. The Bachelor-Master Accelerated Option students will not pay fees for the double counted courses if their BSc tuition fees are paid by the Federal Government because the courses are part of the requirements for BSc degree. Students

interested in the new Bachelor-Master Accelerated Option will be advised after successful completion of 75 Credit Hours to take a track oriented towards graduate study.

General Admission Requirements

1. Advanced level (Junior or Senior) BSc status. The applicant may apply for the Bachelor-Master Accelerated Option in Chemistry program after the successful completion of 75 Credit Hours; however, he/she can only join the program after successfully completing a minimum of 90 Credit Hours in the Chemistry BSc degree program with a cumulative GPA of 3.5 or higher. Admission to the program will be competitive with a cap of 20 students per cohort per semester to ensure the success of the proposed Bachelor-Master Accelerated Option program.
2. A score of 6.0 or higher in IELTS or equivalent that demonstrates proficiency in English.
3. Acceptance of the obligation and responsibility for the graduate study fees.
4. A statement of professional goals.

When there are class limits within the graduate programs, admission will be processed on a competitive basis based on the student's GPA and career objectives.

Modes of Enrollment

Students will be enrolled as full-time, face-to-face Bachelor-Master Accelerated Option students. Admission will be made available every semester, but could be limited to Fall semester of every academic year depending on the rate of admission and the capacity of the Department of Chemistry.

The Early Admission Procedure

Interested students should first check on their eligibility with the Graduate Program Coordinator at the Department of Chemistry, then submit an application as specified by the University's Admission office to the Departmental Chairperson by the announced deadline. Such an application should be simpler than the regular graduate program application, as the student information is already on file with the UAEU Registrar's office.

Once it is reviewed that the early admission requirements are fulfilled by the student and the student is recommended by the Graduate Program Committee at the Department of Chemistry, the department's decision that the student can be enrolled in the Bachelor-Master Accelerated Option will be forwarded to the University's Admission Office for official pre-admission by the announced university deadlines for regular admission to graduate programs.

Academic Advising Guidelines

During the first semester, the Bachelor-Master Accelerated Option student will confer with the Graduate Program Coordinator and faculty members who correlate with his/her research interests. After potential research areas have been identified and mutually agreed to with a faculty member and the Graduate Program Committee, the designated faculty member will become the student's academic advisor to recommend and approve his/her course schedule for the rest of the duration of the program. This academic advisor will also supervise the student's thesis.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding the academic progress of students will apply as relevant for the undergraduate and graduate portions of the studies. Thus, if the Bachelor-Master Accelerated Option student, for example, cannot maintain a cumulative grade point average (GPA) of 3.0 for the graduate courses taken at UAEU, he/she will be placed on probation with possible dismissal from the MSc eligibility for failing to raise the GPA within the specified number of

semesters. Moreover, if the Bachelor-Master Accelerated Option student withdraws from the Bachelor-Master Accelerated Option, he/she will have to inform the Department graduate studies coordinator by semester 7 at most to academically advise the student towards the completion of his/her BSc studies in a swift manner.

Degree Requirements: Total Credit Hours: 144

			Course Credits
Double Counted Courses			
Below two courses will be double counted toward their Master of Science in Chemistry.			
			(Required Credit Hours:6)
CHEM	526	Chemical Instrumentation	3
CHEM	534	Catalysis in Organic Chemistry	3

			Course Credits
BSc Replaced Courses for BSc in Chemistry Students			
Any two courses from the below list of BSc in Chemistry courses will be replaced by the double counted courses			
			(Required Credit Hours:6)
CHEM	422	Instrumental Analysis II	3
CHEM	453	Electrochemistry	3
CHEM	441	Polymer and Petroleum Chemistry	3
CHEM	423	Environmental Chemistry	3
CHEM	442	Introduction to Medicinal Chemistry	3
CHEM	446	Spectroscopic Identification of Compounds	3
CHEM	454	Nuclear and Radiation Chemistry	3
CHEM	480	Research Project II	3

