ENTREPRENEURSHIP AND INNOVATION, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

Skills attributed to entrepreneurial behavior and innovative thinking are beneficial for students in most if not all majors, and are critical to career success in established companies and new organizations to address pressing needs around the globe. This interdisciplinary minor uses problem-based learning and other active learning pedagogies to prepare students to create value and be agents of positive change in their discipline and their careers. The courses develop skills, knowledge and values in problem solving, innovation, opportunity recognition, self-efficacy, leadership, ethics, communications and learning from failure. To meet the students’ broad range of entrepreneurship and innovation interests, core courses (9 credits) establish foundational knowledge, and then students select a concentration cluster aligned to specific contexts such as entrepreneurship in food and bio-innovation, technology, the arts, media, hospitality, digital, social entrepreneurship, advocacy or new ventures. Students who complete the ENTI minor will be better prepared to be innovation leaders in their chosen career path, such as being entrepreneurial in an existing company (intrapreneurship), engaging in a start-up venture full or part-time, finding avenues to leverage their art or craft, or creating alliances to meet social or business needs.

Advising for students in this minor and approval of curriculum exceptions will be available through the Entrepreneurship and Innovation (ENTI) Adviser for each cluster.

Arts Cluster (College of Arts and Architecture)

This specialization prepares students for entrepreneurial action in an arts context. To “entrepreneur” in the arts, one must understand aesthetic value and what drives people to consume aesthetic products. By learning how various arts markets view and consume art, emerging artists envision “products” with specific markets in mind and craft marketing strategies to communicate aesthetic value to audiences. Upon learning how the non-profit and for-profit arts ecologies operate, students envision and develop their arts career and venture within the context, tying together the aesthetic and cultural value of their art form with the business acumen necessary to launch and sustain an entrepreneurial arts enterprise.

Digital Entrepreneurship and Innovation Cluster (College of Information Sciences and Technology)

This specialization prepares a student to harness digital technologies and digital business models to develop their own concepts into commercial concerns or to contribute to the innovation activities of existing organizations (i.e., intrapreneurship). The IST Digital Entrepreneurship & Innovation cluster focuses on the impact of Information Technology (IT)-driven innovation across multiple industry sectors including for-profit, non-profit and governmental organizations. IT-driven innovation has created new business opportunities for both entrepreneurs and intrapreneurs and is key to increasing efficiencies and expanding the linkage between user-centric products and services. Students who complete this cluster will gain a foundational understanding of emerging information technologies, the components of digital business models, and implementation and design techniques that meet or exceed user-centric requirements.

Entrepreneurship as Advocacy Cluster (College of the Liberal Arts)

This specialization empowers students to utilize the process of entrepreneurship as a form of advocacy to improve the human condition and enhance public life. The cluster leverages a critique of the business paradigm of “maximize shareholder value” to encourage students to create organizations that can be a force for positive change in society.

Food and Bio-innovation Cluster (College of Agricultural Sciences)

This specialization will develop future entrepreneurs and innovators to address opportunities and challenges in the agriculture and life sciences space. The cluster focuses on the cornerstone challenge for agriculture: producing food for the world with entrepreneurial activity and innovation to develop, convert and use biological materials and natural resources (plants, animals, ecosystems and organisms, etc.) to meet the material and energy needs of society. Students are encouraged to take a series of courses in the cluster that complement their personal venture interests and engage in a series of immersive venturing experiences that can range from creating new ventures to mentoring with seasoned entrepreneurs or working within entrepreneurial organizations.

Hospitality Management Cluster (College of Health and Human Development)

This specialization prepares a student to create and develop novel but sound entrepreneurial concepts related to the hospitality industry in such businesses as lodging and food service. For example, through this cluster, students could develop and refine entrepreneurial concepts related to hotels, motels, bed & breakfasts, quick-service restaurants, upscale restaurants, mobile dining such as food trucks, on-line travel agencies, and other on-line ventures. The minor is also designed to prepare students to be innovators within existing organizations. Students who complete this cluster develop skills in creating business plans, feasibility studies, competitive analysis, supply and demand analysis, market analysis and financial forecasting. Students in this concentration are expected to include a mix of majors, not only students majoring in hospitality management.

