

Graduate Council Report

December 6, 2012

New Course Requests

ARCH 673. Design for Active Living. (3-0). Credit 3. Understanding the forms and characteristics of the built environment and the influence on human behaviors, lifestyles and health; theoretical and empirical insights into the issues of physical activity, obesity and automobile dependency; focus on how changes in the built environment help address these issues. Prerequisite(s): Graduate classification or approval of instructor. Cross-listed with LAND 632.

ARCH 678. Foundations of Healthcare Design. (3-0). Credit 3. Introduction to the theory of healthcare design over the course of time; exploration of the relationship of the medicine, science, art, and culture of each period with the design of buildings and environments for healthcare; emphasis on historic periods and the contemporary. Prerequisite(s): Graduate classification or approval of instructor.

ECEN 712. Power Electronics for Photovoltaic Energy Systems. (3-0). Credit 3. Sustainable energy sources such as photovoltaic, fuel cell, wind, and others require power electronics to perform energy conversion and conditioning in order to convert their native form of electrical generation to a format compatible with the ac utility grid. This course will explore the salient electrical characteristics of solar photovoltaic sources, the requirements for grid-connection and the power electronic circuits and controls needed to perform the interconnection and control. Prerequisite(s): ECEN 438 or instructor approval.

ECEN 753. Theory and Applications of Network Coding. (3-0). Credit 3. Fundamentals of network coding: concepts, models, linear and non-linear codes, code design, random and deterministic codes. Wireless network coding. Network coding for storage. Practical implementations. Current research trends. Prerequisite(s): Graduate standing or instructor consent.

EDCI 639. Grant Writing for Professional Development. (3-0). Credit 3. Focus on the skills necessary to address a Request for Proposals (RFP) through developing and writing a competitive funding proposal; with attention to the process of identifying foundation, public, and corporate funding opportunities available to support specific programmatic needs/areas. Prerequisite(s): Graduate classification.

INFO 647. Information Systems Sourcing. (3-0). Credit 3. Identify the challenges of information systems sourcing, as well as the costs, risks, rewards, and strategies involved in sourcing situations; focus on global sourcing of professional services, including IT, business process, and knowledge process outsourcing; issues such as vendor management, legal issues, distributed work teams, and comparing alternative sourcing strategies discussed. Prerequisite(s): INFO 633 or equivalent or approval of instructor; graduate classification in business.

INFO 648. Advanced Data Management. (3-0). Credit 3. Data/database management and advanced SQL techniques; issues of data security, backup and recovery, large scale databases, master data management, concurrent user data access, scalability, and policies discussed. Prerequisite(s): INFO 628 or equivalent; graduate classification in business.

VIBS 627. Optical Microscopy and Live Cell Imaging. (2-3). Credit 3. Principles and practice of optical microscopy for life sciences; applications with fixed samples and live cells using digital microscopy, confocal and multiphoton microscopy, TIRF and laser capture microscopy equipment; applications with fluorescence probes of cellular function. Prerequisite(s): Approval of instructor.

VIZA 684. Professional Internship. (3-0). Credit 3. Practical experience in a studio/museum/gallery setting working with allied professionals; minimum fifteen week internship with a minimum of 600 hours continuous employment; departmental pre-approval through the departmental internship coordinator required; post approval evaluation conducted following the internship. May not be repeated for credit.

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Course Change Requests

ATMO 602: Principles of Atmospheric Physics and Chemistry

TITLE:

FROM: Principles of Atmospheric Physics and Chemistry

TO: Atmospheric Physics I

PREREQUISITE(S):

FROM: ATMO 601

TO: None

COURSE DESCRIPTION:

FROM: Integrated treatment of fundamental aspects of physical meteorology and atmospheric chemistry; ultraviolet and infrared absorption and emission radiative transfer; cloud and precipitation microphysics and thermodynamics.

TO: Integrated treatment of the dry and moist thermodynamics of the atmosphere and cloud and precipitation microphysics.

