

# ENGINEERING AND COMMUNITY ENGAGEMENT, CERTIFICATE

Requirements for an undergraduate certificate may be completed at any campus location offering the specified courses for the certificate.

## Program Description

A certificate in Engineering and Community Engagement is proposed for students in the College of Engineering. This certificate is intended to acknowledge students who have gained proficiency in design, research and application of appropriate technologies for use in serving communities in the U.S. and abroad while stressing an awareness of the cultural context of such engineering activities. Collaborations with communities are strongly encouraged along with emphasis on the importance of ethical considerations in collaborating/working in community settings. All students in good academic standing are eligible for admission to the program.

## What is Engineering and Community Engagement?

Engineering and Community Engagement focuses on combining design, research, and engineering principles to address needs of communities in the U.S. and abroad, all while stressing cultural awareness, sustainability, innovation, and teamwork.

### You Might Like This Program If...

- You would like to partner with communities to make a difference.
- You would like to explore and implement solutions to real problems.
- You would like to lead design and build teams.
- You would like to broaden your perspectives by collaborating with community stakeholders.
- You would like to develop professional skills.

## Program Requirements

To earn an undergraduate certificate in Engineering and Community Engagement, a minimum of 12 credits is required.

Code	Title	Credits
<b>Prescribed Courses</b>		
EDSGN 352		
EDSGN 452	Projects in Humanitarian Engineering	2
ENGR 496	Independent Studies	1-18
YFE 211		3
Select one of the following:		1-18
EDSGN 395	Internship	
ENGR 408	Leadership Principles	
ENGR 411	Entrepreneurship Business Basics	
ENGR 425	New Venture Creation	
ENGR 493	Individual Leadership Experience	

Core requirements for the certificate program include courses in both:

1. Community Engagement, and
2. U.S. and International Cultures.

These courses may be scheduled to satisfy general education requirements (GS/GH/US/IL) depending on the courses selected. Beyond that, students have various course options available to them to complete the 12-credit requirement for the certificate including project-based courses in:

1. design,
2. entrepreneurship, and
3. leadership.

Students will be strongly encouraged to meet with the program director to discuss and formulate their program of study in the certificate program.

Prerequisites Required.

## Certificate Learning Objectives

- **Appropriate Technologies:** Students will identify, understand and employ appropriate technologies commonly of use in marginalized communities when designing solutions.
- **Engineering Cultures:** Students will identify and utilize a variety of stakeholders and resources to provide pertinent cultural, political, economic and historical perspectives on community-based engineering design projects.
- **Engineering Design:** Students will demonstrate competency in use of the design process to provide technical solution(s) to problem(s) experienced by marginalized communities.

## 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 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

## University Park

### John Gershenson

Director of Humanitarian Engineering and Social Entrepreneurship and Teaching Professor

213R Hammond Building

University Park, PA 16802

gersh@psu.edu

## Career Paths

### Careers

Penn State students with a Certificate in Engineering and Community Engagement have been successful in establishing careers in a wide variety of engineering, research, and education fields.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES WITH A CERTIFICATE IN ENGINEERING AND COMMUNITY ENGAGEMENT (<http://career.engr.psu.edu/>)

### Opportunities for Graduate Studies

Students interested in advancing their Engineering and Community Engagement knowledge may be interested in the School of Engineering Design and Innovation's graduate offerings in Engineering Design or Engineering Leadership and Innovation Management or numerous other advanced engineering studies offered by the College of Engineering.

MORE INFORMATION ABOUT OPPORTUNITIES FOR GRADUATE STUDIES (<https://www.sedi.psu.edu/academics/graduate/>)

## Contact

### University Park

SCHOOL OF ENGINEERING DESIGN AND INNOVATION  
213 Hammond Building  
University Park, PA 16802  
814-863-2587  
[sedtappcourses@psu.edu](mailto:sedtappcourses@psu.edu)

<https://www.sedi.psu.edu/>