

Integrated Business and Engineering Honors Program

INTEGRATED BUSINESS AND ENGINEERING HONORS PROGRAM

After four years and a minimum of 137 credits, students will receive a single Bachelor of Science Degree in Business and Engineering. The program meets the accreditation standards of AACSB International. Students are required to maintain a minimum GPA of 3.25 in order to remain in the program.

Students in the IBE Honors Program can major in any area of business or engineering that Lehigh offers. After freshman year, each student will elect a major in either the College of Business or the P. C. Rossin College of Engineering and Applied Science. Students wanting to major in an area of business can select from: accounting, business information systems, economics, finance, marketing, management or supply chain management.

DEGREE REQUIREMENTS

Engl 001 (3)

Humanities and Social Science (10)

Must include BUS 003 and BUS 203,
Plus 7 HSS elective credits

Math and Science Core (31)

Engr 010 or CSE 011

Math 021, 022, and 023

Math 231 or (ISE 111 and ISE 121)

Physics 011, 012, 021 and 022

Chem 030

Engineering Core (20)

Courses depend on major

Business and Economics Core (34)

MGT 043

ACCT 151

ACCT 152

BIS 044

BIS 111 or ISE 224 or CSE 241

BIS 244

ECO 001

ECO 146 or ECO 119

Fin 125

Law 201

Mgt 243

Mkt 111

Major (18)

Specific courses in business or engineering that depend on the major selected

Integrated Courses in IBE (12)

IBE 010

IBE 050

IBE 150

IBE 250

IBE 380

IBE 385

Free Electives (9)

May be taken from any department in the University

Summer Internships (0)

At least one professional internship is required

Other internships, including an international internship, are strongly encouraged

TOTAL (137)

This is a minimum number of credits

The actual number of credits taken would depend upon advanced placement credits

It should be noted that the IBE Honors Program has a language requirement. Students must achieve proficiency at the sophomore

level in the language of their choice. Students with no previous experience in a second language may need to take 16 foreign language credits (4 courses, each at 4 credits). Students may devote six credits of humanities and social science electives, and 6 credits of free electives to language courses. Thus students with absolutely no foreign language background may need an additional four credits above the 137 required for graduation.

DETAILED CURRICULUM INFORMATION BY MAJOR

For detailed information regarding major requirements, see the IBE website at URL: ibe.lehigh.edu.

Admission to the Integrated Business and Engineering Honors Program is highly selective, with annual admission limited to approximately 50 students. The University's Office of Admissions (610-758-3100) can explain the procedure for applying to the program.

It is possible that a small number of exceptional students may be admitted to the program following the completion of their freshman year. Admission at this point would be highly competitive and based upon freshman year GPA, faculty recommendations, and space availability.

The co-directors of the IBE Honors Program are Richard J. Kish, Professor of Finance (rjk7@lehigh.edu) and Robert H. Storer, Professor of Industrial and Manufacturing Systems Engineering (rhs2@lehigh.edu). For additional information, visit the IBE web site at www.lehigh.edu/ibe (<http://www.lehigh.edu/ibe/>).

Courses

IBE 010 Integrated Business and Engineering Seminar 1 Credit

Introduction to the various business and engineering professions through a series of presentations and demonstrations. Emphasis is on the diversity of business and engineering career opportunities and the associated curricular choices. Students also create their web page with four-year curriculum plan and an updated resume, learn Cad-Cam and presentation software, and explore career opportunities. Open only to first-year students in the Integrated Business and Engineering Honors Program.

IBE 050 Integrated Business and Engineering Workshop 3 Credits

The course introduces students to the interaction and interdependence of business planning and engineering design in the context of entrepreneurial new product development. Students develop skills in communication, teamwork and critical thinking while working in such areas as competitive strategy, financial modeling, marketing mix, prototyping, product testing, and the development of technical specifications. Open only to students in the Integrated Business & Engineering Honors Program.

IBE 150 Integrated Business and Engineering Sophomore Laboratory 1 Credit

A series of cases that integrate elements of business and engineering. Example topics include, but are not limited to, introduction to cost benefit analysis, introduction to modeling and optimization, team dynamics, and international negotiation and joint ventures. Oral presentations and written reports. Open only to students in the Integrated Business and Engineering Honors Program.

IBE 171 Integrated Business and Engineering Independent Study 1 Credit

Students address a technical issue in a business context from an entrepreneurial focus. Students pursue their own business start-up idea, either a product or a service, and develop a business plan that includes prototypes and testing (engineering) as well as a marketing plan and a base case financial model (business). The goal of the course is for students to enter a business plan or entrepreneurial competition in a local, regional or national level. Open only to students in the Integrated Business and Engineering Honors Program.

Prerequisites: IBE 050

**IBE 250 Integrated Business and Engineering Junior Laboratory
1 Credit**

A semester-long simulation game in which interdisciplinary teams of IBE students compete against each other. Topics include market analysis, working capital management, capital budgeting, raising long-term capital, plant location, and inventory control. Oral presentations and written reports. Open only to students in the Integrated Business and Engineering Honors Program.

IBE 271 Independent Study 1 Credit

**IBE 380 Integrated Business and Engineering Capstone Project I
3 Credits**

IBE students work in cross-disciplinary teams of 5 to 6 business and engineering majors with a faculty mentor on the marketing, financial and economic planning, and technical and economic feasibility of actual new product concepts initiated by the course's corporate sponsors. These sponsors are incubator start-up firms to ensure that the projects have both business and engineering elements. Written reports and oral presentations to sponsors and invited venture capitalists are required. Open only to students in the Integrated Business and Engineering Honors Program.

**IBE 385 Integrated Business and Engineering Capstone Project II
3 Credits**

IBE students continue to work with the detailed design including the fabrication and testing of working prototypes of their new products designed in IBE Capstone Project I course. In addition to the technical design of the products, detailed financial and marketing plans are required. Written reports and oral presentations to sponsors and invited venture capitalists are required. Open only to students in the Integrated Business and Engineering Honors Program.