Graduate Programs 2018_2019

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	Internal Auditing and Risk-Based 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 Business Administration

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

			Course Credits
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. Develop oral presentations to communicate effectively and without guidance, using technologies to support the oral presentation of information where needed to academic and professional peers.
2. Write effectively to communicate highly complex and diverse matters to expert audiences.
3. Apply a range of mastered skills and techniques including synthesis, evaluation, planning and reflection, required to critically extend and redefine professional practice and knowledge.
4. Apply advanced skills in developing innovative solutions to critical problems using expert skills, demonstrating intellectual independence.
5. Act with authority, creativity, autonomy, independence, scholarly and professional integrity.
6. Demonstrate abilities associated with professional leadership of peer groups and teams.
7. Assess consistently and sensitively manage diverse ethical issues in highly complex contexts and make fair judgments.
8. Examine the complex social and cultural contexts of leadership.
9. Evaluate the state of research and practice in a business field and highlight possible ways to contribute to that field.
10. Create new knowledge in the field, through independent research, innovative and creative practical solutions to a challenging business problem through conceptualizing, designing, implementing, and adapting research processes in complex contexts.

Degree Requirements: Total Credit Hours: 48

			Course Credits
Program Courses			
Required Courses			
			(Required Credit Hours:48)
DBA	900	The Philosophy of Social Research	1.5
DBA	901	Qualitative Research Methods	
DBA	902	Quantitative Research Methods	
DBA	903	Literature Review and Critique	1.5
DBA	904	Research in Support Business Functions	7.5
DBA	905	Introduction to Business Research	1.5
DBA	906	Human Factors & Social Responsibility	1.5
DBA	907	Research Elective	1.5
DBA	908	Dissertation-Research Proposal	6
DBA	909	Dissertation Research Part 1	6

DBA	910	Dissertation Research Part 2	12

College of Humanities and Social Sciences

Department of Arabic Language and Literature

Doctor of Philosophy (PhD) Concentration: Arabic Language

Description

The Ph.D. Program in Arabic Language and Literature aims at preparing students to be scholars and specialists in this field with an open mind and horizon to relative disciplines. The program will focus on scientific research, knowledge and modern new theories in its two tracks:1- language and syntax 2- literature and literary criticism. This will be in accordance with the UAE University's goal as a scientific research university.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:6)
CHSS	700	Research Methods and Ethics	3
CHSS	702	Critical Reading and Writing	3

Part 2: Concentration Requirements			
			(Required Credit Hours:12)
ARLN	712	Trends in Modern Language Studies	3
ARLN	714	Issues in Syntax and Morphology	3
ARLN	716	Avant-Garde Trends in Arabic Syntax	3
ARLN	718	Seminar on Classical Arabic Language Studies	3

Part 3: Electives Requirements (Any 6 credits of the following courses:)			
			(Required Credit Hours:6)
ARAB	602	Stylistic and Textual Analysis	3
ARAB	604	Literature and Language Sources	3
ARAB	606	Arabic Rhetoric Issues in the Text of the Holy Quran	3

ARAB	608	Issues in Feminist Literature	3
ARAB	616	Fundamenbtals of Syntactical Thought	3
ARAB	720	Analysis of Literary Discourse	3
ARAB	725	Theory of Arabic Syntax	3
ARAB	730	Rhythm in Arabic Poetry	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ARLN	800	Comprehensive Examination	0
ARLN	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ARLN	900	Dissertation Research	30
ARLN	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Arabic Literature and Criticism

Description

The Ph.D. Program in Arabic Language and Literature aims at preparing students to be scholars and specialists in this field with an open mind and horizon to relative disciplines. The program will focus on scientific research,

knowledge and modern new theories in its two tracks:1- language and syntax 2- literature and literary criticism. This will be in accordance with the UAE University's goal as a scientific research university

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:6)
CHSS	700	Research Methods and Ethics	3
CHSS	702	Critical Reading and Writing	3
Part 2: Concentration Requirements			

			(Required Credit Hours:12)
ARLT	704	Trends in Classical Literature	3
ARLT	706	Schools of Comparative Literature	3
ARLT	708	Modern Issues in Literary Criticism	3
ARLT	710	Seminar in Classical Arabic Criticism	3

Part 3: Elective Requirements (Any 6 credits of the following courses)			
			(Required Credit Hours:6)
ARAB	602	Stylistic and Textual Analysis	3
ARAB	604	Literature and Language Sources	3
ARAB	606	Arabic Rhetoric Issues in the Text of the Holy Quran	3
ARAB	608	Issues in Feminist Literature	3
ARAB	614	Modern Trends in Arabic Poetry and Prose	3
ARAB	720	Analysis of Literary Discourse	3
ARAB	725	Theory of Arabic Syntax	3
ARAB	730	Rhythm in Arabic Poetry	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)

ARLT	800	Comprehensive Examination	0
ARLT	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ARLT	900	Dissertation Research	30
ARLT	910	Dissertation Defense	0

Department of English Literature

Doctor of Philosophy (PhD) Concentration: English Language

Description

The Department of English Literature offers a PhD program in English Language. This program offers students opportunities to critically examine the English Language as lingua franca exploring issues of multi-lingual and multi-cultural significance related to the historical context of the English Language as a global tongue . Students are also expected to study language theories separately or apply them to literary/cultural texts. The program aims to provide PhD candidates with a broad knowledge in the field of English language studies including writing / reading theories and stylistics emphasizing students' academic and professional potential. Students will be trained to conduct innovative scholarly and critical work in different language contexts in order to prepare them for future careers in a huge job market which requires distinction and excellence in language skills. Our faculty have been trained at premier research institutions throughout North America and Europe and are accomplished teachers and scholars. Doctoral students are supervised and supported from the beginning of the program, through thesis development, to dissertation defense and beyond.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:6)
CHSS	700	Research Methods and Ethics	3
CHSS	702	Critical Reading and Writing	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
ELAN	750	Stylistics	3

ELAN	782	World English	3
ELAN	786	Roots of Modern English	3

Part 3: Elective Requirements (Any 9 credits of the following courses:)			
			(Required Credit Hours:9)
ENGL	616	World Diasporic Literature	3
ENGL	620	Romanticism/s	3
ENGL	645	Poetry and Poetics	3
ENGL	655	Fiction and Narrativity	3
ENGL	665	Language and Performance	3
ENGL	670	Cinema Studies	3
ENGL	693	Women’s Literacy Voices	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ELAN	800	Comprehensive Exam	0
ELAN	810	Research Proposal	0

Part 5: Research Requirements

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

Doctor of Philosophy (PhD) Concentration: English Literature and Criticism

Description

The Department of English offers a PhD program in English Literature and Criticism. This program offers students a variety of opportunities to study in all major areas of British and American literatures including prose, poetry, fiction, short story and drama starting from the Renaissance up to post-colonial / post-modern literature. The program also includes other areas of studies such as comparative literature, world literature in English translations and critical theories applied to award-winning literary texts. On the academic paradigm, the PhD program is designed to offer a comprehensive and intellectually challenging program for students who desire to be writers, proof-readers, critics , literary scholars, university professors, and professional leaders. Upon completion of the minimal course requirements, students are expected to receive a broad knowledge of English literature, Criticism, and Theory. Our faculty have been trained at premier research institutions throughout North America and Europe and are accomplished teachers and scholars. Doctoral students are supervised and supported from the beginning of the program, through thesis development, to dissertation defense and beyond.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.

3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:6)
CHSS	700	Research Methods and Ethics	3
CHSS	702	Critical Reading and Writing	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
ELIT	710	Classicism/s	3
ELIT	740	Modernism/s	3
ELIT	790	Literary Theory	3

Part 3: Elective Requirements (Any 9 credits of the following courses:)			
			(Required Credit Hours:9)
ENGL	620	Romanticism/s	3
ENGL	621	Literary Renaissances	3
ENGL	645	Poetry and Poetics	3
ENGL	655	Fiction and Narrativity	3
ENGL	665	Language and Performance	3
ENGL	670	Cinema Studies	3
ENGL	685	Literature and Culture	3
ENGL	693	Women's Literacy Voices	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ELIT	800	Comprehensive Exam	0
ELIT	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ELIT	900	Dissertation Research	30

ELIT	910	Dissertation Defense	0

Department of Mass Communication

Doctor of Philosophy (PhD) Concentration: Mass Communication

Description

The field of mass communication is expansive as it evolves at a fast clip with communication technologies at the same time that it reflects a symbiotic relationship with older disciplines in the social sciences such as sociology, political science, psychology, history, and literature. This offers the Ph.D. student a broad spectrum of academic foci in which to pursue research interests. Accordingly, the coursework in the UAEU program provides opportunities to pursue study of the effects of new communication technologies on culture (especially in the Arab and/or Islamic region), the role of communication in development, comparative media systems, as well as regulatory frameworks for different media systems. Students must develop a strong grasp of research methodologies to pursue independent study in the field.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.

6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:6)
CHSS	700	Research Methods and Ethics	3
CHSS	702	Critical Reading and Writing	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
MASC	712	Media Management	3
MASC	720	Communication & Social Change	3
MASC	743	Modern Communication Technologies in the Arab World	3
Part 3: Elective Requirements (Any 9 credits of the following courses:)			
			(Required Credit Hours:9)
MASC	605	Quantitative Research Methods	3
MASC	624	Comparative Media Systems	3

MASC	640	Qualitative Research Methods	3
MASC	715	Seminar in UAE Media	3
MASC	718	Seminar in New Media Studies	3
MASC	736	Media & National Development	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
MASC	800	Comprehensive Examination	0
MASC	888	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
MASC	900	Dissertation Research	30
MASC	910	Dissertation Defense	0

Department of Geography & Urban Planning

Master of Science in Remote Sensing and Geographic Information Systems

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

- Discuss the theoretical background and practical skills for a career in Remote Sensing or GIS.
- Identify the recent advances in Remote Sensing, GIS and GNSS relating that with scientific research and its role in the society.
- 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:

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

Degree Requirements

Required Credit Hours : minimum 30 hours

Remote Sensing and GIS

Required Courses (18 hours)		Credit Hours
RGIS601	Principles of Remote Sensing	2
RGIS602	Fundamentals of GIS	3
RGIS603	Digital Image Processing in RS	3
RGIS604	Spatial Analysis Using GIS	3
RGIS605	Local & Web Based Services GIS	2
RGIS606	Database Management Systems	2

RGIS607	Seminar on Management Issues in RS&GIS	1
STAT661	Geo-Statistics	2

Elective Courses - 6CH for Thesis option and 12CH for Non-Thesis option (12 hours)		Credit Hours
BIOE625	Coastal Management	2
RGIS610	Spatial Data Collection	2
RGIS611	Advanced Remote Sensing	2
RGIS612	Satellite Positioning	2