ATMO 612: Atmospheric Physics II

PREREQUISITE(S):

FROM: Graduate classification or approval of instructor.

TO: ATMO 602

COURSE DESCRIPTION:

FROM: Fundamentals of physical meteorology; includes cloud physics, atmospheric electricity and atmospheric chemistry.

TO: Continuation of ATMO 602. Radiative transfer into the atmosphere.

COSC 601: Construction Practices

COURSE DESCRIPTION:

FROM: Construction materials and processes from inception to completion; alternative construction delivery processes; code standards and safety aspects related to buildings; various contemporary/innovative building systems.

TO: Materials and methods of construction with emphasis on the design and construction process; includes structural steel and other metals, foundation materials, precast and tilt wall concrete, concrete reinforcement including pre-stressing, wood dimension lumber framing, and heavy timber framing.

COSC 602: Construction Estimating

COURSE TITLE:

FROM: Construction Estimating

TO: Construction Cost Estimating

COURSE DESCRIPTION:

FROM: A graduate level course designed to provide the student with a comprehensive introduction to the principles, techniques, technologies, and basic concepts involving construction management's methodology and strategy used in the preparation of construction estimate and bid.

TO: Determination of quantities for various types of construction materials and works including earthwork, foundations, structural systems, mechanical and electrical systems, and building finishes; methods used for pricing of construction works including labor, materials, equipment, sub-contractors, overhead and profit; use of various types of cost data catalogs available in the industry.

COSC 603: Construction Scheduling

COURSE DESCRIPTION:

FROM: Construction scheduling process utilizing current techniques including critical path method, precedence method, program evaluation and review techniques, and probabilistic method; development of parameter estimates for activities that relate to the construction of a building project; work packages sequenced, planned and leveled to develop a working project execution document; development of procedures to monitor actual field progress; computer application in project scheduling.

TO: Introduction to commonly used techniques and computer applications for the planning, scheduling, monitoring, and controlling of construction projects; includes key scheduling techniques such as Gantt Chart, CPM, PERT, LSM, and EVM; practical scheduling practices such as tracking, controlling, and forecasting trends of schedules, cost control, and reporting.

PREREQUISITE(S):

FROM: None

TO: COSC 602 or equivalent.

CREDIT HOURS:

FROM: Lecture: 2; Lab: 3; SCH: 3

TO: Lecture: 3; Lab: 0; SCH: 3

COSC 606: Mechanical and Electrical Construction

COURSE DESCRIPTION:

FROM: Selection of mechanical and electrical equipment to support construction operations; design, construction and costs of building mechanical/electrical subsystems; energy, operating and maintenance costs.

TO: Building environmental systems with a major emphasis on the design and control of the heating, ventilation and cooling systems, plumbing and drainage systems, electrical, fire and lightning protection, and lighting; design opportunities, calculations, equipment selection and economics as they relate to design and construction.

COSC 608: Structural Principles and Practices

COURSE DESCRIPTION:

FROM: Investigations into practical applications of structural design; surveys and studies of various structural systems.

TO: Investigations into practical applications of structural design including the analysis and design of structural members in steel and concrete; surveys and studies of various structural systems.

COSC 620: Construction Operations

COURSE TITLE:

FROM: Construction Operations

TO: Construction Company Operations

COURSE DESCRIPTION:

FROM: Theory and case studies related to the management of construction business operations; investigation of current business practices employed by construction firms.

TO: Running a construction company; strategic planning; business planning; organizational theory; competitor analysis; risk management; financial analysis; human resources; management information systems; leadership; codes of ethics; best practices.

COSC 621: Advanced Topics in Construction Project Scheduling and Project Management

COURSE TITLE:

FROM: Advanced Topics in Construction Project Scheduling and Project Management

TO: Advanced Project Management

PREREQUISITE(S):

FROM: COSC 602 and COSC 603 or equivalent; STAT 651.

TO: COSC 603 or COSC 475.

COURSE DESCRIPTION:

FROM: Advanced techniques used in scheduling and evaluating progress in construction project control; development of strategies for overcoming overruns; resource allocations; case studies.

