ENGR - ENGINEERING

ENGR 600 Engineering Graduate Study Abroad
Credits 1 to 15. 1 to 15 Lecture Hours.
For students in approved study abroad and reciprocal educational exchange programs. May be taken two times for credit.
Prerequisites: Graduate classification in engineering; admission to approved program abroad; approval of study abroad coordinator.

ENGR 611 Enterprise Basics for Technical Entrepreneurs
Credits 3. 3 Lecture Hours.
Aspects of entrepreneurship for a technical enterprise; elements of a business including idea generation, startup financing, staffing, product design and production, marketing and selling a product; focus on the front end of the venture: product design and development, financing, identifying and attracting key personnel, and actually starting up company.
Prerequisites: Graduate classification in the college of engineering.

ENGR 612 Sales, Operations, and Manufacturing for Technology Companies
Credits 3. 3 Lecture Hours.
Challenges faced in a start-up entity with respect to product manufacturing, operations and supply chain management, product pricing strategies, and sales and marketing; focus on small start-up to young mid-size enterprises.
Prerequisites: Graduate classification in the college of engineering.

ENGR 621 Technology Company Management, Leadership, and Corporate Culture
Credits 3. 3 Lecture Hours.
Strategic challenges associated with enterprise management and leadership; establishing and maintaining a sustainable brand; developing an effective corporate culture; dealing with global competition; case studies in strategic thinking.
Prerequisites: Graduate classification in the college of engineering.

ENGR 661 Product Lean Launch for Engineers
Credits 3. 2 Lecture Hours. 2 Lab Hours.
Exercises in the creation of an engineering-centric business using lean startup principles; customer and market validation; value proposition creation; minimum viable product (MVP) development; customer value chain discovery; communication skill training; development of a business model canvas for a student-developed engineering product business idea.
Prerequisites: ENGR 611 and ENGR 662; or approval of instructor.

ENGR 662 Engineering Entrepreneurship Hour
Credit 1. 1 Lecture Hour.
Engagement with successful technology entrepreneurs from technical sectors across engineering and the nation; challenges faced by and characteristics of successful entrepreneurs and their strategies in launching and sustaining businesses on technology innovation; network with highly successful entrepreneurs and develop relations valuable to professional careers; development of speaking and presentation skills; networking with industry professionals in support of entrepreneurship.
Prerequisites: Graduate classification in College of Engineering.

ENGR 667 Project Management for Engineers
Credits 3. 3 Lecture Hours.
An introduction to project management for engineers of all disciplines; principles of managing projects throughout their life-cycle, from the identification of needs to the completion and closing stage; emphasis on the project management process and associated tools and techniques.
Prerequisites: Graduate classification in engineering and approval of instructor.

ENGR 677 Science, Technology, Engineering and Mathematics (STEM) Teaching Professional Development
Credit 1. 1 Lecture Hour.
Center for Teaching Excellence (CTE) consultation and faculty mentoring in STEM teaching; course topic and syllabus design; learning outcomes and assessment; teaching methodology; reflection on teaching philosophy; reflection on teaching as research. Must be taken on satisfactory/unsatisfactory basis.
Prerequisites: Graduate classification and approval of instructor.
Cross Listing: GEOS 677 and SCEN 677.

ENGR 681 Professional Development Seminar
Credits 0-1. 0-1 Other Hours.
Topics of interest related to the professional practice of engineering.

ENGR 684 Professional Internship
Credits 1 to 10. 1 to 10 Other Hours.
Supervised experience of one academic year in industry where students can learn to apply their textbook-based skills to problems in the real-world environment.
Prerequisites: Admission to the Doctor of Engineering program and graduate classification.

ENGR 685 Directed Studies
Credits 1 to 6. 1 to 6 Other Hours.
Design or research problems executed either individually or as a team.
Prerequisite: Graduate classification; approval of graduate advisor.

ENGR 689 Special Topics in...
Credits 1 to 4. 1 to 4 Lecture Hours.
Advanced topics of current interest in engineering. May be repeated for credit.
Prerequisite: Approval of instructor.

ENGR 698 Writing for Publication
Credits 3. 3 Lecture Hours.
Writing in academic disciplines and settings; writing for different audiences and purposes; style; planning and development of academic journal articles; grant proposals; correspondence; oral presentations; technical reports.
Prerequisite: Advanced standing in master’s/doctoral programs; approval of departmental/college graduate advisor.