RGIS613	Software Engineering for GIS	2
RGIS614	Selected Topics	2
RGIS615	Project Management	2
RGIS616	Transport Applications of GIS	2
RGIS617	Urban and Environmental Applications of Remote sensing and GIS	2
RGIS618	Remote Sensing and GIS for Petroleum	2

Thesis or Capstone

Required Courses (Min CH:4 and Max CH:6) (6 hours)		Credit Hours
RGIS620	Capstone *	4
RGIS630	Thesis **	6

* : Required for Non-Thesis

** : Required for Thesis

Doctor of Philosophy (PhD) Concentration: Geography and GIS

Description

The PhD in Geography Concentration provides advanced knowledge about the latest theories in the field of GIS such as GIS modeling, internet/mobile GIS, and GIS & accuracy assessment. The concentration offers a chance for graduates to be equipped with knowledge and skills that are necessary in the vibrant GIS field. Upon completion of the concentration students will be able to debate complex geographical issues utilizing GIS tools, assess web-based GIS maps, and adopt Quality Assurance/ Quality Control (QA/QC) in GIS projects.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:			Total Credit Hours: 60
			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:6)
CHSS	700	Research Methods and Ethics	3
CHSS	702	Critical Reading and Writing	3
Part 2: Concentration Requirements			
			(Required Credit Hours:12)
GEOG	703	Geographic Information Systems	3
GEOG	708	GIS Modeling	3
GEOG	709	Internet and Mobile GIS	3
GEOG	710	GIS & Accuracy Assessment	3
Part 3: Elective Requirements (Any 12 credits of the following courses:)			
			(Required Credit Hours:12)
GEOG	601	Topics in Urban Geography	3
GEOG	602	Special Topics in Physical Geography	3

GEOG	603	Advanced Topics in Remote Sensing	3
GEOG	604	Advances in Environmental Change Studies	3
GEOG	605	Topics in Economic Geography	3
GEOG	606	Topics in Climatology	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
GEOG	800	Comprehensive Examination	0
GEOG	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
GEOG	900	Dissertation Research	30
GEOG	910	Dissertation Defense	0

Department of Political Science

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 Psychology

Master of Science in Clinical Psychology

Description

The Department of Psychology & counseling offers a Master of Science degree in Clinical Psychology. The need for qualified clinicians and mental health professionals to serve the community necessitated the establishment of this program. 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 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 practicum courses (600 clock hours) of supervised practicum experience in an approved mental health or rehabilitation setting.

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

			Course Credits
Elective Courses (CH:6)			
Group A (Students should select one course from this group)			
			(Required Credit Hours:3)
PSY	621	Research Design and Methods	3
PSY	623	Neuropsychology	3
PSY	629	Individual Tests (Children)	3

Group B (Students should select one course from this group)			
			(Required Credit Hours:3)
PSY	622	Seminar in Mental Health	3
PSY	624	Personality Perfomance-based Measures	3
PSY	626	Psychopharmacology	3
PSY	628	Master's Thesis	3

Department of Social Work

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 course-work and practicum for students with a Bachelor degree in Social Work (BSW). The MSW program also welcomes students with a bachelor degree in disciplines other than social work. However, for these students, the program of study will consist of foundation courses (30 credit hours) in year 1 and specialization courses (30 credit hours) in year 2 for a total of 60 credits hours.

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

			Course Credits
Social Work			
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

			Course Credits
Bridge Program			
For Students without the BSW degree			
			(Required Credit Hours:30)
SWK	500	Social Welfare Policy and Services: A worldview	3
SWK	510	Human Behavior and Social Environments I	3
SWK	511	Human Behavior and Social Environments II	3
SWK	520	Research Methods for Social Work Practice	3
SWK	534	Integrative Seminar	1

SWK	540	Social Work Practice with Individuals and Families	3
SWK	541	Social Work Practice with Groups	3
SWK	542	Social Work Practice with Communities and Organizations	3
SWK	590	Field Education I	8

College of Information Technology

Department of Computer and Network Engineering

Doctor of Philosophy (PhD) Concentration: Network Engineering

Description

The Doctor of Philosophy (PhD) degree in Network Engineering enables students to engage in independent, high-quality research and academic teaching. It provides research-oriented graduate study and professional specialization in Network Engineering and emphasizes both scholarly and applied research. To earn a PhD degree, a student must demonstrate breadth of knowledge, mastery of a specialized field, pass a comprehensive examination, and completes original research culminating in the written dissertation, revealing high critical ability and powers of imagination and synthesis. In addition, the student must demonstrate his/her ability to do original research and superior scholarship, as demonstrated by a public dissertation defense and publication in established peer-reviewed academic conferences and/or journals

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:			Total Credit Hours: 54
			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:12)
ITPG	701	Advanced Design & Analysis of Algorithms	3
ITPG	709	Modeling, Simulation & Performance Evaluation	3

ITPG	713	Data Mining & Statistical Analysis	3
ITPG	602	Research Methods in Information Technology	3

Part 2: Concentration Requirements (Any 9 credits of the following courses.)			
			(Required Credit Hours:9)
NEBP	701	Advanced Networking	3
NEBP	704	Design and Analysis of Networks	3
NEBP	702	Pervasive Networking	3
SECB	702	Computer and Network Systems Security	3
NEBP	703	Advanced Wireless Communications	3
NEBP	705	Vehicular Mobile Ad hoc Networks	3
NEBP	797	Special Topics in Software Engineering	3

Part 3: Elective Requirements (Upon the approval of the student's Advisory Committee, the student may take any 3 CH 600 to 800 level course from any approved graduate program at UAEU, except for special topics and Master degree core courses offered by CIT.)			
			(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ITPG	800	Comprehensive Exam	0
ITPG	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ITPG	900	Dissertation Research	30
ITPG	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Computer Engineering

Description

The PhD students in Computer Engineering (CE) go through a research-oriented study of the breadth of the field. The students produce and disseminate knowledge of CE during the their degree program. He/she with the help of a faculty advisor outlines an academic and research program that is consistent with their backgrounds and is the most appropriate for the student's academic goal. The areas of research include but are not limited to: VLSI and FPGA design, CAD of VLSI, placement and routing, computer architecture, parallel and distributed systems, reliability and fault tolerance, testing and fault diagnosis.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:12)
ITPG	701	Advanced Design & Analysis of Algorithms	3
ITPG	709	Modeling, Simulation & Performance Evaluation	3
ITPG	713	Data Mining & Statistical Analysis	3
ITPG	602	Research Methods in Information Technology	3
Part 2: Concentration Requirements (Any 9 credits of the following courses.)			
			(Required Credit Hours:9)
CEPG	701	Advanced Computer Architecture	3
CEPG	702	Failure Mechanisms and Reliability	3
CEPG	703	High-Performance Microprocessor Architecture	3

CEPG	704	Advanced Digital Design	3
CEPG	705	ASIC Design	3
CEPG	706	Advanced VLSI / Nano-electronics	3
CEPG	797	Special Topics in Computer Engineering	3

Part 3: Elective Requirements	
(Upon the approval of the student's Advisory Committee, the student may take any 3 CH 600 to 800 level course from any approved graduate program at UAEU, except for special topics and Master degree core courses offered by CIT.)	
	(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ITPG	800	Comprehensive Exam	0
ITPG	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ITPG	900	Dissertation Research	30
ITPG	910	Dissertation Defense	0

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
Project or Thesis			
Required Course			
			(Required Credit Hours: 3 - 6)
ITPG	690 *	Practicum Project	6
		* Required 6 CH for Thesis & 3 CH for Non--Thesis	

Doctor of Philosophy (PhD) Concentration: Software Engineering

Description

The Ph.D. degree in Software Engineering is geared toward individuals interested in conducting long-term research in the spectrum of intellectual activity in Software Engineering. The program emphasizes on providing a high quality, leading-edge education on Software Engineering that produces highly capable and sought after researchers and professional leaders. The degree is awarded in recognition of high quality academic research that represents original contribution to the field of Software Engineering.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.

6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:12)
ITPG	701	Advanced Design & Analysis of Algorithms	3
ITPG	709	Modeling, Simulation & Performance Evaluation	3
ITPG	713	Data Mining & Statistical Analysis	3
ITPG	602	Research Methods in Information Technology	3
Part 2: Concentration Requirements (Any 9 credits of the following courses.)			
			(Required Credit Hours:9)
SWEB	701	Complex Software systems	3
SWEB	702	Software Engineering	3
SWEB	703	Advanced Software Architecture and Design	3
SWEB	704	Software Maintenance, Evolution, and Re-Engineering	3
ITPG	797	Special Topics in IT	3
Part 3: Elective Requirements (Upon the approval of the student's Advisory Committee, the student may take any 3 CH 600 to 800 level course from any approved graduate program at UAEU, except for special topics and Master degree core courses offered by CIT.)			
			(Required Credit Hours:3)
Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ITPG	800	Comprehensive Exam	0
ITPG	810	Research Proposal	0
Part 5: Research Requirements			

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

Doctor of Philosophy (PhD) Concentration: Computer Science

Description

The Ph.D. program with a concentration in computer science is to advance the state of the art in any area of computer science. The program covers an overall perspective of the field structure and problems. Students study at least one subfield in considerable depth, and contribute to the creation and consolidation of knowledge in that subfield through creative research. In addition, the program prepare students to be able to understand, formalize, and analyze new theoretical and/or practical problems in different areas within subfields of computer science or in the intersection of computer science and other disciplines. The University awards the Ph.D. degree in recognition of high-quality academic research that represents an original contribution to the field of computer science.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:	Total Credit Hours: 54
	Course Credits

Program Requirements:

Part 1: General Requirements			
			(Required Credit Hours:12)
ITPG	701	Advanced Design & Analysis of Algorithms	3
ITPG	709	Modeling, Simulation & Performance Evaluation	3

ITPG	713	Data Mining & Statistical Analysis	3
ITPG	602	Research Methods in Information Technology	3

Part 2: Concentration Requirements (Any 9 credits of the following courses.)			
			(Required Credit Hours:9)
CEPG	701	Advanced Computer Architecture	3
CSPG	703	Complex Software Systems	3
CSPG	704	Elements of Artificial Intelligence	3
CSPG	705	Intelligent Agents & Semantic	3
CSPG	706	Big Data Analytics and Cloud Computing	3
CSPG	707	Pattern Recognition	3
CSPG	797	Special Topics in Computer Science	3