TO: Theoretical, practical, and strategic development in the management of contemporary construction projects; advanced techniques used in scheduling and evaluating progress in construction project control; exploration of state-of-the-art management principles and practices, and development of additional insights.

COSC 622: Construction Resources

COURSE TITLE:

FROM: Construction Resources

TO: Construction Economics

COURSE DESCRIPTION:

FROM: Identification and analysis of the factors affecting resources of the construction industry on a local, regional, national and international level.

TO: Foundation in Life Cycle Cost Analysis computation within the context of current issues in environmental sustainability and evidence-based thinking; lean construction as a strategy to overcome the hurdle of first cost.

COSC 624: Project Acquisition and Control

COURSE TITLE:

FROM: Project Acquisition and Control

TO: Construction Business Development

COURSE DESCRIPTION:

FROM: Acquisition of new work in the construction industry; overview of organizational theory, strategic planning and business planning in the construction industry; acquisition procedures including response techniques for complex requests for proposals; understanding concepts of sales and marketing, backlog, and business development budgeting in construction.

TO: Acquisition of new work in the construction industry; understanding available project delivery systems; competitor analyses; acquisition procedures including response techniques for complex requests for proposals; understanding concepts of sales and marketing, branding, backlog, and business development budgeting in construction.

COSC 627 Construction Dispute Resolution Alternatives

COURSE WITHDRAWAL: New curriculum in which this course is longer going to be offered.

COSC 628: Applications of Construction Law

COURSE TITLE:

FROM: Applications of Construction Law

TO: Construction Contracts and Risk Management

COURSE DESCRIPTION:

FROM: Review of most common areas of law applied to the industry; application of this law to case studies; introduction to analytical processes needed to argue legal issues and claims; review of dispute resolution methods and ethics in the construction industry.

TO: Advanced construction law, contracts, and risk management applicable to construction management; identification of common disputes and construction risks among the owner, design professionals, and contractor; analysis of construction contracts with an emphasis on troublesome

provisions and solutions; demonstration of tools of negotiation and dispute resolution; ethics in construction.

COSC 631: Supervision of the Construction Workforce

COURSE TITLE:

FROM: Supervision of the Construction Workforce

TO: Advanced Productivity and Lean

COURSE DESCRIPTION:

FROM: Individual and group workforce behavior as it affects construction productivity; unique motivational and demotivational behavior characteristics; models of supervisory practice; effect of goal setting, management participation, work incentives and other reinforcers on construction workers.

TO: Introduction to lean history, concepts and methods; deduction of basic training modules in lean project delivery; application of lean management in construction projects.

COSC 633: International Construction Contracting

COURSE WITHDRAWAL: New curriculum in which this course is no longer going to be offered.

COSC 641: Construction Management Communications

COURSE WITHDRAWAL: New curriculum in which this course is no longer going to be offered.

COSC 642: Web-Based Construction Data Management

COURSE TITLE:

FROM: Web-Based Construction Data Management

TO: Construction Information Technology

COURSE DESCRIPTION:

FROM: A comprehensive introduction to the principles and techniques of information systems and data communication within the construction industry; a technical overview of the concepts of information systems, data transmissions and network-based technologies employed in the design and management of construction communication networks.

TO: Exploration of emerging technologies for the construction industry including hardware and software systems such as BIM, RFID, Wireless/Mobile, information systems, construction specific programs, and information strategy planning; using information strategy planning by owners and contractors to effectively enhance the management of business entities and projects in construction.

COSC 644: Systems Approach to Construction Management

COURSE TITLE:

FROM: Systems Approach to Construction Management

TO: Advanced Construction Systems

COURSE DESCRIPTION:

FROM: Concepts, relationships and techniques of decision analysis; application of methodology and techniques to major decisions faced by construction managers.

TO: Theoretical, practical, and strategic development in contemporary construction systems; exploration of state-of-the-art innovations in environmental control systems, structural principles and practices; integration of innovations with information technologies, and development of additional insights.