			Course Credits
BSc Replaced Courses for BSc in Biochemistry Students			
Any two courses from the below list of BSc in Biochemistry courses will be replaced by the double counted courses			
			(Required Credit Hours:6)
CHEM	422	Instrumental Analysis II	3
CHEM	423	Environmental Chemistry	3
CHEM	480	Research Project II	3
BCHM	483	Special Topics in Biochemistry I	3
BCHM	484	Special Topics in Biochemistry II	3
BIOM	445	Macromolecules Structure Function and Bioinformatics	3

Department of Geosciences

Master of Science in Geosciences

Description

The proposed Master of Science (M.Sc.) in Geosciences is a coursework-plus-thesis based degree providing postgraduate education in advanced topics in a broad range of Geoscience disciplines. The outcomes of this degree encompass both progression towards PhD in Geosciences (available at the UAEU) and more specialized education for employment in a range of private and public enterprises, particularly resource industries and environmental authorities. Thus, the program is oriented towards the following goals: 1) academic (students preferring to progress to Ph.D. degree), 2) private professional (students intending to seek employment in private industries and consultancies), 3) public service (students intending to follow careers in government ministries, municipalities and other public service authorities), 4) education (secondary school student teachers who are intending to specialize in geology). The mode of study may be full-time or part-time. Applicants must have successfully completed a B.Sc. in Geology or equivalent, with associated cumulative GPA of 3.0 or more (on scale of 4). All degree courses and written thesis are in English, leading to minimum TOEFL or IELTS requirements. The requirements of the course are 30 credit hours (CH) of study including 6 CH for College core courses, 9 CH for Geoscience core courses, 9 CH for Geoscience elective courses including a maximum of 3 CH from other master approved courses, and 6 CH for thesis. Oral defense of thesis is compulsory.

Program Objectives

1. Expanding research activity and research-oriented education in the UAEU.
2. Delivering specialized geoscientists who can serve the UAE and the GCC region.
3. Preparing geoscientists who can progress to a PhD program in the UAE or internationally.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Develop advance competences in field, laboratory, and data analysis techniques related to the research project discipline.
2. Search and review previous studies in research project disciplines.
3. Apply independent self-management and working in a team capacity.
4. Communicate professionally in writing and presentation of scientific results.
5. Solve geoscience problems related to industrial, environmental, and scientific projects using the acquired comprehensive knowledge and skills.

Degree Requirements: Total Credit Hours: 30

			Course Credits
College Required Courses			
Required Courses			(Required Credit Hours:6)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1
COSS	633	Seminar	2
STAT	503	Applied Statistics	2

			Course Credits
Compulsory Geosciences core courses			
Required Courses			
			(Required Credit Hours:9)
GEOL	521	Geochemistry for Environment and Mineral Exploration	3
GEOL	532	Non-Seismic Methods	3
GEOL	654	Earth Climate Evolution, Geoinformatics and Environmental Hazards	

			Course Credits
Elective Geosciences			
Students should select 3 courses from the list below			
			(Required Credit Hours:9)
GEOL	526	Groundwater Environmental Assessment	3
GEOL	541	Geology of Petroleum Plays	3
GEOL	581	Applied Paleontology in Hydrocarbon Exploration	3
GEOL	585	Spatial Analysis using GIS and Remote Sensing	3
GEOL	618	Exploration Geophysics	3
GEOL	620	Carbonate and Evaporite Depositional Systems	3
GEOL	631	Engineering Rock Mechanics	3
GEOL	641	Earthquake Mechanism	3
GEOL	680	Selected Topics	3

			Course Credits
Thesis			
Required Courses			
			(Required Credit Hours:6)
COSR	699	Thesis	6