Part 3: Elective Requirements (Upon the approval of the student's Advisory Committee, the student may take any 3 CH 600 to 800 level course from any approved graduate program at UAEU, except for special topics and Master degree core courses offered by CIT.)			
			(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ITPG	800	Comprehensive Exam	0
ITPG	810	Research Proposal	0

Part 5: Research Requirements (30 credits)			
			(Required Credit Hours:30)
ITPG	900	Dissertation Research	30
ITPG	910	Dissertation Defense	0

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			
Required Course			
			(Required Credit Hours: 3 - 6)
ITPG	690 *	Practicum Project	6
		* Required 6 CH for Thesis & 3 CH for Non--Thesis	

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			
Required Course			
			(Required Credit Hours: 3 - 6)
ITPG	690 *	Practicum Project	6
		* Required 6 CH for Thesis & 3 CH for Non--Thesis	

Doctor of Philosophy (PhD) Concentration: Information Technology

Description

The PhD degree in IT is a research-oriented program fostering research contributions on the area of Information Technologies and related fields. Examples of these areas include: information management, digital ecosystems, digital economy, enterprise systems, knowledge management, IT innovation, IT strategies, cloud computing, and emerging technologies. Students are expected to develop and gain a solid understanding of the underlying state of the art information technologies and their associated theoretical principles. Upon graduation, our students acquire a solid knowledge on IT, which make them capable of independent work and well prepared to be IT scholars.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:12)
ITPG	701	Advanced Design & Analysis of Algorithms	3
ITPG	709	Modeling, Simulation & Performance Evaluation	3
ITPG	713	Data Mining & Statistical Analysis	3
ITPG	602	Research Methods in Information Technology	3

Part 2: Concentration Requirements (Any 9 credits of the following courses.)			
			(Required Credit Hours:9)
CEPG	701	Advanced Computer Architecture	3
CEPG	702	Failure Mechanisms and Reliability	3
NEBP	701	Advanced Networking	3
NEBP	704	Design and Analysis of Networks	3
SWEB	701	Complex Software systems	3
SWEB	702	Software Engineering	3
CSPG	704	Elements of Artificial Intelligence	3
CSPG	705	Intelligent Agents & Semantic	3
CSPG	706	Big Data Analytics and Cloud Computing	3
SECB	701	Policy Criteria and Evaluations of IT Systems	3

SECB	703	Privacy and Database Systems Security	3
ITPG	797	Special Topics in IT	3

Part 3: Elective Requirements	
Upon the approval of the student's Advisory Committee, the student may take any 3 CH 600 to 800 level course from any approved graduate program at UAEU, except for special topics and Master degree core courses offered by CIT.	
	(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ITPG	800	Comprehensive Exam	0
ITPG	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ITPG	900	Dissertation Research	30
ITPG	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Information Security

Description

The Doctor of Philosophy (Ph.D.) with Concentration in Information Security is available for high caliber individuals who are able to develop and implement their own research studies. The program provides students with the knowledge and ability to conduct applied and basic research towards the development of novel solutions to substantive information security research problems from academia, government and Industry. In addition to conducting rigorous research, students are expected to complete a set of course work and pass all required examinations.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.

3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:12)
ITPG	701	Advanced Design & Analysis of Algorithms	3
ITPG	709	Modeling, Simulation & Performance Evaluation	3
ITPG	713	Data Mining & Statistical Analysis	3
ITPG	602	Research Methods in Information Technology	3
Part 2: Concentration Requirements (Any 9 credits of the following courses.)			
			(Required Credit Hours:9)
SECB	701	Policy Criteria and Evaluations of IT Systems	3
SECB	702	Computer and Network Systems Security	3
SECB	703	Privacy and Database Systems Security	3
SECB	704	Cybersecurity and Critical Infrastructure	3
SECB	705	Advanced Topics in Software Security	3
SECB	797	Special Topics in Information Security	3
Part 3: Elective Requirements (Upon the approval of the student's Advisory Committee, the student may take any 3 CH 600 to 800 level course from any approved graduate program at UAEU, except for special topics and Master degree core courses offered by CIT.)			
			(Required Credit Hours:3)
Part 4: Qualification Requirements			

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

Part 5: Research Requirements			
			(Required Credit Hours:30)
ITPG	900	Dissertation Research	30
ITPG	910	Dissertation Defense	0

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 **(15 CH for thesis and 18 for non-thesis)**	

Required Courses			
			(Required Credit Hours:15)
ARCH	600	Building Research & Methods	3
ARCH	601	Graduate Research Seminar	1
ARCH	602	Sustainable Urbanism	3
ARCH	603	High Performance Buildings	3
ARCH	605	Independent Research	2
ARCH	608	Design Management for the Built Environment	3

Elective Courses (9 CH for Thesis option and 15CH for Non-Thesis option)			
			(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/Project			
6 Credit Hours for Thesis option and 3 Credit Hours for non-thesis option			
			(Required Credit Hours:6)
ARCH	698 *	Research Based Design Project	3
ARCH	699 **	Thesis	6
		* Non-Thesis Only	
		** Thesis Only	

Doctor of Philosophy (PhD) Concentration: Architectural Engineering

Description

The Department of Architectural Engineering offers a PhD degree in Architectural Engineering. The program targets practicing architectural engineers and architects with an undergraduate B.Sc degree in Architectural Engineering from UAE University, or equivalent in related fields, who wish to enhance their architectural knowledge, research, and advance their career, particularly in the area of sustainability and the built environment as related to urban studies, building science, or construction management. In addition, the program is aimed at MSc students who wish to pursue an academic career in Architectural Engineering.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 55

			Course Credits
Program Requirements:			
Part 1: General Requirements (Group 1)			
			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1
Group 2: (Any 6 credits of the following courses:)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3

ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3

Part 2: Concentration Requirements			
			(Required Credit Hours:9)
ARCH	734	Directed Studies in Architectural Engineering	3
ARCH	735	Advanced Topics in Architectural Engineering I	3
ARCH	736	Advanced Topics in Architectural Engineering II	3

Part 3: Elective Requirements (Any two Elective courses from Architectural Eng. or other programs)			
			(Required Credit Hours:6)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ARCH	800	Comprehensive Exam	0
ARCH	810	Prospectus Exam	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ARCH	900	Dissertation Doctoral Research	30
ARCH	910	Dissertation Defense	0

Department of Civil and 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

	Course Credits

Civil Engineering
(30 for theses and 33 for no-theses)

Required Courses			
			(Required Credit Hours:3)
CIVL	600	Graduate Seminar	0
STAT	615	Design/Analysis of Experiments	3

Elective Courses (21CH for Thesis and 30 CH for Non-Thesis)			
			(Required Credit Hours:21)
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
CIVL	631 **	Directed Studies 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	
		** Compulsory for non-thesis option students	

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
CIVL	650 *	Research Thesis	6
		* Thesis option students	

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.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Water Resources (30 for theses and 33 for no-theses)			
Required Courses (9 CHs for thesis and non-thesis)			
			(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			
Elective Courses (15 CHs for thesis and 21 CHs for non-thesis)			
			(Required Credit Hours:15)

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/Project			
6 Credit Hours for Thesis option and 3 Credit Hours for non-thesis option			
			(Required Credit Hours:6)
WATR	640 *	Research Thesis	6
WATR	695 **	Technical Project	3
		* For Thesis	
		** For Non-Thesis	

Doctor of Philosophy (PhD) Concentration: Civil Engineering

Description

The Department of Civil and Environmental Engineering offers Ph.D. degree in Civil Engineering. The program has evolved in response to the national need of developing qualified and specialized engineers in the various

disciplines of Civil Engineering including structural, geotechnical, environmental, water resources, highway, transportation, surveying, and construction management. The award of the Ph.D. degree in Civil Engineering requires successful completion of a minimum of 25 credit hours of graduate "taught" coursework and 30 credit hours in research in addition to passing comprehensive and prospectus exams. Graduates of the program will contribute to the transfer of research knowledge, skills, and methodologies to work environments. Graduates of the program will be highly specialized in their respective areas and therefore they are anticipated to take the lead in the national development of the UAE in the various fields of Civil Engineering.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 55

			Course Credits
Program Requirements:			
Part 1: General Requirements (Group 1)			
			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1
Group 2: (Any 6 credits of the following courses:)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3
ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)

CIVL	631	Directed Studies in Civil Engineering	3
CIVL	735	Advanced Topics in Civil Engineering I	3
CIVL	736	Advanced Topics in Civil Engineering II	3

Part 3: Elective Requirements (Any two Elective courses from Civil Eng. or other programs)	
	(Required Credit Hours:6)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
CIVL	800	Comprehensive Exam	0
CIVL	810	Prospectus Exam	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
CIVL	900	Dissertation Doctoral Research	30
CIVL	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Water Resources

Description

The Water Resources Graduate Program offers a Ph.D. degree in Water Resources that is in response to the national dire needs of developing its 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, irrigation, treatment, desalination, in addition to management of water resources and demands. The offered program is interdisciplinary and accepts students with backgrounds in Engineering, Science, and Agriculture. The Ph.D degree in Water Resources requires successful completion of a minimum of 25 credit hours of graduate coursework and 30 credit hours in research in addition to passing comprehensive, prospectus, and final exams.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.