New Media Cluster (College of Communications)

This specialization examines opportunities and challenges in the creation and distribution of news, entertainment and information. The same technological innovations that make it easy to start a media enterprise have introduced a host of editorial and business complexities. Media production and distribution skills and knowledge of media business, technologies, law and ethics are critical.

New Ventures Cluster (Smeal College of Business)

This specialization helps students develop the skills and ways of thinking required to create, develop, innovate and manage entrepreneurial companies. Students learn about acquiring and balancing limited resources, changing business direction quickly, building a coherent team, managing intellectual property, and creating new markets. This cluster develops a wide range of managerial skills not usually demanded in one person within a larger organization.
Social Entrepreneurship Cluster (College of Engineering)

This specialization focuses on creating sustainable social impact within marginalized communities. The cluster grounds students in social business, user-centered design for extreme affordability, systems thinking and scholarly research to develop innovative and appropriate technology-based solutions to address compelling global challenges. Travel and fieldwork in which students work in multidisciplinary teams to research, design, test, and commercialize ventures are required.

Technology Based Entrepreneurship Cluster (College of Engineering)

This specialization develops skills and knowledge through a practical entrepreneurial experience in a technology based environment. Technology and engineering design topics form the practical content of the cluster. General entrepreneurial business topics and tracking current and emerging technologies provide additional foundation structure for this cluster. Students understand and apply fundamental engineering design skills, product feasibility analysis and marketing techniques to move innovative products toward commercialization.

What is Entrepreneurship and Innovation?

Entrepreneurship and innovation is an interdisciplinary field that deals with new enterprise creation and the process of change and transformation in methods, ideas, and products. It is about problem-solving and the creation of value and positive change in business and society.

You Might Like This Program If...

- You want to learn what entrepreneurs do and how innovators create and solve problems in any field. Whatever your major or career you’ve chosen, entrepreneurs and innovators are there already making a positive difference. You can learn to be one, too.
- You’re passionate about starting your own business, non-profit, or social enterprise (entrepreneurship) or pursuing a career as an innovator within an existing firm or organization (intrapreneurship).
- You want to learn the skills and develop the mindset of an entrepreneur and innovator.

MORE INFORMATION ABOUT ENTREPRENEURSHIP AND INNOVATION (http://enti.psu.edu)

Program Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Requirements for the Minor</td>
<td>18-19</td>
</tr>
</tbody>
</table>

Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 310</td>
<td>Entrepreneurial Leadership</td>
<td>3</td>
</tr>
<tr>
<td>ENGR/IST/MGMT New Venture Creation 425</td>
<td>Entrepreneurial Mindset</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Courses

**Additional Courses: Require a grade of C or better**

Select 9 or more credits from one of the clusters listed below

<table>
<thead>
<tr>
<th>Cluster Name</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts Cluster</td>
<td>Arts Enterprise Development</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Arts Entrepreneurship Capstone Research Project</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Design Thinking and Creativity</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Arts Marketing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Professional Photography Capstone Seminar: Self-Marketing and Professional Presence</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Practical Communications</td>
<td>3</td>
</tr>
</tbody>
</table>

1 Students may not use a required course from their major in their chosen cluster. Other courses, such as technical electives, non-undergraduate courses, and general education courses may be able to be used to meet requirements in major as well as the ENTI Minor. In all clusters, students may substitute up to 3 credits of research topics, internship or independent studies courses focused on relevant entrepreneurship or innovation topics in consultation with an adviser. Each cluster is structured to provide a clear course “path” so any student from any major can complete the cluster and therefore the ENTI minor.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IST 337</td>
<td>Digital Design &amp; Innovation</td>
<td>3</td>
</tr>
<tr>
<td>IST 337</td>
<td>Digital Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>IST 437</td>
<td>Digital Design &amp; Innovation</td>
<td>3</td>
</tr>
</tbody>
</table>

1 IST 237 is prerequisite for IST 437.

Entrepreneurship as Advocacy Cluster

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA 202</td>
<td>Innovation and Entrepreneurship in the Liberal Arts</td>
<td>3</td>
</tr>
<tr>
<td>LA 403</td>
<td>Entrepreneurship Mentoring</td>
<td>3</td>
</tr>
<tr>
<td>LA 424</td>
<td>Liberal Arts Venture Development (in sequence)</td>
<td>3</td>
</tr>
</tbody>
</table>