Doctor of Philosophy in Geosciences

Description

The awarded degree, in recognition of the completion of the requirements of this program, is "Doctor of Philosophy in Geosciences". The study plan for the Ph.D. Program in Geosciences shall consist of a total of at least 54 credit hours. The Ph.D. students must complete all degree requirements in a minimum of six (6) and a maximum of twelve (12) semesters after matriculation. The Program includes 6 credit hours of College of Science (COS) mandatory courses, 18 credit hours (divided as: 9 credit hours of compulsory courses, and 9 credit hours from a basket of elective courses of the Geosciences PhD program), and 30 credit hours for Thesis. The mode of study is on a full-time basis. Applicants must have successfully completed a Master degree or equivalent in Geosciences, with associated cumulative GPA of 3.3 or more (on scale of 4). All degree courses and written thesis are in English, leading to minimum IELTS requirements of 6.5, achieved not more than two years prior to enrollment in the Geosciences Ph.D. program. Other documentation may be recommended as described below.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the sciences.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in relation with Science.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Retrieve and Apply advanced knowledge to solve problems in Geosciences.
2. Perform independently an original work of advanced research on a topic in Geosciences.
3. Analyze quantitatively and critically open problems in Geosciences.
4. Communicate effectively Geosciences finding to a specialized audience as well as the general public
5. Articulate strategies to tackle identified ethical and safety issues that may arise in the field.
6. Supervise effectively group efforts to achieve specific tasks.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			(Required Credit Hours:6)
COSC	701	Research Methods II	2
COSC	702	Ethics of Scientific Research II	1
COSS	711	Seminar I	1
COSS	722	Seminar II	1
COSS	733	Journal Club	1
			Course Credits

Major Requirements

Required Courses			
			(Required Credit Hours:9)
GEOL	710	Advanced Topics in Plate Tectonics	3
GEOL	720	Modeling and Geoinformatics	3
GEOL	730	Geology, Environment and Society	3

Course Credits

Elective Courses

Students should take any 3 courses from the following courses			
			(Required Credit Hours:9)
GEOL	740	Geophysical Instruments & Data Acquisition	3
GEOL	745	Seismology & UAE Seismicity	3
GEOL	750	Diagenesis, Stratigraphy, & Reservoir Evaluation	3
GEOL	755	Formation Evaluation	3
GEOL	760	Computer Applications in Geosciences	3
GEOL	767	Advanced Geochemistry	3
GEOL	770	Environmental Mineralogy	3

Course Credits

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Department of Mathematical Sciences

Master of Science in Mathematics

Description

The M.Sc. in Mathematics is a 30 CH's program that is offered both full and part time within the Department of Mathematical Sciences. Students are required to complete 24 credit hours of coursework in addition to 6 credit hours assigned to research and a completion of a M.Sc. thesis. In addition to 2 CH of college requirements, the coursework includes 3 core mathematics courses and Seminar (10 CH), 4 elective courses (12 CH), that allow the student to specialize in any specific topic related to pure or applied mathematics. Student progress is overseen by a research supervisor (and co-supervisors) and a thesis defense committee. The program is a fee-based program open for all students who meet the entry requirements.

Program Objectives

1. To provide students with a comprehensive advanced knowledge of the main areas of mathematics;
2. To provide students with the necessary background for further studies in Mathematics, and enhance their research capabilities;
3. To produce graduates with high level of analytic and numerical skills;
4. To train students to communicate effectively both orally and in writing;

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Discuss in depth concepts, techniques, and results related to active research in Mathematics.
2. Solve mathematical problems using theoretical tools and/or modeling.
3. Develop mathematical proofs completely and rigorously.
4. Produce a comprehensive independent work, including a literature review.
5. Contribute actively to research projects in mathematics, using an adequate methodology.
6. Communicate effectively mathematical results to a specialized audience.
7. Demonstrate awareness of ethical issues related to science, research, and work.

Degree Requirements: Total Credit Hours: 30

College Requirements

Required Courses			(Required Credit Hours:2)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1

Core Courses

Required Courses.			(Required Credit Hours:10)
MATH	510	Real Analysis	3
MATH	520	Numerical Analysis	3
MATH	540	Algebra I	3
MATH	633	Mathematics Seminar	1

			Course Credits
Elective Courses			
(Elective Courses can be chosen from the following list, with the option for student to choose up to 3CH from other UAEU graduate programs, after approval of the Graduate Committee.)			
			(Required Credit Hours:12)
MATH	515	Complex Analysis	3
MATH	522	Numerical Methods in Differential Equations	3
MATH	541	Number Theory	3
MATH	561	General Topology	3
MATH	570	Theory of Partial Differential Equations	3
MATH	573	Dynamical Systems & Chaos Theory	3
MATH	616	Functional Analysis	3
MATH	640	Algebra II	3
MATH	690	Selected Topics	3
MATH	695	Independent Studies	3