3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 55

			Course Credits
Program Requirements:			
Part 1: General Requirements (Group 1)			
			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1
Group 2: (Any 6 credits of the following courses)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3
ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
WATR	632	Directed Studies in Water Resources	1
WATR	735	Advanced Topics in Water Resources I	3
WATR	736	Advanced Topics in Water Resources II	3
Part 3: Elective Requirements (Any two elective courses from Water Resources or other programs)			
			(Required Credit Hours:6)
Part 4: Qualification Requirements			
			(Required Credit Hours:0)
WATR	800	Comprehensive Exam	0

WATR	810	Prospectus Exam	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
WATR	900	Dissertation Doctoral Research	30
WATR	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Material Science and Engineering

Description

The Ph.D. program in Material Science and Engineering is designed to give students a broad and deep understanding of materials science and engineering so that they will have long and fruitful careers as researchers. The interdisciplinary nature of the program is ideally suited to address this requirement. The graduate students in the Materials Science and Engineering Program benefit from the unique and broad combination of faculty members and research facilities. The program focuses on all materials: metals, polymers, ceramics, electronic materials, nanomaterials, biomaterials and their composites. The investments made in this graduate program will produce well-educated professionals who will contribute to society and the economy. The award of the Ph.D. degree in Material Science and Engineering requires successful completion of a minimum of 36 credit hours of graduate coursework and 36 credit hours in research in addition to passing comprehensive and prospectus exams.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 55

Course Credits

Program Requirements:

Part 1: General Requirements (Group 1)

			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1

Group 2: (Any 6 credits of the following courses)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3
ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3

Part 2: Concentration Requirements			
			(Required Credit Hours:9)
MTSE	625	Independent Studies in Materials Science and Eng.	3
MTSE	735	Advanced Topics in Material Science and Engineering I	3
MTSE	736	Advanced Topics in Material Science and Engineering II	3

Part 3: Elective Requirements (Any two elective courses from Material Sci. and Eng. or other programs)			
			(Required Credit Hours:6)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
MTSE	800	Comprehensive Exam	0
MTSE	810	Prospectus Exam	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
MTSE	900	Dissertation Doctoral Research	30
MTSE	910	Dissertation Defense	0

Department of Chemical and 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 and Petroleum Engineering and Geosciences (30 for theses and 33 for no-theses)			
Required Courses			(Required Credit Hours:6)
CPSE	600	Graduate Seminar	0
CIVL	602	Environmental Impact Assessment Principles & Applications	3

STAT	615	Design/Analysis of Experiments	3

			Course Credits
Chemical Engineering			
Required Courses			
			(Required Credit Hours:12)
CHME	611	Transport Phenomena	3
CHME	612	Advanced Reaction Engineering	3
CPSE	610	Fluid Phase Equilibria	3
ELEC	600	Numerical Methods in Engineering	3

Elective Courses (6 CH for thesis option and 15 CH for non-thesis option)			
			(Required Credit Hours: 6 - 15)
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
CPSE	695 *	Technical Project	3
		* Non-thesis option students	

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
CPSE	699	Thesis Research	6

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
Chemical and Petroleum Engineering and Geosciences (30 for theses and 33 for no-theses)			
Required Courses			
			(Required Credit Hours:6)
CPSE	600	Graduate Seminar	0
CIVL	602	Environmental Impact Assessment Principles & Applications	3
STAT	615	Design/Analysis of Experiments	3

			Course Credits
Petroleum Engineerng			
Required Courses			
			(Required Credit Hours:12)

CPSE	610	Fluid Phase Equilibria	3
ELEC	600	Numerical Methods in Engineering	3
PETE	612	Advanced Natural Gas Engineering	3
PETE	615	Advanced Reservoir Engineering	3

Elective Courses (6 CH for thesis option and 15 CH for non-thesis option)			
			(Required Credit Hours: 6 - 15)
CPSE	624	Well Stimulation	3
CPSE	695 *	Technical Project	3
PETE	621	Non-Thermal EOR Methods	3
PETE	622	Advanced Well Test Analysis	3
PETE	623	Reservoir Simulation for IOR	3
PETE	625	Selected Topics in Petroleum Engineering	3
		* Non-thesis option	

			Course Credits
Thesis			
Required Course			
			(Required Credit Hours:6)
CPSE	699	Thesis Research	6

Doctor of Philosophy (PhD) Concentration: Chemical Engineering

Description

The Ph.D. Degree in Chemical Engineering usually takes four to five years to complete. It involves course work and a research leading to the PhD Thesis. PhD research within the Chemical Engineering Department is broad, applying fundamental and applied sciences to investigate some of today's hot topics. Students gain advanced knowledge of chemical engineering theory and its relationship to engineering processes, including gas separation and membranes, industrial wastewater treatment technologies and environmental engineering, polymer and polymer nanotechnology, catalytic reaction engineering, biotechnology and biochemical engineering, food and pharmaceutical processing, desalination and water purification, CO2 capture and

storage, rheology, and composite materials. PhD graduates will be equipped with the important skills necessary for research and academia.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:			Total Credit Hours: 55
			Course Credits
Program Requirements:			
Part 1: General Requirements ((Group 1)			
			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1
Group 2: (Any 6 credits of the following courses:)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3
ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
CHME	640	Directed Studies in Chemical Engineering	3
CHME	735	Advanced Topics in Chemical Engineering I	3
CHME	736	Advanced Topics in Chemical Engineering II	3

Part 3: Elective Requirements (Any two Elective courses from Chemical Eng. or other programs)			
			(Required Credit Hours:6)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
CHME	800	Comprehensive Exam	0
CHME	810	Prospectus Exam	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
CHME	900	Dissertation Doctoral Research	30
CHME	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Petroleum Engineering

Description

The Ph.D. Degree in Petroleum Engineering usually takes four to five years to complete. It involves course work and a research leading to the PhD Thesis. PhD research within the Petroleum Engineering Department is broad, applying fundamental and applied sciences to investigate some of today's hot topics. Students gain advanced knowledge of petroleum engineering theory and its relationship to real life problems, including reservoir characterization and engineering, enhanced oil recovery and production operations, fluid flow in porous media, modeling of fluid properties of crude oil and natural gas, multiphase flow in wells. PhD graduates will be equipped with the important skills necessary for research and academia.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.

6. 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.

Degree Requirements: Total Credit Hours: 55

			Course Credits
Program Requirements:			
Part 1: General Requirements (Group 1)			
			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1
Group 2: (Any 6 credits of the following courses:)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3
ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
PETE	640	Directed Studies in Petroleum Engineering	3
PETE	735	Advanced Topics in Petroleum Engineering I	3
PETE	736	Advanced Topics in Petroleum Engineering II	3
Part 3: Elective Requirements (Any two elective courses from Petroleum Eng. or other programs)			
			(Required Credit Hours:6)
Part 4: Qualification Requirements			
			(Required Credit Hours:0)
PETE	800	Comprehensive Exam	0
PETE	810	Prospectus Exam	0
Part 5: Research Requirements			
			(Required Credit Hours:30)

PETE	900	Dissertation Doctoral Research	30
PETE	910	Dissertation Defense	0

Department of Electrical 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.

Degree Requirements: Total Credit Hours: 30

			Course Credits
Electrical Engineering **(30 for theses and 33 for no-theses)**			
Required Courses (9 CHs for thesis and non-thesis)			
			(Required Credit Hours:9)
ELEC	602	Linear Systems	3
ELEC	604	Advanced Digital Signal Processing	3
ELEC	620	Analytical Techniques in Engineering	3
Elective Courses (15 CHs for thesis and 21 CHs for non-thesis)			
			(Required Credit Hours: 15 - 21)
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

			Course Credits
Thesis and Seminar			
Required Courses			
			(Required Credit Hours: 3 - 6)
ELEC	691	Graduate Seminar I	0
ELEC	692	Graduate Seminar II	0
ELEC	693 *	Master's Research Thesis	6
ELEC	694 **	Research / Design Paper	3
		* For these-option only	
		** For non-thesis option only	

Doctor of Philosophy (PhD) Concentration: Electrical Engineering

Description

The rapid growth of the communications, renewable energy, and oil industry in UAE requires academic infrastructure that can support the management and maintenance of new technological innovations, and for involvement in the development and design of new products. The electrical engineering department at UAE university has initiated PhD program in to support these growing needs. The award of the Ph.D. degree in Electrical Engineering requires successful completion of a minimum of 55 credit hours. 25 credit hours of graduate coursework and 30 credit hours in research in addition to passing comprehensive and prospectus

exams. Graduates of the program will contribute to the transfer of research knowledge, skills, and methodologies to work environments. Graduates of the program will be highly specialized in their respective areas and therefore they are anticipated to take the lead in the national development of the UAE in the various fields of Electrical Engineering.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 55

			Course Credits
Program Requirements:			
Part 1: General Requirements (Group 1)			
			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1
Group 2: (Any 6 credits of the following courses)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3
ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
ELEC	640	Directed Studies in Electrical Engineering	3
ELEC	735	Advanced Topics in Electrical Eng I	3
ELEC	736	Advanced Topics in Electrical Eng II	3

Part 3: Elective Requirements (Any two elective courses from Electrical Eng. or other programs)			
			(Required Credit Hours:6)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ELEC	800	Comprehensive Exam	0
ELEC	810	Prospectus Exam	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ELEC	900	Dissertation Doctoral Research	30
ELEC	910	Dissertation Defense	0

Department of Mechanical 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

			Course Credits
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

			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 "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 (30 for theses and 33 for no-theses)			
Required Courses			
			(Required Credit Hours:15)
ELEC	620	Analytical Techniques in Engineering	3

ELEC	600	Numerical Methods in Engineering	3
MECH	615	Advanced Dynamics	3
MECH	630	Advanced Solid Mechanics	3
MECH	650	Advanced Fluid Mechanics	3

Elective Courses - 9CH for Thesis and 18CH for Non-Thesis			
			(Required Credit Hours: 9 - 18)
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 (For thesis student only)			
			(Required Credit Hours:6)
MECH	660	Mechanical Engineering Seminar	0
MECH	690	Thesis	6

Doctor of Philosophy (PhD) Concentration: Mechanical Engineering

Description

The mechanical engineering ME graduate program offers Ph.D. degree in Mechanical Engineering. It strives to help students to develop professional independence, creativity, leadership, and the capacity for continuing professional and intellectual growth. The aim of the program is to prepare graduates for research and professional practice in an era of rapidly advancing interdisciplinary technology. Graduates with advanced research and education in all ME relevant fields can contribute effectively to the development of various

national and international industries and academia. They will be qualified and specialized in various disciplines of ME such as materials, design, manufacturing, fluid mechanics, thermodynamics, heat transfer, control and dynamic. Specialized PhD topics include materials processing and characterization, fracture mechanics and fatigue, composite materials, polymers, tissue engineering, biomechanics, nanomechanics, biomedical engineering, energy conversion, combustion, microfluidics, micropower generation, mechanisms, mechatronics, robotics engineering, MEMS, vibrations, and nanotecknology. The award of the Ph.D. degree in ME requires successful completion of a minimum of 25 credit hours of graduate coursework and 30 credit hours in research in addition to passing comprehensive and prospectus exams.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 55

			Course Credits
Program Requirements:			
Part 1: General Requirements (Group 1)			
			(Required Credit Hours:4)
MECH	710	Research Methodologies	3
CHME	755	Graduate PhD Seminar	1
Group 2: (Any 6 credits of the following courses)			
			(Required Credit Hours:6)
ELEC	620	Analytical Techniques in Engineering	3
ELEC	600	Numerical Methods in Engineering	3
STAT	615	Design/Analysis of Experiments	3
Part 2: Concentration Requirements			
			(Required Credit Hours:9)

MECH	640	Directed Studies in Mechanical Engineering	3
MECH	735	Advanced Topics in Mechanical Engineering I	3
MECH	736	Advanced Topics in Mechanical Engineering II	3

Part 3: Elective Requirements (Any two elective courses from Mechanical Eng. or other programs)	
	(Required Credit Hours:6)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
MECH	800	Comprehensive Exam	0
MECH	810	Prospectus Exam	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
MECH	900	Dissertation Doctoral Research	30
MECH	910	Dissertation Defense	0

College of Education

Department of Curriculum and Instruction

Master of Education

Description

The Master of Education Program at the United Arab Emirates University is practice oriented with the primary focus of enhancing the knowledge, skills, and dispositions of graduate students. The program is designed to cater for the needs of school teachers, principals, and other school professionals who are eager to pursue graduate studies to improve their performances. It focuses on preparing leaders who will engage in school reform through curriculum development, school decision-making, and community outreach. The program is based on best international standards which will help in facilitating the continuous improvement of education in the United Arab Emirates. The Master's degree program offers three tracks: Educational Leadership, Special Education and Curriculum and Instruction (English, Arabic, Islamic Studies, Mathematics, Science and Social Studies). UAEU College of Education is considered a pioneer in the Middle East in Teacher Education preparation, demonstrated by its attainment of international recognition from the Center for Quality Assurance in International Education (CQAIE) in collaboration with the National Council for Accreditation of Teacher Education (NCATE), in 2005 and 2010 respectively.

