

Information for **Engineering Students** interested in the **Engineering Entrepreneurship Minor**

The College of Engineering, in cooperation with the Smeal College of Business Administration, proudly announces its newest academic minor in Engineering Entrepreneurship. This interdisciplinary minor supports technology entrepreneurship development for all students, especially those majoring in engineering, business, IST (Information Sciences and Technology), and science.

To be involved in technology startups or to be “intrapreneurial” in existing corporation, engineering students should have basic knowledge of business finance, marketing, and intellectual property law and be creative problem solvers in the business environment. The E-SHIP Minor is structured to provide the needed “cross-training” to have students from all majors work effectively on product development teams. All students must develop solid skills in leadership, creativity and innovation in order to conceive, produce and promote creative product designs and solutions. Courses in the E-SHIP Minor use problem-based learning, case studies and new product prototyping. The goal of the minor is to have engineering students become “engineers-plus”: technically competent in their major, able to lead and inspire people, and able to recognize and move on a business opportunity. The Minor consists of 18 credits, defined as 12 “core” credits and at least 6 additional supporting courses. For more information on the E-SHIP Minor, check the web at <http://e-ship.psu.edu>

To complete the E-SHIP Minor, an engineering student must complete these four core courses, 3 credits each, listed in the suggested sequence. Any two adjacent courses in the list below can be taken concurrently, such as ENGR310 and ENGR411, or ENGR411 and ENGR407.

<u>Core Course Number</u>	<u>Course title</u>	<u>Normal Semesters Offered</u>
ENGR310	Entrepreneurial Leadership	Fall and Spring
ENGR411	Entrepreneurship Business Basics	Fall and Spring
ENGR407	Technology-based Entrepreneurship	Fall, Spring
ENGR497x/ENR430	E-SHIP Capstone	Spring Only

The 6 additional supporting credits are selected by the student and the minor’s director, and can include:

- STS200 (3) Critical Issues in Science, Technology and Society
- STS420 (3) Energy and Modern Society
- STS470 (3) Technology Assessment and Transfer
- IST110 (3) Introduction to Information Sciences and Technology; Spring } Forms a 6-credit Support Course Set
- IST210 (3) Organization of Data; Fall }
- IST 220 (3) Networking and Telecommunications; Fall }
- ACCTG211 (4) Financial and Managerial Accounting for Decision Making
- FIN100 (3) Introduction to Finance
- MGMT100 (3) Survey of Management
- BLAW 243 (3) Legal Environment of Business
- MKTG 221 (3) Contemporary American Marketing
- BA250 (3) Problems of Small Business
- ECON351 (3) Money and Banking
- ACS410 (3) General Acoustics
- AERSP055 (3) Space Science and Technology
- AERSP200 (3) Principles of Aviation
- AE210 (3) Introduction to Architectural Structures
- CHE301 (3) Principles of Chemical Engineering
- EGEE100 (3) Minerals and Resources and the Global Economy
- EGEE120 (3) Oil: International Evolution
- EGEE483 (3) Materials Policy and Markets
- IE302 (3) Engineering Economy *[Can not be used as E-SHIP Minor supporting credits by IE students]*
- ENGR497x (3) Stage II E-SHIP Team Projects. Teams from the core E-Ship courses can continue product prototyping, business planning, or support PSU researcher in technology feasibility work.
- **New engineering and business cross-listed courses: MGMT/IST/ENGR425- **New Venture Creation** and MGMT/IST/ENGR426 – **Invention Commercialization.****



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