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
COSR	699	Thesis	6

Doctor of Philosophy in Mathematics

Description

The awarded degree, in recognition of the completion of the requirements of this program, is "Doctor of Philosophy in Mathematics". The study plan for the Ph.D. Program in Mathematics shall consist of a total of 54 credit hours. The Ph.D. students must complete all degree requirements in a minimum of six (6) and a maximum of twelve (12) semesters after matriculation. The Program includes 6 credit hours of College of Science (COS) mandatory courses, 9 credit hours Mathematics core courses, 9 credit hours physics electives and 30 credit hours for Thesis. The mode of study is on a full-time basis. Applicants must have successfully completed a Master degree or equivalent in physics or related subjects, with associated cumulative GPA of 3.3 or more (on scale of 4). All degree courses and written thesis are in English, leading to minimum IELTS requirements of 6.5, achieved not more than two years prior to enrollment in the Ph.D. program.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the sciences.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in relation with Science.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Retrieve and Apply advanced knowledge to solve problems in Mathematics.
2. Perform independently an original work of advanced research on a topic in athematic.
3. Analyze quantitatively and critically open problems in athematic.
4. Communicate effectively physics finding to a specialized audience as well as the general public.
5. Articulate strategies to tackle identified ethical and safety issues that may arise in the field.
6. Supervise effectively group efforts to achieve specific tasks.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:6)
COSC	701	Research Methods II	2
COSC	702	Ethics of Scientific Research II	1
COSS	711	Seminar I	1
COSS	722	Seminar II	1
COSS	733	Journal Club	1
			Course Credits

Core Courses

Students should select 3 courses from the list below			
			(Required Credit Hours:9)
MATH	710	Functional Analysis	3
MATH	715	Advanced Measure Theory	3
MATH	720	Numerical Methods for Partial Differential Equations	3
MATH	740	Advanced Algebra	3
MATH	760	Topology	3
MATH	770	Advances Partial Differential Equations II	3
MATH	772	Theory of Ordinary Differential Equations	3

Elective Courses

Students should select any 3 courses from the following courses			
			(Required Credit Hours:9)
MATH	716	Introduction to Operator Algebras	3
MATH	741	Advanced Number Theory	3
MATH	743	Cryptography	3
MATH	744	Coding Theory	3
MATH	745	Finite Fields and Applications	3
MATH	746	Finite Groups	3
MATH	747	Module and Ring Theory	3
MATH	761	Algebraic Topology	3
MATH	763	Knot Theory and Applications	3
MATH	764	Differential Manifold	3
MATH	771	Integral Equations and Calculus of Variations	3
MATH	773	Dynamical Systems and chaos theory	3
MATH	774	Stochastic Calculus for Finance	3
MATH	777	Numerical Methods for Finance	3
MATH	795	Independent Studies	3

Qualification Requirements

Required Courses			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0
			Course Credits

Research Requirements

Required Courses			
			(Required Credit Hours:30)
COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Bachelor-Master Accelerated Option in Mathematics

Description

The Department of Mathematical Sciences offers an excellent opportunity for motivated students to earn both a Bachelor and a Master of Science degree in five years. This opportunity requires devoted commitment. By integrating advanced coursework with closely supervised research, the Bachelor-Master Accelerated Option broadens opportunities for students by preparing them for PhD studies and employment. This program offers students a quicker path to complete their targeted MSc degree in mathematics, within one additional year, instead of the current two years after the BSc. Highly motivated students may apply for the Bachelor-Master Accelerated Option after successful completion of 75 CH, however, theycan only join the program after completing a minimum of 90 CH in the Bachelor degree program with a cumulative GPA of 3.5 or higher. Students will take upper-level (500) courses at the graduate level, 6 credits of which may count toward both BSc in Mathematics and MSc in Mathematics degrees.

Objectives

1. Make it easier for BSc students to continue their graduate studies.
2. Shorten the study period to earn graduate degrees for outstanding students, as they may be able to complete their MSc degree within one year after the BSc instead of the typical two years in the regular admission route.
3. Foster a tradition of graduate research activity in the Mathematical Sciences Department.

Credit Requirements

After the achievement of the BSc degree, which requires the completion of 120 CH, students can earn MSc degree by completing an additional 30 CH of graduate course work. In Bachelor-Master Accelerated Option, excellent undergraduate students will be allowed to choose up to a total of 6 CH from the 500-level Math Graduate Courses with double counting of such credit hours towards their BSc and MSc degrees. This will allow students to obtain their MSc degree after their BSc by completing the remaining 24 CH of graduate course work. A total of 144 CH will be sufficient for distinguished students to obtain Bachelor-Master Accelerated Option in 5 years.