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 reflective practitioners within the area of specialization.
4. Become an educational leader and promotes the success of all 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 that enhance teaching and learning practices and/or school operations.
5. Demonstrate leadership abilities in their 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 all educational settings.

Degree Requirements: Total Credit Hours: 36

			Course Credits
College of Education			
Required Courses			
			(Required Credit Hours:9)
CURR	611	Introduction to Educational Research	3
FOED	616	Leading Schools & Communities	3
SPED	6018	Human Development & Individual Differences	3
Elective Courses			
			(Required Credit Hours:6)
CURR	6013	Advanced Teaching Applications in ED	3
CURR	6014	Advanced Educational Research	3
CURR	617	Current Issues in T & L	3
FOED	6015	Intern Perspective on ED LSH	3
FOED	6019	Leadership of Change in Education Organizations	3
SPED	624	Inclusive Learning Environment	3

			Course Credits
Curriculum and Instruction Track			
Required Courses			
			(Required Credit Hours:15)
CURR	617	Current Issues in T & L	3
CURR	6121	Advanced Study in Curriculum & Instruction	3
CURR	622	Class Assessment & Program Evaluation	3
CURR	6400 *	Thesis	0

CURR	6401 *	Thesis Proposal Development Seminar I	1
CURR	6402 *	Thesis Proposal Development Seminar II	1
CURR	6403 *	Thesis Proposal Development Seminar III	1
		or	
CURR	644 **	Professional Portfolio Development 1	3
		or	
CURR	645 **	Professional Portfolio Development 2	3
		* Min CH:0 to Max CH:3 (Thesis Option)	
		** non-thesis option	

C and I Concentration Methods Courses - Students should select two courses from the same subject area.			
			(Required Credit Hours:6)
CURR	612E	Advanced Teaching Methods / Eng I	3
CURR	612M	Advanced Teaching Methods / Math I	3
CURR	612S	Advanced Teaching Methods / Science I	3
CURR	622E	Advanced Teaching Methods / Eng II	3
CURR	622M	Advanced Teaching Methods / Math II	3
CURR	622S	Advanced Teaching Methods / Sc II	3

			Course Credits
Educational Leadership Track			
Required Courses			
			(Required Credit Hours:21)
FOED	6400 *	Thesis	0
FOED	6401	Thesis Proposal Dev Seminar I	1
FOED	6402	Thesis Proposal Dev Seminar II	1
FOED	6403	Thesis Proposal Dev Seminar III	1
FOED	6421	Personnel Administration & Staff Development	3

FOED	6422	School Finance & Resource Management	3
FOED	6423	Professional & Cultural Issues in Education	3
FOED	6424	Educational Supervision	3
FOED	6425	School Leadership	3
		* Min CH:0 to Max CH:3	

			Course Credits
Special Education Track			
Required Courses			
			(Required Credit Hours:21)
SPED	6321	Advanced Assessment in Special Education	3
SPED	6322	Characteristics & Teaching Techniques for Individuals	3
SPED	6323	Advanced Collaboration in Special Education	3
SPED	624	Inclusive Learning Environment	3
SPED	6325	Curriculum Modifications for Exceptional Individuals	3
SPED	6400	Thesis	3
SPED	6401	Thesis Proposal Dev Seminar I	1
SPED	6402	Thesis Proposal Dev Seminar II	1
SPED	6403	Thesis Proposal Dev Seminar III	1

Doctor of Philosophy (PhD) Concentration: Science Education

Description

The PhD concentration in Science Education requires a minimum of 60 credit hours, 30 of them are to complete the dissertation. The degree requirement will be accomplished on full-time basis where students can complete the program in about 3.5 academic years. The main objective of Science Education concentration is to prepare doctorate students to obtain leadership positions in science education as supervisors and teachers in various levels of schooling. Other objectives includes to prepare students to demonstrate scholarship and research expertise in science education; design curriculum and instructional strategies that accommodate diverse students; understand and apply ethical and legal standards in their specialization; develop different skills of communication; and demonstrate productive and comprehensive

knowledge of instructional theories and methods of teaching in their area of specialization. The most important part of preparing science education doctorate students to achieve those objectives is supporting them to involve in a broad range of experiences that will provide an extensive, balanced, and personalized form of professional development.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 60

Course Credits

Program Requirements:

Part 1: General Requirements
All courses in Group 1 and 9 credits from Group 2.

(Required Credit Hours:18)

Group 1: The following 9 credits

(Required Credit Hours:9)

CURR	701	Curriculum Theory and Practice	3
SPED	704	Teaching Children from Culturally and Linguistically Divers Background	3
FOED	702	Organizational theory in educational leadership	3

Group 2 Research Methodologies:
(Any 9 credits of the following courses)

(Required Credit Hours:9)

CURR	710	Quantitative Research Methods in Education I	3
CURR	712	Advanced Data Analysis in Quantitative Research	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

Part 2: Concentration Requirements (Any 9 credits of the following)			
			(Required Credit Hours:9)
CURR	702	Theory and research on learning and teaching	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

Part 3: Elective Requirements (A 3-credit CURR 7xx level course approved by the Advisory Committee.)			
			(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
CURR	800	Comprehensive Examination	0
CURR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
CURR	900	Dissertation Research	30
CURR	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Mathematics Education

Description

The PhD concentration in Mathematics Education requires a minimum of 60 credit hours including 30 credit hours of dissertation. The degree requirement will be accomplished on full-time basis where students can complete the program in about 3.5 academic years. The main objective of Mathematics Education concentration is to develop educators with an understanding of mathematics and its teaching and learning, and to prepare them to work as researchers or policy professionals. Additionally, doctoral candidates will demonstrate expertise in designing and implementing curriculum and instructional interventions that accommodate ALL students. Throughout this program, doctoral students will be involved in a broad range of

experiences that focus on learning and teaching, understanding, mathematical communication, technology as well as participating in designing and conducting qualitative and quantitative research studies.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 60

Course Credits

Program Requirements

Part 1: General Requirements
All courses in Group 1 and 9 credits from Group 2.

(Required Credit Hours:18)

Group 1: The following 9 credits

(Required Credit Hours:9)

CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Children from Culturally and Linguistically Divers Background	3

Group 2 (Research Methodologies): Any 9 credits of the following courses

(Required Credit Hours:9)

CURR	701	Curriculum Theory and Practice	3
CURR	712	Advanced Data Analysis in Quantitative Research	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

Course Credits

Part 2: Concentration Requirements (9 credits)			
Any 9 credits of the following courses:			
			(Required Credit Hours:9)
CURR	702	Theory and research on learning and teaching	3
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

Part 3: Elective Requirements A 3-credit CURR 7xx level course approved by the Advisory Committee.	
	(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
CURR	800	Comprehensive Examination	0
CURR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
CURR	900	Dissertation Research	30
CURR	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Language and Literacy Education

Description

The PhD concentration in Language and Literacy Education requires a minimum of 60 credit hours including 30 credit hours of dissertation and 30 credit hours in course work. The degree requirements will be accomplished on full-time basis where students can complete the program in about 3.5 academic years. The main objective of the Language and Literacy Education concentration is to develop educators with an understanding of language and literacy Education and to achieve an epistemological ground in this field as well as a comprehensive understanding of the interconnectedness of language and literacy education in teaching and learning that will prepare them to work as academic professional, researchers or policy professionals. Additionally, doctoral candidates will demonstrate expertise in designing and implementing curriculum and instructional interventions and to acquire expertise in applying and evaluating

appropriate research methodologies that inform recent developments in literacy and language education, and teacher education. Throughout this program, doctoral students will be equipped with a solid background in curriculum and instruction, literacy, linguistics, first and second language learning and acquisition, language development and assessment, qualitative and quantitative research methods and analysis.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 60

			Course Credits
Program Requirements:			
Part 1: General Requirements All courses in Group 1 and 9 credits from Group			
			(Required Credit Hours:18)
Group 1: The following 9 credits			
			(Required Credit Hours:9)
CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Children from Culturally and Linguistically Divers Background	3
Group 2 (Research Methodologies): Any 9 credits of the following courses			
			(Required Credit Hours:9)
CURR	710	Quantitative Research Methods in Education I	3

CURR	712	Advanced Data Analysis in Quantitative Research	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

Part 2: Concentration Requirements (Any 9 credits of the following courses:)			
			(Required Credit Hours:9)
CURR	702	Theory and research on learning and teaching	3
CURR	741	Advanced Study of Students' Mathematical Understanding	3
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	765	Bilingualism, Biliteracy and Multiliteracy Education	3

Part 3: Elective Requirements (A 3-credit CURR 7xx level course approved by the Advisory Committee.)			
			(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
CURR	800	Comprehensive Examination	0
CURR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
CURR	900	Dissertation Research	30
CURR	910	Dissertation Defense	0

Department of Special Education

Doctor of Philosophy (PhD) Concentration: Special Education

Description

The PhD concentration in Special Education is designed for providing teachers, administrators, parents, and mental, health, or social service providers with the unique opportunity to develop their reflective thinking skills and leadership skills on the application of best practices on a diverse range of disabilities and to engage into critical educational issues, practices and concerns. The PhD concentration in Special Education, responds to the academic and professional needs of both school-based and agency-based personnel, who presently hold or desire to pursue leadership positions in Special Education. Our students are people, who seek a career in academy, or in field-based research; are specialized in government issues and policies; direct public and private agencies; and are consultants and advocates in Special Education. One of our goals is to support our graduates to seek academic positions as faculty at colleges and universities. The program involves theoretical and practical coursework, seminars, research activities, and field experiences that provide the knowledge and skills necessary to effectually perform leadership positions. The PhD concentration in Special Education program requires the inclusion of core doctoral courses (30 credits) and research/dissertation courses (30 credits). Courses may be selected from the general Special Education options in curriculum, educational leadership, and diversity, and from concentration options in Assistive Technology (AT), gifted learners, mild/moderate disabilities, and instruction/assessment.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:	Total Credit Hours: 60
	Course Credits
Program Requirements:	
Part 1: General Requirements All courses in Group 1 and 9 credits from Group 2.	
	(Required Credit Hours:18)

