

Department of Civil and Environmental Engineering
Graduate and Senior Undergraduate Elective Courses

Fall 2008-09

ENVIRONMENTAL SEQUENCE

Course:	CIVE 659/ENSC 652: Environmental Impact Assessment
Course Description:	A course that outlines theories and procedures of assessing environmental impact; analysis of the impact of development on various measures of environmental quality; and benefit-cost considerations in environmental impact assessment. Prerequisites: CIVE 450, CIVE 654, and CIVE 656; or consent of instructor. Alternate years.
Instructor:	Dr. Mutasem El Fadel
Course:	CIVE 653: Water and Sewage Works Design
Course Description:	A course that examines the design of water and wastewater schemes, including design reports and a literature search on the development of conventional treatment processes. Prerequisites: CIVE 350 and CIVE 450.
Instructor:	Dr. George Ayoub

WATER RESOURCES SEQUENCE

Course:	CIVE 640: Hydraulic Structures
Course Description:	A course that covers closed conduit flow, water distribution systems, transient analysis, open channel flow, flood control, culvert hydraulics, design of various hydraulic structures. Prerequisite: CIVE 440. Alternate years.
Instructor:	Prof. Constantine Inglessis
Course:	CIVE 644: Coastal Engineering
Course Description:	A course on small-amplitude wave theory; finite-amplitude wave theory; conoidal waves; solitary wave theory; wave refraction, diffraction, and reflection; wave forces; and design of maritime structures (e.g., breakwaters). Prerequisite: CIVE 440. Alternate years.
Instructor:	Dr. Habib Basha
Course:	CIVE 646: Water Resources System: Planning and Management
Course Description:	A course that introduces the main concepts and principles of water resources planning and management; logical steps in engineering planning and decision making; water resources systems analysis, modeling, simulation, and optimization; economic and financial analysis; flood protection and reservoir operation; and water resources management case studies. Prerequisite: advanced standing level. Alternate years.
Instructor:	Dr. Hamed Assaf

GEOTECHNICAL SEQUENCE

Course:	CIVE 634: Soil and Site Improvement
Course Description:	A course that covers compaction, admixture stabilization, foundation soil treatment, reinforced soil and composite materials, and material sites reclamation. Alternate years.
Instructor:	Dr. Shadi Najjar

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STRUCTURAL SEQUENCE

Course:	CIVE 620: Plain Concrete
Course Description:	A course that examines portland cements; aggregates; fly ash and silica fume; admixtures for concrete; proportioning normal concrete mixtures; pumping concrete; consolidating, finishing, and curing concrete; durability; testing hardened concrete; high-strength concrete; light and heavy weight concretes; hot and cold weather concreting. Prerequisite: advanced standing level
Instructor:	Dr. Bilal Hamad
Course:	CIVE 621: Special Topics in Concrete
Course Description:	A course that reviews reinforced concrete design; wind load on structures; seismic design of structures; design of shear walls; brackets, corbels, and deep girders; torsion in concrete members; circular, rectangular, and elevated water tanks; spherical, conoidal, and ellipsoidal domes. Prerequisite: CIVE 421. Annually.
Instructor:	Dr. Mohamed Harajli

TRANSPORTATION SEQUENCE

Course:	CIVE 661: Urban Transportation Planning
Course Description:	An introductory course on methods and models used in transportation planning with emphasis on the urban context. Prerequisite: CIVE 461. Alternate years.
Instructor:	Dr. Isam Kaysi

OTHER

Course:	CIVE 672: Introduction to Geographic Information Systems
Course Description:	An introductory course on Geographic Information Systems (GIS) and their applications in the planning and engineering fields, alternatives in computer-based graphics, data concepts and tools, network data management and planning applications, and implementation issues. This course is considered to satisfy the departmental requirements in all engineering graduate program. Annually.
Instructor:	Dr. Kamal Azar