General Admission Requirements

1. The applicant may apply for the Bachelor-Master Accelerated Option after successful completion of 75 CH; however, she/he can only join the program after successfully completing a minimum of 90 CH in the bachelor's degree program with a cumulative GPA of 3.5 or higher.
2. Acceptance of the obligation and responsibility for the graduate study fees.
3. Proficiency in English demonstrated by a score of 6.0 or higher in the IELTS or equivalent.

The Early Admission Procedure

1. Current model study plans for the BSc Mathematical Sciences program average 15-18 CH per semester. Students declaring the intention to pursue the MSc will be advised in the junior and senior years.
2. Students should take 2-4 graduate-level courses in their junior and senior years; 2 of which will be double counted for the MSc degree. Therefore, they may complete the rest of the MSc requirements within 1 additional year after completing their BSc degree.

Academic Advising Guidelines

During the first semester, the Bachelor-Master Accelerated Option student will consult with the Graduate Program Coordinator and faculty members to learn about the possible research areas in the Math department. After a probable research area has been pointed out by the student, and mutually agreed to with a faculty member and the Graduate Program Committee, the appointed faculty member will become the student's academic advisor to recommend and then approve his/her courses. The same faculty member may also supervise the student's master thesis.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. For instance, if the Bachelor-Master Accelerated Option student cannot maintain a cumulative GPA of 3.0 or more for the graduate, then she/he will be placed on probation with possible dismissal from the MSc eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 144

Double Counted Courses

Any two courses from the list below will be double counted toward their Master of Science in Mathematics.

(Required Credit Hours:6)

			Course Credits
MATH	510	Real Analysis	3
MATH	515	Complex Analysis	3
MATH	520	Numerical Analysis	3
MATH	540	Algebra I	3
MATH	561	General Topology	3
MATH	570	Theory of Partial Differential Equations	3

BSc Replaced Courses for BSc in Mathematics Students

Any two courses from the below list of BSc in Mathematics elective courses will be replaced by the double counted courses

(Required Credit Hours:6)

			Course Credits
CSBP	219	Object Oriented Programming	3
ENG	250	English Grammar & Usage	3
PHYS	235	Waves and Optics	3
PHYS	262	Classical Mechanics	3
STAT	210	Probability and Statistics	3

Department of Physics

Doctor of Philosophy in Physics

Description

The awarded degree, in recognition of the completion of the requirements of this program, is "Doctor of Philosophy in Physics". The study plan for the Ph.D. Program in Physics shall consist of a total of 54 credit hours. The Ph.D. students must complete all degree requirements in a minimum of six (6) and a maximum of twelve (12) semesters after matriculation. The Program includes 6 credit hours of College of Science (COS) mandatory courses, 9 credit hours physics core courses, 9 credit hours physics electives and 30 credit hours for Thesis. The mode of study is on a full-time basis. Applicants must have successfully completed a Master degree or equivalent in physics or related subjects, with associated cumulative GPA of 3.3 or more (on scale of 4). All degree courses and written thesis are in English, leading to minimum IELTS requirements of 6.5, achieved not more than two years prior to enrollment in the Ph.D. program.

Program Objectives

1. Develop scholarly inquiry grounded in research and the reality of practice in the sciences.
2. Offer a rigorous and innovative discipline-based knowledge that prepares students to succeed in a globally challenging, competitive and changing environment.
3. Enhance professional growth, lifelong learning skills and leadership competencies in the area of specialization for career opportunities in relation with Science.
4. Adhere to professional integrity and research ethics, and be committed to values related to the area of specialization.
5. Prepare graduates to be inquisitive, to reason critically, and to communicate clearly and effectively.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Retrieve and Apply advanced knowledge to solve problems in physics.
2. Perform independently an original work of advanced research on a topic in physics.
3. Analyze quantitatively and critically open problems in Physics.
4. Communicate effectively physics finding to a specialized audience as well as the general public.
5. Articulate strategies to tackle identified ethical and safety issues that may arise in the field.
6. Supervise effectively group efforts to achieve specific tasks.