Group 1: The following 9 credits			
			(Required Credit Hours:9)
CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Children from Culturally and Linguistically Divers Background	3

Group 2 (Research Methodologies): (Any 9 credits of the following courses)			
			(Required Credit Hours:9)
CURR	710	Quantitative Research Methods in Education I	3
CURR	712	Advanced Data Analysis in Quantitative Research	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

Part 2: Concentration Requirements (Any 9 credits of the following courses:)			
			(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

Part 3: Elective Requirements (A 3-credit SPED 7xx level course approved by the Advisory Committee).			
			(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
SPED	800	Comprehensive Examination	0
SPED	810	Research Proposal	0

Part 5: Research Requirements

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

Department of Foundations of Education

Doctor of Philosophy (PhD) Concentration: Leadership and Policy Studies in Education

Description

The PhD concentration in Leadership and Policy Studies in Education requires a minimum of 60 credit hours, 30 hours of which will be taken toward completing a dissertation. As per the UAEU regulations, students should be studying on a full-time basis where they study three courses each semester. The time to complete the degree depends on the ability of the student to pass the comprehensive exam and write their dissertations. However, it is very likely to get the degree in less than four years. The main objectives of a PhD in Leadership and Policy Studies in Education are to help doctoral students to be competent in doing research in this area of specialization, teaching in higher education institutions, and to advance their knowledge, skills, and dispositions in this important area. This would allow them to attain leadership positions in schools, school districts, or higher levels of educational administration. Students in the PhD concentration in Leadership and Policy Studies will learn about highly important issues for leading educational systems and policy planning. A few of the issues of importance in the concentration include learning about organizational behavior, motivating and leading personnel toward higher productivity, leading school change, becoming instructional and transformational leaders, learning about sociology of education, being inducted into ethical leadership of schools and educational institutions, learning how to bridge the gaps between schools and the surrounding community, understanding global influence on education and being prepared to adapt to international changes, caring for diverse groups of students, and doing quantitative and qualitative research on leadership and policy issues

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 60

Course Credits

Program Requirements:

Part 1: General Requirements All courses in Group 1 and 9 credits from Group 2.

(Required Credit Hours:18)

Group 1: The following 9 credits

(Required Credit Hours:9)

CURR	701	Curriculum Theory and Practice	3
FOED	702	Organizational theory in educational leadership	3
SPED	704	Teaching Children from Culturally and Linguistically Divers Background	3

Group 2 (Research Methodologies): Any 9 credits of the following courses

(Required Credit Hours:9)

CURR	710	Quantitative Research Methods in Education I	3
CURR	712	Advanced Data Analysis in Quantitative Research	3
CURR	713	Qualitative Research Methods in Education	3
CURR	715	Mixed Methods Research in Education	3

Part 2: Concentration Requirements
(Any 9 credits of the following courses:)

(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

Part 3: Elective Requirements
(A 3-credit FOED 7xx level course approved by the Advisory Committee.)

(Required Credit Hours:3)

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
FOED	800	Comprehensive Examination	0
FOED	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
FOED	900	Dissertation Research	30
FOED	910	Dissertation Defense	0

College of Law

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. Lead a team work to solve relevant legal problems.
5. Present his/her scholarly activity orally in a correct scientific manner.
6. Demonstrate self-learning skills with regard to real and novel issues.
7. Undertake his/her duties professionally in accordance with ethical principles.

Degree Requirements: Total Credit Hours: 31

			Course Credits
Program Requirements			
Part 1: Core Requirements			
			(Required Credit Hours:18)
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

Course Credits

Part 2: Elective Requirements

(Required Credit Hours:6)

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

Part 3: Research Requirements

(Required Credit Hours:7)

PUBL	636	Thesis	7

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. Lead a team to provide solutions for the relevant legal 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 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. Lead a teamwork to solve relevant legal problems.

Degree Requirements: Total Credit Hours: 31

			Course Credits
Program Requirements			
Part 1: Core Requirements			(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

(Required Credit Hours:6)

First Group: Arabic Courses

(Required Credit Hours:3)

PRVT	605	Modern Finance Transactions in Islamic Law	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
PRVT	610	Legal System for Economic Activity in Free Zones (E)	3

Part 3: Research Requirements

(Required Credit Hours:7)

PRVT	606	Thesis	7

College of Food and Agriculture

Department of Aridland 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

Doctor of Philosophy (PhD) Concentration: Horticultural Science

Description

The degree of Doctor of Philosophy(PhD) in horticulture shall represent the attainment of a high level of scholarship and achievement in coursework and independent research. The Doctor of Philosophy in horticulture is designed to prepare students for academic or research-based careers. Graduate students are expected to excel in research, teaching, extension activities and develop professionally. Independent and original research is an important part of the graduate program and forms a basis for a graduate thesis. The research shall represent original contribution to human knowledge in the particular academic field and is presented in a written research dissertation of a publishable standard. The document shall also demonstrate the candidate's acquaintance with the literature of the field and the proper selection and execution of research methodology. The program cover the following areas: ornamental horticulture, floriculture, turfgrass, vegetable crops, fruit crops, environmental stress physiology, plant breeding, plant pathology and plant pathogen interactions, molecular biology, plant biotechnology, tissue culture, soil, water and sustainable and organic farming and others.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:7)
COSC	702	Ethics of Scientific Research II	1
STAT	615	Design/Analysis of Experiments	3
COFA	650	Graduate Seminar	1
COFA	670	Global Food Supply Chain Management	2
Part 2: Concentration (Students must take at least one course at the 700 level)			
			(Required Credit Hours:9)
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
Part 3: Electives (Students must take at least one course at the 700 level.)			
			(Required Credit Hours:8)
COFA	660	Advanced scientific writing	2
HORT	633	Crop Management Systems for Vegetable Production	3

HORT	643	Irrigation & Drainage Systems	3
HORT	641	Modeling Horticultural System	3
HORT	642	Water Quality, Soil, Salinity and Reclamation	3
HORT	648	Conservation of Plant Genetic Resources	3
HORT	651	Concepts & Systems of Plant Protection and Pest Management	3
HORT	720	Integrated agricultural production systems	3
HORT	725	Methods in agricultural microbiology	3
HORT	730	Control and evaluation of agricultural product quality	2

Part 4: Qualification			
			(Required Credit Hours:0)
ARAG	800	Comprehensive Examination	0

Part 5: Dissertation Research			
			(Required Credit Hours:30)
HORT	900	Dissertation Research	30

Department of Food Science

Master of Science in Food Science

Description

The Department of Food Science is proposing Master Program in Food Science which will 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. Master program in Food Science is designed to reinforce and enhance the student's knowledge of scientific principles and processes used to produce safe and high quality foods. The program will provide a science-based professional education that encompasses classroom theory, practical research, and its application. Students will have an opportunity to comprehensively study theoretical and applied aspects of the science, technology, and engineering of foods. An in-depth understanding of science, as it applies to foods, will assist students with interest in career and technical education, to understand the food industry as well as food preparation in their daily life. This program is designed to produce expert food science postgraduate with the knowledge and skills to develop and further excel in the professional world.

Program 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 leadership needs of national and international professional careers.
4. Develop well-prepared graduates to become research leaders and innovators in food science field.

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 - 6 CH for Thesis and 12 CH for Non-Thesis			
			(Required Credit Hours: 6 - 12)
FDSC	611	Food Physics	2
FDSC	615	Advanced Shelf Life of Stored Foods	3
FDSC	630	Advanced Food Technologies	3
FDSC	631	Enzymes Technology and Fermentation	3
FDSC	650	Food Inspection	2

FDSC	651	Advanced Food Laws and Regulations	2
FDSC	660	Novel and Functional Foods	3
FDSC	691	Special Topics in Food Science	2

Project or Thesis			
			(Required Credit Hours: 3 - 9)
FDSC	695 *	Graduation Research Project	3
FDSC	699 **	Research Thesis	9
		* For non-thesis option	
		** For Thesis Option	

Doctor of Philosophy (PhD) Concentration: Food Science

Description

The Ph.D. concentration "Food Science" 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 concentration 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 concentration 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 expert food science postgraduate with the knowledge and skills to develop and further excel in the professional world.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:7)
COSC	702	Ethics of Scientific Research II	1
STAT	615	Design/Analysis of Experiments	3
COFA	650	Graduate Seminar	1
COFA	670	Global Food Supply Chain Management	2

Part 2: Concentration Requirements			
			(Required Credit Hours:9)
FDSC	750	Advanced Food Chemistry 2	3
FDSC	760	Advanced Food Processing 2	3
FDSC	790	Conceptual & Multidisciplinary Food Science Studies	3

Part 3: Elective Requirements (Student must take at least one 800 course level from the following)			
			(Required Credit Hours:8)
COFA	660	Advanced scientific writing	2
FDSC	615	Advanced Shelf Life of Stored Foods	3
FDSC	631	Enzymes Technology and Fermentation	3
FDSC	710	Advanced Food Physics	2
FDSC	740	Rapid Methods in Food Microbiology	2
FDSC	805	Advanced Food Analysis II	3
FDSC	820	Advanced Food Microbiology 2	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
FDSC	800	Comprehensive Exam	0
FDSC	810	Research Proposal	0

Part 5: Research Requirements

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

Department of Nutrition and Health

Doctor of Philosophy (PhD) Concentration: Nutritional Sciences

Description

The Nutritional Sciences PhD program at the College of Food and Agriculture is within the common framework of the UAE University Ph.D. Program. The objectives of the program are to provide students with (1) expertise in the fundamental principles of modern nutritional science, (2) detailed conceptual and technical skills in the identified area of specialized research interest, (3) strong written and oral communication skills, and (4) the opportunity to conduct dissertation research that will contribute to the body of knowledge in nutrition. The faculty recognizes that the career goal of each student must be given maximum consideration in the design of individual programs of study. Nutritional Sciences students will follow the curriculum described in the Nutritional Sciences PhD program. Students with extensive prior training in nutrition, such as master's degree holders, may petition the Graduate Committee to evaluate modification of the curriculum.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:	Total Credit Hours: 58
	Course Credits
Program Requirements:	
Part 1: General Requirements	
	(Required Credit Hours:9)

