

ENGINEERING LEADERSHIP & ENTREPRENEURISM PROGRAM



ENGINEERING LEADERSHIP & ENTREPRENEURISM

Engineering + Business

To broaden the knowledge and experience of engineering students in entrepreneurship, intrapreneurism, business and business practices, finance, marketing, management, technical product development, technical services, and technical enterprise development

Education Experience + Future Challenges

To provide added value to the engineering education experience and prepare graduates for the future challenges of the new global economy

Leadership + Professionalism + Communication

To provide enhanced personal development in leadership, professionalism, and communication

www.egr.uh.edu/academics/leadership/

Key Elements

- » Two course project-based program coupled with a unique support program for personal and professional development
- » Team taught by leading faculty from Engineering and Business, with participation of many business/industry leaders as lecturers, mentors, and advisors
- » A select program initially with 25 engineering students who will be chosen based upon academic standing, demonstrated leadership, and career potential
- » Students must have senior level course standing in their discipline by Spring 2003 and must commit to the full two-course program.
- » Selected students will receive course scholarships, as well as book allowances, and each will be assigned an executive mentor from the industrial/business community; they will also participate in support program activities (program and graduation dinners, mixers, and retreats) and will receive a program certificate at the end.

(see reverse)

For complete information, go to www.egr.uh.edu/academics/leadership/ or contact **Kitty Karson**, assistant to the dean, at 713-743-4242 or kkarson@uh.edu. Selections will begin November 20, 2002.

The Two-Course Program

The two-course program will be project focused with the students forming **technical based enterprises** (companies) during the first week of the program and then developing and “operating” these enterprises throughout the program. The lecture and course material will be integrated on a “need to know” basis as the enterprises develop. The intent is to make the enterprise development as realistic as possible for the students, with the business and engineering aspects integrated. Specific milestones in the enterprise development will involve:

- » Division of students into five enterprise teams, with team selections of a Chief Executive Officer, a Chief Operating Officer, a Chief Financial Officer, a Vice President for Research and Technology Development, and a Vice President for Human Resources
- » Selection of a product or service idea from presentations of select engineering faculty and inventors/entrepreneurs from the outside community
- » Formation of a Board of Directors (1 faculty member, 2 outside people) for each enterprise team, with one of these board members being the faculty member/inventor/ entrepreneur who proposed the enterprise product or service
- » Preparation of Business Plan

- » Request of capital (fictitious money) from an Investment Board made up of external financial people
- » Detailed design of product or service and design of enterprise and its operation (people, manufacturing methods, equipment, operation issues, and other matters prior to beginning operations
- » Begin operation of enterprise; continue for 12 weeks (i.e. 12 quarters or 3 years of simulated operation) with quarterly and annual reports. During operation, enterprise teams will deal with technical, manufacturing, financial, environmental, legal, human resource, and other issues along the way. The groups will share these experiences with all students through presentations or written material summarizing the problems and the responses. Students may also share other knowledge with the class as desired or requested.
- » During operations, the enterprise team must originate, design, and develop the next generation technical product or service for the enterprise. This must be developed fully to the production stage.
- » Enterprise teams will make final reports (verbal/written) covering the development and operation of their enterprise and its final valuation.

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Course I and II Lecture/Education Topics

Because this is a project-based program, the lectures and subject matter presented will be tied to the project milestones and will provide the education and knowledge background to deal with each milestone. Specific topics will include:

The New Capitalism: Opportunities and Challenges
Values and Behavior Patterns
Entrepreneurship and Corporate Governance
Different Forms of Organizations/Enterprises
The Business Process
Business Fundamentals
Accounting and Finance
Risk and Reward
Market Evaluation
Intellectual Property and Patents
Communication
Elements of a Business Plan
Raising Capital

Enhancing Creativity
Defining Product and Service Specifications
Elements of Product/Service Design and Development
Elements of Enterprise Design and Development
Marketing Plan; Market Testing
Production Design
Manufacturing, Equipment, and Operations Including Cost Estimation
Operating Plan
Human Resources
Legal Problems
Environmental and Safety Issues
Insurance for Business
Corporate Reporting
Valuation of an Enterprise
Enterprise Liquidation
Reporting to Directors/Stockholders
Ethics

Support Program

Outside the project and academic aspects of the program, there will also be a support program, which will involve:

- » Special activity periods dealing with table etiquette, dress for success, ethics, leadership, effective speaking, business writing, and other topics
- » A Mentor mixer where students and prospective executive mentors meet and mentor selections are made

- » A Jacket Investiture and Dinner where each student will be presented a jacket blazer by their mentor in recognition of their participation in the program
- » At least one student retreat for personal development
- » A Graduation and Certificate Dinner and Ceremony

Equal Opportunity Policy

The University of Houston seeks to provide educational opportunities without regard to race, color, religion, national origin, sex, age, handicap, or veteran status. This policy is in compliance with the Title IX regulations that implement the educational amendments of 1972 and extends to employment, admission, and all programs and activities supported by the university. Inquiries concerning Title IX may be directed to the Equal Opportunity Officer of the University of Houston. The university reserves the right to make changes without notice in any publication as necessitated by university or legislative action. Produced by the UH Cullen College of Engineering Office of Communications. 11/02.