Degree Requirements: Total Credit Hours: 54

			Course Credits
College Requirements			
Required Courses			(Required Credit Hours:6)
COSC	701	Research Methods II	2
COSC	702	Ethics of Scientific Research II	1
COSS	711	Seminar I	1
COSS	722	Seminar II	1

COSS	733	Journal Club	1

Course Credits

Major Requirements

Required Courses

(Required Credit Hours:9)

PHYS	705	Quantum Physics II	3
PHYS	722	Solid State Physics II	3
PHYS	730	Electrodynamics II	3

Course Credits

Elective Courses

Students should take any 3 courses from the following courses

(Required Credit Hours:9)

PHYS	715	Synthesis, Characteristics & Applications of Nanomaterials	3
PHYS	720	Quantum Field Theory	3
PHYS	724	Computational Physics-II	3
PHYS	782	Standard Model of Particle Physics	3
PHYS	795	Advanced Topics in Particle Theory	3
PHYS	798	Selected Topics II	3

Course Credits

Qualification Requirements

Required Courses

(Required Credit Hours:0)

COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Course Credits

Research Requirements

Required Courses

(Required Credit Hours:30)

COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Master of Science in Physics

Description

The M.Sc. in Physics is a 30 CH's program that is offered both full- and part-time within the Department of Physics. Students are required to complete 24 credit hours of coursework in addition to 6 credit hours assigned to research and a completion of an M.Sc. thesis. In addition to 2 CH of college requirements, the coursework includes 13 CH core courses, and 9 CH elective courses, that allows the student to specialize in any specific topic related to Physics. Student progress is overseen by a research supervisor (and co-supervisors) and a thesis defense committee. The program is a fee-based program open for all students who meet the admission requirements.

Program Objectives

1. A robust background in concepts and solving skills in Physics.
2. The capability to research a topic in contemporary Physics.
3. The capability to communicate findings.
4. Autonomy in taking informed, responsible, and ethically sound decisions regarding life-long Learning and professional development.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Demonstrate mastery of advanced topics in Physics and related disciplinary skills.
2. Evaluate and solve complex real-world scientific problems both systematically and creatively.
3. Demonstrate advanced oral and written communication skills individually and collectively.
4. Execute ethically project work or research that contributes significantly to the physics discipline.

Degree Requirements: Total Credit Hours: 30

			Course Credits
College Requirements			
Required Courses			
			(Required Credit Hours:2)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1

			Course Credits
Core Courses			
Required Courses			
			(Required Credit Hours:13)
PHYS	515	Methods of Mathematical Physics	3
PHYS	525	Quantum Physics I	3
PHYS	530	Electrodynamics I	3
PHYS	545	Analytical Mechanics	3
PHYS	633	Physics Seminar	1

			Course Credits
Elective Courses			
Elective Courses can be chosen from the following list, with the option for student to choose up to 3CH from other UAEU graduate programs, after approval of the Graduate Committee.			
			(Required Credit Hours:9)
PHYS	541	Atomic Physics	3
PHYS	543	Laser Physics	3
PHYS	552	Nuclear Physics	3
PHYS	555	Introduction to Plasma Physics	3
PHYS	560	Elementary Particle Physics	3
PHYS	575	Physics of Semiconductors	3
PHYS	614	Modern Statistical Physics	3
PHYS	622	Solid-State Physics I	3
PHYS	624	Computational Physics-I	3
PHYS	698	Selected Topics I	3

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
COSR	699	Thesis	6

Master of Science in Space Science

Description

The primary objective of the interdisciplinary Space Science MSc Program, offered in collaboration by the College of Science (COS), College of Engineering (COE), College of Humanities & Social Science (CHSS) and College of IT (CIT) at UAEU, with the support of National Space Science and Technology Center (NSSTC), is to serve as a thorough and effective academic exposure of Space Sciences and Technology for students aspiring to build careers in the space sector. Students as well as working professionals with a science or technology background and a passion for space science are invited to enrol in this interdisciplinary Space Science MSc program, which is offered as a full time program, featuring classroom lectures, labs, hands-on training, requiring students to complete 30 CH (including MSc thesis). It also includes a compulsory internship experience at space research institutes in the UAE. It has been conceived and designed to comprise course content covering various space-related disciplines to give students an extensive exposure to the broader domain of space science, allowing them to pursue their careers in space-related areas. The emphasis will be on science related themes (e.g. Space Physics, Planetary Sciences, Astronomy, Planetary Atmospheres etc.) but the program will also feature a technology component (Spacecraft Systems, GIS, Remote Sensing, Space Instrumentation etc.) to impart necessary knowledge of the tools, techniques and applications used to conduct space research.