ETHC	600	Ethical Conduct in Medical Research	1
STAT	615	Design/Analysis of Experiments	3
PHY	601	Human Physiology 1	2
PHY	602	Human Physiology 2	2
COFA	650	Graduate Seminar	1

Part 2: Concentration Requirements			
			(Required Credit Hours:11)
CHEM	641	Advanced Biochemistry II	3
NUTR	805	Advanced Macronutrient Metabolism	3
NUTR	820	Advanced Micronutrient Metabolism	4
NUTR	830	Human Nutrition Assessment	3

Part 3: Elective Requirements			
			(Required Credit Hours:8)
NUTR	705	Advanced Community Nutrition	3
NUTR	707	Advanced Medical Nutrition Therapy	3
NUTR	710	Nutraceuticals and Functional Foods	2
NUTR	720	Nutritional Immunology	2
NUTR	730	Cell Biology in Health and Disease	2
NUTR	740	Exercise and Health	2

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
NUTR	800	Comprehensive Exam	0
NUTR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
NUTR	900	Dissertation Research	30

NUTR	910	Dissertation Defense	0

Department of Veterinary Medicine

Doctor of Philosophy (PhD) Concentration: Animal Science

Description

The degree of Doctor of Philosophy(PhD) in Animal Science shall represent the attainment of a high level of scholarship and achievement in coursework and independent research. The Doctor of Philosophy in Animal Science is designed to prepare students for academic or research-based careers. Graduate students are expected to excel in research, teaching, extension activities and develop professionally. Independent and original research is an important part of the graduate program and forms a basis for a graduate thesis. The research shall represent original contribution to human knowledge in the particular academic field and is presented in a written research dissertation of a publishable standard. The document shall also demonstrate the candidate's acquaintance with the literature of the field and the proper selection and execution of research methodology. The program cover the following areas: Animal growth and development, nutrition, breeding and genetics, physiology, production and management of ruminants and poultry, and animal well-being and behavior.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:			Total Credit Hours: 54
			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(Required Credit Hours:7)
COSC	702	Ethics of Scientific Research II	1

STAT	615	Design/Analysis of Experiments	3
COFA	650	Graduate Seminar	1
COFA	670	Global Food Supply Chain Management	2

Part 2: Concentration Requirements			
			(Required Credit Hours:9)
ANSC	805	Advanced Reproductive Physiology and biotechnology	3
ANSC	815	Animal Growth and Development	3
ANSC	820	Animal Production and Management Systems	3

Part 3: Elective Requirements			
			(Required Credit Hours:8)
COFA	660	Advanced scientific writing	2
CHEM	641	Advanced Biochemistry II	3
ANSC	650	Precision Diet Formulation	2
ANSC	655	Metabolism of Vitamins & Minerals	2
ANSC	660	Applied Animal Breeding Strategies	3
ANSC	670	Mammalian Endocrinology	2
ANSC	720	Applied Animal Genomics	2

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
ANSC	800	Comprehensive Exam	0
ANSC	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
ANSC	900	Dissertation Research	30
ANSC	910	Dissertation Defense	0

College of Science

Department of Biology

Master of Science in Molecular Biology and Biotechnology

Description

The M.Sc. in Molecular Biology and Biotechnology is a 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 5 credit hours of College of Science requirements (Graduate Seminar, Ethics, Research Methods and Statistics), 10 credit hours of 4 core Molecular Biology and Biotechnology courses in addition to 9 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:4)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1
STAT	503	Applied Statistics	2

			Course Credits
Molecular Biology and Biotechnology			
Required Courses			
			(Required Credit Hours:11)
BIOM	512	Advanced Genetic Engineering	3
BIOM	516	Advanced Molecular Biology Techniques I	3
BIOM	571	Seminar in Biotechnology & Molecular Biology	1
BIOM	572	Graduate Seminar	1
BIOM	600	Advanced Molecular Biology Techniques II	3

			Course Credits
Electives Specialization Courses			
Students need to take a minimum of 9CH of elective credits from COS and CMHS			
			(Required Credit Hours:9)
COS Electives Courses			

			(Required Credit Hours:18)
BIOM	508	Advanced Gene Expression	3
BIOM	524	Applications of Bioinformatics	3
BIOM	536	Biotechnology Applications in Forensic Science	3
BIOM	640	Molecular Physiology	3
BIOM	544	Epigenetics & Cell Different	3
BIOM	552	Molecular & Genetic Aspects of Plant Responses to Pathogens	3

CMHS Elective Courses			
			(Required Credit Hours:8)
ANAT	604	Stem Cell Biology	2
MMIM	601	Molecular Bacteriology	2
MMIM	602	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

Master of Science in Environmental Sciences

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

			Course Credits
College of Science			
Required Courses			
			(Required Credit Hours:5)
COSC	501	Research Methods	1
COSC	502	Ethics of Scientific Research	1
COSS	633	Seminar	2
STAT	503	Applied Statistics	2

			Course Credits
Environmental Science			
Required Courses			
			(Required Credit Hours:9)

BIOE	611	Environmental Science I	3
BIOE	613	Environmental Science II	2
GEO	610	Social Impact Assessment	2
PUBL	655	Environmental Law	2

Elective Courses			
			(Required Credit Hours:10)
BIOE	598	Selected Topics	1
BIOE	599	Independent Study	3
BIOE	621	Plant Research to Environmental Stresses	2
BIOE	623	Environmental Microbiology	2
BIOE	625	Coastal Management	2
BIOE	627	Desert Ecology	2
BIOE	629	Applied Systems Ecology	2
BIOE	631	Environmental Pollution & Pesticides	2
BIOE	633	Soil and Water Pollution	2
BIOE	649	Community Medicine	2
BIOE	651	Industrial Hygiene	2
BIOE	653	Human Environmental Physiology	2
BIOE	655	Essentials Of Toxicology	2
CHEM	673	Petroleum & Petrochemical Pollution	2
CHEM	674	Biochemistry of Toxins & Pollutants	2
CHEM	675	Environmental Chemistry	2
CHEM	677	Corrosion Science For Environments	2
GEOL	528	Remote Sensing	2
GEOL	565	Environmental Geochemistry	2
GEOL	574	Energy Resources	2

GEOL	575	Engineering Geology	2

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

Doctor of Philosophy (PhD) Concentration: Cellular and Molecular Biology

Description

Ph.D. students are required to take a lab rotation-based course during their first year of graduate study. Typically, students will be required to rotate through three to 4 laboratories (minimum of 2 in exceptionally trained students), each of which lasts about three months. During each laboratory rotation, the student will be exposed to methods, equipment, and experimental procedures currently in use in a particular departmental research laboratory selected by the student and through arrangement with the professor in charge of that laboratory. At the end of each rotation, students will receive a written evaluation from by the rotation supervisor. These evaluations are then submitted to the program chair to become a part of the student's permanent file. It is important to note that these evaluation letters will be considered during the comprehensive examination evaluation.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:	Total Credit Hours: 54
	Course Credits
Program Requirements:	

Part 1: General Requirements			
			(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

Part 2: Concentration Requirements (6 credits)			
			(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

Part 3: Elective Requirements (Any 9 credits hours of the following courses, or other approved graduate courses of 600 levels or above according to the study plan.)			
			(Required Credit Hours:9)
BIOM	630	Molecular Basis of Diseases	3
BIOM	635	Applied Immunobiology	3
BIOM	640	Molecular Physiology	3
BIOM	645	Selected Topics in Biotechnology	3
BIOM	687	Developmental Biology	3
BIOM	693	Genomics	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)

COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Doctor of Philosophy (PhD) Concentration: Ecology and Environmental Sciences

Description

Our Ph.D. program in ecology and environmental sciences 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.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(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

Part 2: Concentration Requirements			
			(Required Credit Hours:9)
BIOE	700	Lab Rotations	3
BIOE	720	Ecosystem Management & Sustainability	3
BIOE	730	Topics In Ecology and Environmental Sciences	3

Part 3: Elective Requirements (Any 9 credits hours of the following courses, or other approved graduate courses of 600 level or above according to the study plan.)			
			(Required Credit Hours:9)
BIOE	610	Field Ecology	3
BIOE	630	Aquatic Ecology	3
BIOE	640	Wildlife Disease Ecology	3
BIOE	659	Conservation Biology	3
BIOE	665	Global Environmental Changes	3
BIOE	682	Desert Ecology	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Part 5: Research Requirements			
			(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 program aims at providing opportunities to top UAE and international students to pursue a high quality graduate education in the field of chemistry. The program is built on knowledge depth and advanced research to prepare graduates for challenging jobs in multiple sectors. This is achieved by offering a well-balanced curriculum based on well-designed theoretical courses and providing opportunity and means for advanced research in highly important areas where major scientific and technological challenges are addressed. The Department of Chemistry is well-established in terms of research facilities allowing for advanced quality research under the supervision of faculty members with a wide spectrum of research interests. Research interests cover all of the traditional areas of chemistry, analytical, organic, inorganic, physical, and biochemistry besides cross-disciplinary research areas such as bio-analytical, petroleum, materials, environmental, pharmaceutical, and computational chemistry. The program is designed with significant flexibility by accepting full-time as well as part-time students and offering evening as well as week-end courses. The model study plan is to complete the required theoretical course work (24 credit hours) and thesis research work (6 credit hours) within two years for a for full-time candidate and three years for a part-time candidate.

