

ENGINEERING ENTREPRENEURSHIP, MINOR

Penn Engineering offers a Minor in Engineering Entrepreneurship (EENT), complementing the core engineering disciplines. This Minor is designed for students majoring in engineering and applied science. However, it is open to all University undergraduates subject to available class space.

Non-engineering students should check with their home schools to determine their eligibility to take the EENT Minor. All courses for the EENT Minor must be taken for a grade (no Pass/Fail).

For more information: <https://www.seas.upenn.edu/entrepreneurship/>

SEAS Second Major or Minor Option

Students interested in a second major (College students only) or minor with SEAS are required to meet with the Undergraduate Curriculum Chair from the major/minor department you wish to declare to discuss requirements and obtain approval on the Second Major or Minor form. The approved form must be returned to the SEAS Research and Academic Services Office, 109 Towne Building.

For more information: <http://www.seas.upenn.edu/undergraduate/degrees/minors.php>

Engineering Entrepreneurship Minor (EENT)

This minor is designed for students majoring in engineering and applied science. However, it is open to all University undergraduates subject to class availability. Non-engineering students should check with their home school to determine their eligibility to take the EENT minor. All courses must be taken for a grade (no Pass/Fail).

Code	Title	Course Units
Required Courses		
EAS 5450	Engineering Entrepreneurship I	1
EAS 5460	Engineering Entrepreneurship II	1
or EAS 5490	Engineering Entrepreneurship Lab	
Electives		
Select four of the following:		4
BE 4700	Medical Devices	
BE 4720	Medical Device Development	
BE 5020	From Biomedical Science to the Marketplace	
BE 5140/ IPD 5040	Rehab Engineering and Design	
BE 5280	Applied Medical Innovation I	
BE 5290	Applied Medical Innovation II	
BE/CBE 5620	Drug Discovery and Development	
BE 6080	Medical Entrepreneurship: Commercializing Translational Science	
CBE 4000	Introduction to Product and Process Design	
CBE 4590	Product and Process Design Projects	
EAS 2030	Engineering Ethics	
or LGST 100I	Ethics and Social Responsibility	

or HSOC 133	Bioethics	
or PHIL 134Z	Bioethics	
EAS 5070	Intellectual Property and Business Law for Engineers	
EAS 5120	Engineering Negotiation	
EAS 5490	Engineering Entrepreneurship Lab	
EAS 5950	Foundations of Leadership	
ENGR 1400	Penn Global Seminar: Robotics and Rehabilitation	
ESE 4000/5400	Engineering Economics	
ESE 4440/5440	Project Management	
ESE 5430	Human Systems Engineering	
FNCE 2500	Venture Capital and the Finance of Innovation	
HCMG 2150/8630	Management and Economics of Pharmaceutical and Biotech Industries	
HCMG 8670/3910	Health Care Entrepreneurship *	
IPD 5090	Needfinding	
IPD 5520	Problem Framing	
IPD 5720	Design Thinking	
LAW 5070	Introduction to Intellectual Property	
or LAW 6770	Patent Law	
LAWM 5280	ML: General Business Law	
LGST/OIDD 2220	Internet Law, Privacy, and Cybersecurity	
MEAM/IPD 5140	Design for Manufacturability	
MEAM/OIDD 4150/IPD 5150	Product Design	
MGMT 2380	Organizational Behavior	
MGMT 2640	Venture Capital and Entrepreneurial Management	
MGMT 2670	Entrepreneurship and Technological Innovation *	
MKTG 2270	Digital Marketing and Electronic Commerce *	
MKTG 2410/7410	Entrepreneurial Marketing *	
NETS 1120	Networked Life	
NURS 5530	Innovation & Applied Technology in Health Care *	
OIDD 2360	Scaling Operations in Technology Ventures: Linking Strategy and Execution	
OIDD 3140	Enabling Technologies	
OIDD 6590	Advanced Topics	
NURS 3570/5730	Case Study: Innovation in Health: Foundations of Design Thinking & Equity-centered Design	
REG 6120	Introduction to Drug Development	

VIPR 1200 & VIPR 1210	Vagelos Integrated Program in Energy Research (VIPER) Seminar, Part I and Vagelos Integrated Program in Energy Research (VIPER) Seminar, Part II (Must take both courses for one (1) CU)
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Total Course Units **6**

*The below courses are .5 CU's. Students must take two (2) of the below to get 1 CU towards the minor.

- MGMT 2670 Entrepreneurship and Technological Innovation
- MKTG 2270 Digital Marketing and Electronic Commerce
- MKTG 2410 or MKTG 7410 Entrepreneurial Marketing
- NURS 5530 Innovation & Applied Technology in Health Care
- HCMG 8670 Health Care Entrepreneurship

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2024 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