COSC 648: Design-Build Project Delivery

COURSE TITLE:

FROM: Design-Build Project Delivery

TO: Graduate Capstone

COURSE DESCRIPTION:

FROM: Overview and analysis of the design-build project delivery process utilizing case studies; emphasis on understanding alternative project delivery systems evolving in the design and construction industries.

TO: For students preparing to enter the construction industry; project and program management of construction projects; winning new work; construction company creation, operations and change accommodation; leadership and management; risk management; managing people; using technology considering the environment; and the application of lean and target value construction.

COSC 650: Introduction to Construction Visualization

COURSE TITLE:

FROM: Introduction to Construction Visualization

TO: Advanced Construction Visualization

CREDIT HOURS:

FROM: Lecture: 2; Lab: 2; SCH: 3

TO: Lecture: 3; Lab: 0; SCH: 3

COSC 662: Contemporary Housing Production: Theory and Practice

COURSE WITHDRAWAL: New curriculum in which this course is no longer going to be offered.

COSC 663: Sustainable Construction

COURSE DESCRIPTION:

FROM: How sustainable construction materials and methods contribute to meeting the needs of the present without compromising the ability of future generations to meet their own needs; identifies and analyzes those international, national and local programs promoting sustainable construction; characterizes the components of successful sustainable construction projects.

TO: Contribution of materials and methods to meeting the needs of the present without compromising the ability of future generations to meet their own needs; overview of international,

national and local programs promoting sustainable construction; characteristics of the components of successful sustainable construction projects; theories and practices through case studies.

COSC 664: Construction Safety Management

COURSE WITHDRAWAL: New curriculum in which this course is no longer going to be offered.

COSC 665: Earth Construction

COURSE WITHDRAWAL: New curriculum in which this course is no longer going to be offered.

COSC 670: Facilities Management

COURSE TITLE:

FROM: Facilities Management

TO: Facility Asset Management

COURSE DESCRIPTION:

FROM: Fundamentals of facilities management including concepts, theories, and principles of construction, architecture, design, accounting, finance, management and behavioral sciences of facilities management.

TO: Fundamentals of facility asset management and property management including concepts, theories, and principles of design, construction, accounting, finance, and management of the built environment; an overview of a project throughout its entire life cycle from various perspectives including the owner, users, designers, constructors, and facility management personnel.

COSC 672: Introduction to Facility Management Data Systems

COURSE WITHDRAWAL: New curriculum in which this course is no longer going to be offered.

COSC 674: Facility Energy Management

COURSE WITHDRAWAL: New curriculum in which this course is no longer going to be offered.

COSC 681: Seminar

PREREQUISITE(S):

FROM: None

TO: Graduate Classification

COURSE DESCRIPTION:

FROM: Discussion and review of degree requirements and current practices in construction management.

TO: Discussion and review of degree requirements, career opportunities, and current research activities in construction management.

COSC 684: Professional Internship

PREREQUISITE(S):

FROM: None

TO: Graduate Classification; Approval of graduate coordinator; Approval of internship coordinator.

COURSE DESCRIPTION:

FROM: Internship consisting of 400-600 hours with a construction or construction related company; work experience must expose student to construction activities; pre-approval required; internship report required; post-approval by industry representative and internship advisor.

TO: Approximately 400-600 hours with a construction or construction-related company that exposes the student to construction-related activities; an initial report, monthly progress reports, a final report, and a final completion letter are required.

COSC 690: Theory of Research in Construction Management

PREREQUISITE(S):

FROM: Graduate Classification

TO: STAT 651 or concurrent enrollment.

COURSE DESCRIPTION:

FROM: Introduction to research, research tools, proposal writing and research reports; emphasis placed on research planning and design; review of literature through qualitative and quantitative research methodologies; emphasis on designing research problems in construction science and the development of research proposals.

TO: Introduction to research, research tools, proposal writing and research reports; emphasis on research planning and design, conducting a comprehensive review of literature, quantitative and qualitative research methodologies, designing research problems in construction science, and the development of research proposals.