1 LA 202, LA 403, and LA 424 should be taken in sequence.

2 LA 403 and LA 424 can be taken concurrently.

Food and Bio-innovation Cluster

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select up to 6 credits of the following 200-300 level courses in the College of Agricultural Sciences.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Title</td>
<td>Credits</td>
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</tr>
<tr>
<td>AEE 201</td>
<td>Interpersonal Skills for Tomorrow's Leaders</td>
<td></td>
</tr>
<tr>
<td>AEE 311</td>
<td>Developing Youth Leadership through Organization and Program Structure</td>
<td></td>
</tr>
<tr>
<td>AGBM 200</td>
<td>Introduction to Agricultural Business Management</td>
<td></td>
</tr>
<tr>
<td>AGBM 220</td>
<td>Food Product Marketing</td>
<td></td>
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<tr>
<td>AGBM 302</td>
<td>Strategic Decision Making in Agribusiness</td>
<td></td>
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<tr>
<td>AGBM 308</td>
<td>Agribusiness in the Global Economy</td>
<td></td>
</tr>
<tr>
<td>AGBM 338</td>
<td>Animal Science</td>
<td></td>
</tr>
<tr>
<td>ANSC 201</td>
<td>Swine Production and Management</td>
<td></td>
</tr>
<tr>
<td>ANSC 306</td>
<td>Sheep and Goat Production and Management</td>
<td></td>
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<tr>
<td>ANSC 308</td>
<td>Beef Cattle Production and Management</td>
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<tr>
<td>ANSC 310</td>
<td>Dairy Cattle Production and Management</td>
<td></td>
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<tr>
<td>ANSC 311</td>
<td>Poultry Production and Management</td>
<td></td>
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<tr>
<td>ANSC 324</td>
<td>Value Determination of Meat Animals</td>
<td></td>
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<tr>
<td>ANSC 327</td>
<td>Horse Production and Management</td>
<td></td>
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<tr>
<td>ANSC 350</td>
<td>Dairy Problem Solving</td>
<td></td>
</tr>
<tr>
<td>BRS 391</td>
<td>Contextual Integration of Communication Skills for the Technical Workplace</td>
<td></td>
</tr>
<tr>
<td>BRS 392</td>
<td>Contextual Integration of Leadership Skills for the Technical Workplace</td>
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</tr>
<tr>
<td>CED 375</td>
<td>Community, Local Knowledge, and Democracy</td>
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</tr>
<tr>
<td>ERM 300</td>
<td>Basic Principles and Calculations in Environmental Analysis</td>
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</tr>
<tr>
<td>FDSC 200</td>
<td>Introductory Food Science</td>
<td></td>
</tr>
<tr>
<td>FDSC 206</td>
<td>Improving Food Quality</td>
<td></td>
</tr>
<tr>
<td>HORT 250</td>
<td>Landscape Contracting Design/Build Principles</td>
<td></td>
</tr>
<tr>
<td>Select at least 3 credits of the following 400 level courses in the</td>
<td></td>
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</tr>
<tr>
<td>College of Agricultural Sciences:</td>
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<tr>
<td>AGBM 407</td>
<td>Farm Planning and Financial Management</td>
<td></td>
</tr>
<tr>
<td>AGBM 408</td>
<td>Financial Decision Making for Agribusiness</td>
<td></td>
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<tr>
<td>AGBM 440</td>
<td>Food Product Innovation Management</td>
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<tr>
<td>AGBM 445</td>
<td>AgTech Entrepreneurship</td>
<td></td>
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<tr>
<td>AGBM/HORT 455</td>
<td>Retail Horticulture Business Management</td>
<td></td>
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<tr>
<td>AGBM 460</td>
<td>Managing the Food System</td>
<td></td>
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<tr>
<td>ANSC 410</td>
<td>Advanced Dairy Herd Management</td>
<td></td>
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<tr>
<td>ANSC 429</td>
<td>Advanced Beef Cattle Production</td>
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<tr>
<td>ANSC 450</td>
<td>Dairy Farm Management Systems</td>
<td></td>
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<tr>
<td>BRS/ERM 402</td>
<td>Foundations of Sustainable Business</td>
<td></td>
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<tr>
<td>BRS 429W</td>
<td>Biorenewable Systems Analysis and Management</td>
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<tr>
<td>BRS 437</td>
<td>Bioproduct Marketing and Sales</td>
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<tr>
<td>CED 417</td>
<td>Power, Conflict, and Community Decision Making</td>
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<tr>
<td>CED 425</td>
<td>International Community and Economic Development</td>
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<tr>
<td>CED 430</td>
<td>Community Structure, Processes and Capacity</td>
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<tr>
<td>CEDEV 452</td>
<td>Foundations of Sustainable Business</td>
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<tr>
<td>ERM 402</td>
<td>Legal Aspects of Resource Management</td>
<td></td>
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<tr>
<td>ERM 411</td>
<td>Resource Systems Analysis</td>
<td></td>
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<tr>
<td>ERM 412</td>
<td>Case Studies in Ecosystem Management</td>
<td></td>
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<tr>
<td>FDSC 411</td>
<td>Managing Food Quality</td>
<td></td>
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<tr>
<td>FDSC 430</td>
<td>Unit Operations in Food Processing</td>
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<tr>
<td>FDSC 444</td>
<td>Arguing about Food</td>
<td></td>
</tr>
<tr>
<td>FDSC 460</td>
<td>International Food Production</td>
<td></td>
</tr>
<tr>
<td>FOR 440</td>
<td>Forest and Conservation Economics</td>
<td></td>
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<tr>
<td>HORT 410</td>
<td>Issues in Landscape Contracting</td>
<td></td>
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<tr>
<td>HORT 450</td>
<td>Flower Crop Production and Management</td>
<td></td>
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<tr>
<td>HORT 453</td>
<td>Retail Horticulture Business Management</td>
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<tr>
<td>TURF 436</td>
<td>Case Studies in Turfgrass Management</td>
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</tbody>
</table>