Program Objectives

1. Serve the life-long learning needs of the UAE's space science sector and develop the graduate students' attitude to acquire further learning experiences and motivate them to get engaged in Ph.D. or advanced training programs.
2. Provide efficient and productive educational environment to carry out fundamental and applied research to deal with national and international space science challenges.
3. Strengthen the collaboration between UAE University and the national, regional and international stakeholders in the space sector.
4. Enrich the community and industry with quality technical assistance and highly qualified national manpower to lead the national space development plans.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Develop thorough understanding and professional skills by making use of appropriate literature and research resources.
2. Evaluate complex inter-disciplinary challenges to be resolved through space science and technology.
3. Formulate and carry forward space science research and development by applying scientific principles in Space Sciences.
4. Create innovative Space Systems solution through mission-specific projects.
5. Compose scientific results in the form of research publications, presentations, thesis and reports.
6. Design solutions to multi-faceted space science problems both systematically and analytically as part of a diverse team.

Degree Requirements: Total Credit Hours: 30

			Course Credits
MSc Space Science Core Courses			
These courses form the core of the MSc Space Science Program.			
			(Required Credit Hours:18)
AERO	601	Spacecraft Systems	3
AERO	602	Spacecraft Dynamics and Attitude Control	3
PHYS	505	Space Physics	3
PHYS	506	Astronomy & Astrophysics	3
GEOG	650	Remote Sensing of Terrestrial and Planetary Surfaces	3
RGIS	603	Digital Image Processing in RS	3
			Course Credits
MSc Space Science Elective Courses			
Student should take two of these courses form the elective basket for the MSc Space Science Program.			
			(Required Credit Hours:6)
PHYS	606	Space Science Instrumentation	3
PHYS	698	Selected Topics I	3
GEOG	660	GIS for Planetary Surfaces	3
GEOG	670	Planetary Atmospheres	3
GEOL	671	Planetary Sciences	3
ISBP	669	Computation and Data Science	3
			Course Credits
MSc Thesis			
Compulsory MSc Research Thesis in a theme related to Space Science.			
			(Required Credit Hours:6)
COSR	699	Thesis	6
			Course Credits
Internship			
Mandatory internship at one of the space-related organizations.			
			(Required Credit Hours:0)
PHYS	650	Space Science Internship	0

Bachelor-Master Accelerated Option in Physics

Description

The Department of Physics offers the opportunity for highly motivated students to earn both a Bachelor of Science and a Master of Science degree in five years. This option requires serious commitment, careful planning with the student's advisor, and summer research work leading toward a Master's degree. By integrating advanced coursework with closely supervised research, this Physics program widens opportunities for students by providing superior preparation for PhD studies or employment. Baccalaureate degree-seeking students with high grade point average (GPA) can get pre-admitted in the M.Sc. degree program and earn graduate credits while still fulfilling the requirements for the B.Sc. degree. This option offers these students a quicker path to complete their targeted M.Sc. degree, within one additional year, instead of the current two years after the B.Sc., with proper advising and guidance. The applicant may apply for the Bachelor-Master Accelerated Option after successful completion of 75 CH, however, he/she can only join the program after successfully completing a minimum of 90 CH in the Bachelor degree program with a cumulative GPA of 3.5 or higher. Students in the program typically take upper-level (500) courses at the graduate level, 6 credits of which may count toward both Bachelor's and Master's degrees.

Objectives

1. Shorten the study period to earn graduate degrees for outstanding students, as they may be able to complete their M.Sc. degree within one year after the B.Sc. instead of the typical two years in the regular admission route.
2. Make it easier for B.Sc. students to continue on to graduate study to provide them advanced knowledge, skills, and attributes to become independent learners for successful careers at the forefront of industrial development and academic areas.
3. Better prepare the physics graduates for the current and future requirements of professional registration with the UAE and internationally, for which having a M.Sc. degree would be an advantage.
4. Foster a tradition of graduate research activity in the physics department with the expectation that there will be an additional benefit to the undergraduate program.