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 of Science			
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
Chemistry			
Required Courses			
			(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

			Course Credits
Thesis			

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

Doctor of Philosophy (PhD) Concentration: Chemistry

Description

The PhD program in Chemistry is designed for students with Master degree in Chemistry from a credited university. It is a 56 credit hours program offered for full time students within the Department of Chemistry. The study plan is composed of 24 credit hours course work that students are required to complete successfully and 30 credit hours of research. Students are required to write and successfully defend a written PhD thesis at the end of their duration of study. The coursework includes 6 credit hours of College requirements (Ethics, Research Methods and Seminars), 3 chemistry core courses (9 credit hours) and 3 elective courses (9 credit hours). Students can choose their supervisors and have a chance to choose from a wide spectrum of available research topics. The program is fee-based and is open for all students who meet the entry requirements.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements:			Total Credit Hours: 54
			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(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

Part 2: Concentration Requirements (CHEM 701 + any 6 credits of the following courses:)			
			(Required Credit Hours:9)
CHEM	701	Advanced Analytical Chemistry	3
CHEM	702	Advanced Organic Chemistry	3
CHEM	703	Advanced Protein Biochemistry: Structure and Function	3
CHEM	704	Molecular Structure and Bonding	3
CHEM	705	Modern Physical Chemistry	3

Part 3: Elective Requirements (Any 9 credits hours of the following courses, or other approved graduate courses of 600 levels or above according to the study plan.)			
			(Required Credit Hours:9)
CHEM	601	Organic Reaction Mechanisms	3
CHEM	602	Polymer Chemistry	3
CHEM	603	Spectroscopic methods of structure determination	3
CHEM	604	Biotechnology in the Modern World	3
CHEM	605	Mechanisms of cellular signal transduction	3
CHEM	606	Structure, Bonding and Properties of Solids	3
CHEM	608	Surface and Interface Analysis	3
CHEM	609	Mass Spectrometry	3
CHEM	612	Nanochemistry	3
CHEM	613	Photochemistry	3
CHEM	614	Organometallic Chemistry of the Transition Metals	3

CHEM	615	Chemical Sensors and Biosensors	3
CHEM	616	Advanced Topics in Physical Chemistry	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Department of Geology

Doctor of Philosophy (PhD) Concentration: Geosciences

Description

The PhD program in Geology is available for students who have successfully completed a Master Degree in Geology or Earth Sciences from a university acceptable to the UAEU. The program offered by the Geology Department requires the student to complete 54 credit hours comprising 24 credit hours of course work and 30 credit hours of original research leading to a PhD thesis. The course work is divided into General Requirements (6 credit hours, including courses in Research Methods, Ethics of Scientific Research, Seminars and Journal Club); compulsory Concentration courses (9 credit hours, including courses in Plate Tectonics, Geoinformatics and Geology, Environment and Society); and a further 9 credit hours of a range of advanced elective courses. A broad range of geoscience topics are available for research. The program is fee-based and is open for all students who meet the entry requirements.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.

4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements			
Part 1: General Requirements			
			(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
Part 2: Concentration Requirements			
			(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
Part 3: Elective Requirements (Any 9 credits of the following courses, or other approved graduate courses of 600 level or above according to the study plan.)			
			(Required Credit Hours:9)
GEOL	610	Geophysical Instruments & Data Acquisition	3
GEOL	615	Seismology & UAE Seismicity	3
GEOL	620	Carbonate/Evaporate Deposit Systems	3
GEOL	621	Diagnetic, Stratigraphy, & Reservoir Evaluation	3
GEOL	623	Formation Evaluation	3
GEOL	660	Computer Applications in Geosciences	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Department of Mathematics Sciences

Master of Science in Mathematics

Description

The M.Sc. in Mathematical Sciences is a 30 credit hour 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. The coursework includes 4 credit hours of College of Science requirements (Ethics, Research Methods and Statistics), 3 core mathematics courses, and 2 department seminars(a total of 11 credit hours) in addition to 3 elective courses (9 credit hours) 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 concise mathematical proofs.
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

			Course Credits
College of Science			
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
		(Taken twice)	

			Course Credits
Mathematical Sciences			
Required Courses			
			(Required Credit Hours:9)
MATH	510	Real Analysis	3
MATH	520	Numerical Analysis	3
MATH	540	Algebra I	3

Elective Courses			
			(Required Credit Hours:9)
MATH	513	Calculus on Manifolds	3
MATH	515	Complex Analysis	3
MATH	516	C*-Algebras	3

MATH	517	Advanced Geometry	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	772	Theory of Ordinary Differential Equations	3
MATH	573	Dynamical Systems & Chaos Theory	3
MATH	611	Several Complex Variables	3
MATH	612	Measure Theory	3
MATH	616	Functional Analysis	3
MATH	622	Finite Element Methods	3
MATH	640	Algebra II	3
MATH	662	Algebraic Topology	3
MATH	670	Advanced Partial Differential Equations	3
MATH	675	The Mathematics of Finance	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 (PhD) Concentration: Mathematics

Description

The PhD program in Mathematical Sciences is designed for students with Master degree in Mathematics from a credit university. It is a 56 credit hours program offered for full time students within the Department of Mathematical Sciences. Students are required to complete 24 credit hours of coursework in addition to30 credit hours assigned to research and a completion of a PhD thesis. The coursework includes 6 credit hours of College of Science requirements (Ethics, Research Methods and Seminars), 3 core mathematics courses in addition to 3 elective courses (9 credit hours) 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 Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			(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
Part 2: Concentration Requirements (Student can choose any three of the following courses including MATH 715. The			

list of courses below will allow the students to choose their field of study either pure or applied mathematics.)			
			(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	Advanced Partial Differential Equations	3
MATH	772	Theory of Ordinary Differential Equations	3

Part 3: Elective Requirements (9 credits) (Any 9 credits hours of the following courses, or other approved graduate courses of 600 level or above according to the study plan.)			
			(Required Credit Hours:9)
MATH	662	Algebraic Topology	3
MATH	663	Knot Theory and Applications	3
MATH	643	Cryptography	3
MATH	644	Coding Theory	3
MATH	664	Differential Manifold	3
MATH	641	Advanced Number Theory	3
MATH	673	Dynamical Systems	3
MATH	674	Stochastic Calculus for Finance	3
MATH	676	Advanced Mathematics of Finance	3
MATH	677	Numerical Methods for Finance	3
MATH	671	Integral Equations and Calculus of Variations	3
MATH	716	Introduction to Operator Algebras	3
MATH	745	Finite Fields and Applications	3
MATH	746	Finite Groups	3

MATH	747	Module and Ring Theory	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
COSR	900	Dissertation Research	30
COSD	910	Dissertation Defense	0

Department of Physics

Master of Science in Physics

Description

The Master of Science in Physics program is designed to serve and support the UAE strategic needs in various areas which include, but are not limited to: nuclear energy, semiconductor industry, Medical Physics, Aerospace industry, Nanophysics and Nanotechnology. The program aims at preparing its graduates for professional and leadership positions in industrial, educational and governmental institutions.

Program Objectives

1. A robust background in concepts and solving skills in fundamental Physics.
2. The capability to research a topic in contemporary Physics.
3. The capability to communicate finds.

Program Learning Outcomes

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

1. Demonstrate insightful understanding of advanced topics in physics.
2. Demonstrate critical awareness of recent developments in physics.
3. Manage their own learning and professional development and make use of appropriate literature, research articles and other primary sources.
4. Plan and conduct a research project in specified time duration under supervision.
5. Evaluate and solve complex real-world scientific problems both systematically and creatively.

6. Analyze, interpret and publicize their research findings and defend their conclusions before specialists and non-specialist audiences.
7. Consistently and sensitively manage highly complex ethical issues leading to informed, fair and valid decisions.

Degree Requirements: Total Credit Hours: 30

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

			Course Credits
Physics			
Required Courses			
			(Required Credit Hours:9)
PHYS	515	Methods of Mathematical Physics	3
PHYS	525	Quantum Physics I	3
PHYS	530	Electrodynamics I	3

Elective Courses ((9 CH for Thesis option and 12CH for Non-Thesis option))			
			(Required Credit Hours:9)
PHYS	541	Atomic Physics	3
PHYS	542	Introduction to Astrophysics	3
PHYS	543	Laser Physics	3
PHYS	545	Analytical Mechanics	3
PHYS	552	Nuclear Physics	3

PHYS	555	Introduction to Plasma Physics	3
PHYS	560	Elementary Particle Physics	3
PHYS	571	Radiation Physics	3
PHYS	574	Physics of Radiotherapy	3
PHYS	575	Physics of Semiconductors	3
PHYS	576	Physics of Nuclear Medicine	3
PHYS	614	Modern Statistical Physics	3
PHYS	616	Experimental Condensed Matter Physics	3
PHYS	622	Solid-State Physics I	3
PHYS	730	Electrodynamics II	3
PHYS	635	General Relativity	3
PHYS	660	Methods in Experimental Particle Physics	3
PHYS	672	Medical Imaging & Instrumentation	3
PHYS	675	Imaging Science	3
PHYS	678	Magnetic Resonance Imaging & Spectro	3
PHYS	698	Selected Topics I	3

	Course Credits
Thesis/Research Project	
Required Course (6 Credit Hours for Thesis option and 3 Credit Hours for non-thesis option)	
	(Required Credit Hours:6)
COSR 699 Thesis	6

Doctor of Philosophy (PhD) Concentration: Physics

Description

The PhD program in Physics is a research program that offers research opportunities in condensed matter and solid state physics, high energy physics, nano-physics,

plasma physics and controlled fusion, applied nuclear science, medical and biophysics, astrophysics, and atomic and molecular physics. A PhD student is required to complete as minimum requirements 24 CH of course work and 30 CH in thesis research in addition to passing a comprehensive exam and defending his/her thesis research findings.

Program Learning Outcomes

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

1. Demonstrate the breadth of knowledge in the discipline and advance, in-depth knowledge in the sub-discipline or area of specialization.
2. Perform and defend an original work of research in their fields of specialization which contributed new human knowledge.
3. Identify, analyze critically and explain open problems in their disciplines and apply relevant research methodology for finding a possible solution.
4. Communicate the major tenets of their field of specialization and their work orally and in writing to the faculty, their peers, and the lay public.
5. Identify areas where ethical issues may arise in their field, and articulate strategies to mitigate situations related to ethical issues in their profession.
6. 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.

Degree Requirements: Total Credit Hours: 54

			Course Credits
Program Requirements:			
Part 1: General Requirements			
			(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
Part 2: Concentration Requirements			
			(Required Credit Hours:9)
PHYS	705	Quantum Physics II	3
PHYS	722	Solid State Physics II	3
PHYS	730	Electrodynamics II	3

Part 3: Elective Requirements (Any 9 credit hours of the following courses, or other approved graduate courses of 600 level or above according to the study plan.)			
			(Required Credit Hours:9)
PHYS	715	Synthesis, Characteristics & Applications of Nanomaterials	3
PHYS	720	Quantum Field Theory I	3
PHYS	724	Computational Physics	3
PHYS	735	Quantum Theory of Polymers	3
PHYS	755	Physics of NonIdeal Plasmas	3
PHYS	771	Physics & Engineering of Radiation Detection	3
PHYS	778	Advanced Magnetic Resonance	3
PHYS	780	Quantum Field Theory II	3
PHYS	782	Standard Model of Particle Physics	3
PHYS	790	Particle Physics Phenomenology	3
PHYS	792	Supersymmetry	3
PHYS	795	Advanced Topics in Particle Theory	3
PHYS	733	Seminar III	1
PHYS	798	Selected Topics II	3

Part 4: Qualification Requirements			
			(Required Credit Hours:0)
COSC	800	Comprehensive Exam	0
COSR	810	Research Proposal	0

Part 5: Research Requirements			
			(Required Credit Hours:30)
COSR	900	Dissertation Research	30

COSD	910	Dissertation Defense	0