**Hospitality Management Cluster**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM 482</td>
<td>Hospitality Real Estate</td>
<td>3</td>
</tr>
<tr>
<td>or HM 484</td>
<td>Hospitality Entrepreneurship and Innovation</td>
<td></td>
</tr>
</tbody>
</table>

Select 6 credits of the following:

- HM 413 New Product Development for Commercial Foodservice
- HM 432 Contemporary Issues in Restaurant Management
- HM 483 Revenue Management
- HM 496 Independent Studies

**New Media Cluster**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 271</td>
<td>Principles of Journalism</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 6 credits from the following:

- COMM 361 Entrepreneurial Journalism
- COMM 362 Podcasting
- COMM 461 Magazine Writing
- COMM 461A Digital Magazine Production
- COMM 484 Emerging Telecommunications Technologies
- COMM 484A Wireless Devices and Global Markets
- COMM 492 Internet Law and Policy
- COMM 493 Entrepreneurship in the Information Age

**New Ventures Cluster**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select 9-10 credits from the following area:</td>
<td>9-10</td>
<td></td>
</tr>
</tbody>
</table>

- BA 241 Legal Environment of Business
- & BA 242 and Social and Ethical Environment of Business
- or BA 243 Social, Legal, and Ethical Environment of Business
- BA 250 Small Business Management
- BLAW 243 Legal Environment of Business
- MGMT 426 Invention Commercialization
- MGMT 427 Managing an Entrepreneurial Start-Up Company
- MGMT 427W Managing an Entrepreneurial Start-up
- MGMT 451 Business, Ethics, and Society

1 Students may only count one of the following course options BA 241 and BA 242 or BA 243, BLAW 243, or BLAW 341 towards the minor.

**Social Entrepreneurship Cluster**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 451</td>
<td>Social Entrepreneurship</td>
<td>3</td>
</tr>
</tbody>
</table>

Required courses to be taken in the following order:
Entrepreneurship as Advocacy Cluster  
Chris Spielvogel  
Associate Teaching Professor  
College of the Liberal Arts  
227A Sparks Building  
814-863-6260  
jcs111@psu.edu  

Social Entrepreneurship Cluster  
John Gershenson  
Director of Humanitarian Engineering and Social Entrepreneurship  
School of Engineering Design, Technology and Professional Programs,  
College of Engineering  
213 Hammond Building  
University Park, PA 16802  
814-865-2952  
jzg322@psu.edu  