COSC 691: Research

PREREQUISITES(S):

FROM: None

TO: COSC 690 or concurrent enrollment; Approval of graduate coordinator.

COSC 693: Professional Study

PREREQUISITE(S):

FROM: Approval of major advisor.

TO: COSC 690 or concurrent enrollment; Approval of graduate coordinator.

EDCI 617: Early Childhood Mathematics

COURSE TITLE:

FROM: Early Childhood Mathematics

TO: Early Childhood Mathematics and Science

COURSE DESCRIPTION:

FROM: Development of mathematical concepts in young children from developmental and mathematical perspectives.

TO: Development of mathematical and science concepts in young children from developmental and scientific perspectives.

EPSY 604: Career Assessment and Placement Services

COURSE TITLE:

FROM: Career Assessment and Placement Services

TO: Career Counseling in Schools

COURSE DESCRIPTION:

FROM: Theory and techniques of selecting and using career assessment instruments in the career development process; planning and operating placement programs for education and employment.

TO: Understanding the culturally competent career counseling theory, assessment and skills as applied to the diverse populations in schools.

EPSY 637: Qualitative Methods and Analysis

COURSE TITLE:

FROM: Qualitative Methods and Analysis

TO: Qualitative Grounded Theory Methodologies

COURSE DESCRIPTION:

FROM: Methods of collecting qualitative data to answer educational or psychological questions including interviews, participant-observation, focus groups, and stimulated recall procedures; analysis and interpretation of data using Grounded Theory, case studies, and qualitative software.

TO: Methods of collecting qualitative data to answer educational or psychological questions using Grounded Theory methodologies; analysis and interpretation of data using Grounded Theory methodologies.

INFO 631: Business Component Design and Development

COURSE TITLE:

FROM: Business Component Design and Development

TO: Information Systems Design and Development Project

PREREQUISITE(S):

FROM: INFO 628; graduate classification in business or approval of instructor.

TO: Graduate classification in business and knowledge of one programming language.

COURSE DESCRIPTION:

FROM: Analysis and design of large application systems using component technologies; code and design reuse emphasized; issues of metadata, software repositories, DCOM and COBRA discussed.

TO: Design and delivery of functional, multi-platform application system using current technologies; user interface design emphasized; issues of mobile device forms, software delivery, and development discussed.

INFO 633: Business Objects Analysis and Design

COURSE TITLE:

FROM: Business Objects Analysis and Design

TO: Advanced Systems Analysis and Design

PREREQUISITE(S):

FROM: INFO 628 or equivalent or approval of instructor.

TO: INFO 629 or equivalent or approval of instructor; graduate classification in business.

COURSE DESCRIPTION:

FROM: Analysis and design of business information systems using object-oriented development tools; fundamentals of object-oriented analysis and design; Unified Modeling Language, principles of N-tier architectures, and object-oriented development methodologies.

TO: Advanced topics in business systems analysis and design; alternative methodologies such as agile development, extreme programming, Rational Unified Process; Unified Modeling Language; benchmarking and best practices for systems development; cost/benefit analysis, estimation and budgeting for business information systems; testing; patterns, domain-driven design; process modeling; service-oriented architecture and cloud computing.

VIBS 613: Evolutionary Bioinformatics

CREDIT HOURS:

FROM: Lecture: 1; Lab: 0; SCH: 1

TO: Lecture: 2; Lab: 2; SCH: 3

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Special Consideration Item:

The Department of Educational Psychology in the College of Education and Human Development requests that the requirements for the Master of Education in Educational Technology be changed to allow students A) to select a chair only rather than a 3 person committee; and B) to exempt the final examination requirement.

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Special Consideration Item:

The Department of Statistics in the College of Science proposes a new Master of Science in Analytics.

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Special Consideration Item:

The Department of Biomedical Engineering in the Dwight Look College of Engineering proposes a new certificate program in Quality Engineering for Regulated Medical Technologies.