Credit Requirements

The current B.Sc. degree in Physics typically requires the completion of 120 CHs. After completing the B.Sc. degree, students can earn M.Sc. degree by completing an additional 24 CH of graduate course work and 6 CH thesis. For the proposed integrated Bachelor-Master Accelerated Option, outstanding senior undergraduate students will be allowed to choose up to a total of 6 CHs undergraduate electives from the 500-level Physics Graduate Courses (Core + Electives) with double counting of such CHs towards their B.Sc. and M.Sc. degrees. This will allow students to obtain their M.Sc. degree after their B.Sc. by completing the remaining 18 CHs of graduate course work and 6 CH thesis. Bachelor-Master Accelerated Option students may also take 1-2 additional courses from the M.Sc. program during their Bachelor's study (these additional courses will only count for their M.Sc. degree). A total of 144 CHs will be sufficient for talented students to obtain integrated B.Sc. and M.Sc. degrees in 5 years. The double counted courses (6 CH) will be taken from relevant M.Sc. courses (500 level, Core and/or elective courses). This will replace two courses (6 CH) from Supporting Elective Courses Non-Physics basket, based on the advice of the student's supervisor. Students of the new Bachelor-Master Accelerated Option will be advised after successful completion of 75 CH to take a track oriented towards graduate study.

General Admission Requirements

1. Advanced level (Junior or Senior) B.Sc. status. The applicant may apply for the Bachelor-Master Accelerated Option after successful completion of 75 CH, however, he/she can only join the Bachelor-Master Accelerated Option after successfully completing a minimum of 90 CH in the Bachelor degree program with a cumulative GPA of 3.5 or higher.
2. Proficiency in English demonstrated by a score of 6.0 or higher in IELTS or equivalent.
3. Acceptance of the obligation and responsibility for the graduate study fees.
4. A statement of professional goals.

When there are class limits within the graduate programs, admission will be processed on a competitive basis based on the student's GPA and career objectives.

Modes of Enrollment:

Students enroll as full-time Bachelor-Master Accelerated Option students.

The Early Admission Procedure

Interested students should first check on their eligibility with their respective Graduate Program Coordinator, then submit an application as specified by the University's Admission office to the College Research and Graduate Studies Office by the announced deadline.

Once the requirements are reviewed and recommended by Graduate Program Committee, the application will be forwarded to the University's Admission Office for official pre-admission to graduate programs.

Academic Advising Guidelines

During the first semester, the Bachelor-Master Accelerated Option student will confer with the Graduate Program Coordinator and faculty members who correlate with his/her research interests. After potential research areas have been identified and mutually agreed to with a faculty member and the Graduate Program Committee, the designated faculty member will become the student's academic advisor to recommend and approve his/her course schedule for the rest of the duration of the program. This academic advisor will also supervise the student's thesis.

Probation and Dismissal from the Bachelor-Master Accelerated Option Status

All applicable UAEU policies and procedures regarding academic progress of students will apply as relevant for the undergraduate portion of the studies and the graduate portion. Thus, if the Bachelor-Master Accelerated Option student, for example, cannot maintain a cumulative grade point average (GPA) for the graduate courses taken at UAEU of 3.0 or more, he/she will be placed on probation with possible dismissal from the MS eligibility for failing to raise the GPA within the specified number of semesters.

Degree Requirements: Total Credit Hours: 144

			Course Credits
Double Counted Courses			
Any two courses from the list below will be double counted toward their Master of Science in Physics.			
			(Required Credit Hours:6)
PHYS	543	Advanced Laser Physics	3

PHYS	575	Physics of Semiconductors	3
PHYS	624	Computational Physics-I	3

Course Credits

BSc Replaced Courses for BSc in Physics Students

Any two courses from the below list of BSc in Physics elective courses will be replaced by the double counted courses

(Required Credit Hours:6)

PHYS	330	Computational Physics	3
PHYS	345	Laser Physics	3
PHYS	475	Semiconductor Physics	3