Abington  
Gary Calore  
Associate Professor of Philosophy  
1600 Woodland Road  
Abington, PA 19001  
215-881-7591  
gsc1@psu.edu  

Beaver  
Ashu Kumar  
Instructor in Information Sciences and Technology  
100 University Drive  
814-865-0469  
mag199@psu.edu  

Food and Bio-Innovation Cluster  
Mark Gagnon  
Harbaugh Entrepreneurship Scholar  
College of Agricultural Sciences  
208A Armsby Building  
University Park, PA 16802  
814-865-0469  
mag199@psu.edu  

Hospitality Management Cluster  
William Kidd  
Instructor  
School of Hospitality Management, College of Health and Human Development  
228 Mateer Building  
University Park, PA 16802  
814-863-4847  
wrk2@psu.edu  

New Media Cluster  
Anne Hoag  
Associate Professor  
Donald P. Bellisario College of Communications  
105b Carnegie Building  
University Park, PA 16802  
814-865-7084  
amh13@psu.edu  

New Ventures Cluster  
Rick Weyer  
Instructor in Entrepreneurship  
Smeal College of Business  
429 Business Building  
University Park, PA 16802  
814-867-0064  
rmw4@psu.edu  

University Park  
Arts Entrepreneurship Cluster  
Jonathan Gangi  
Assistant Professor of Music and Arts Entrepreneurship  
College of Arts and Architecture  
104G Borland Building  
University Park, PA 16802  
814-865-9523  
jjg27@psu.edu  

Digital Entrepreneurship and Innovation Cluster  
Megan Costello  
Lecturer of IST and Undergraduate Studies Entrepreneurship Academic Program Coordinator  
College of Information Science and Technology  
E316 Westgate Building  
University Park, PA 16802  
muc148@psu.edu  

Entrepreneurship and Innovation, Minor  
EDSGN 452 Projects in Humanitarian Engineering and Design for Developing Communities  
3  
& EDSGN 453  
EDSGN 454 Humanitarian Engineering and Social Entrepreneurship Field Experience  
0.5  
ENGR 455 Humanitarian Engineering and Social Entrepreneurship Reflection and Research Dissemination  
3  
1 EDSGN 452 and EDSGN 453 should be taken concurrent.  

Technology Based Entrepreneurship Cluster  
Code  
Title  
Credits  
ENGR 407 Technology-Based Entrepreneurship  
3  
ENGR 411 Entrepreneurship Business Basics  
3  
ENGR 415 Technology Launch for Entrepreneurs  
3  
1 ENGR 407 and ENGR 411 should be taken in sequence or concurrent.  

Academic Advising  
The objectives of the university’s academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.  
Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee’s unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.  
READ SENATE POLICY 32-00: ADVISING POLICY (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy)
Entrepreneurship and Innovation, Minor

Monaca, PA 15061
724-773-3894
axk60@psu.edu

Berks
Sadan Kultrel
Program Coordinator, Professor
Gaige 329
Reading, PA 19610
610-396-6137
sadan@psu.edu

Erie
Linda Hajec
Assistant Teaching Professor of Accounting
281G Burke
Erie, PA 16563
814-898-6102
lla129@psu.edu

Contact
University Park
UNDERGRADUATE EDUCATION
Intercollege Minor in Entrepreneurship and Innovation
105b Carnegie Building
University Park, PA 16802
814-865-7084
amh13@psu.edu

http://www.enti.psu.edu

Abington
DIVISION OF SOCIAL SCIENCES
1600 Woodland Road
Abington, PA 19001
215-881-7591
gsc1@psu.edu

http://abington.psu.edu/person/gary-calore

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100 University Drive
Monaca, PA 15061
724-773-3894
axk60@psu.edu

http://beaver.psu.edu/academics/enti

Berks
EBC DIVISION
Gaige Building
Reading, PA 19610
610-396-6137
sadan@psu.edu

http://berks.psu.edu/enti-minor-overview

Erie
BLACK SCHOOL OF BUSINESS
281 Jack Burke Research and Economic Development Center
5101 Jordan Road
814-898-6107
behrend-business@psu.edu

http://behrend.psu.edu/school-of-business