

APPROPRIATE & SUSTAINABLE ENGINEERING MINOR

Program Description

The Appropriate and Sustainable Engineering minor is a direct response to our Christian calls for stewardship of our planet and service to the poor. Here, we seek to address our environmental footprint in the developed world through sustainable engineering solutions while addressing the needs of the world's poor through development of appropriate technology.

This program, which prepares students to apply engineering skills to help meet the unique needs of developing communities, pairs well with most of SPU's Engineering majors.

Entering and Completing the Minor

In order to earn a degree, you must complete at least one academic major. Minors are not required except for students in the Professional Studies (BA). SPU encourages students to explore various academic paths, including minors, so if you change your mind about a minor or want to include an additional minor, you are able to do so as outlined below.

Note that the University encourages you to enter your chosen minor(s) as soon as you have determined it and are eligible to join it, especially by the start of your junior year. Students who transfer as juniors and seniors should enter a minor within their first two quarters at SPU.

- If this is your first quarter at SPU, request entrance to your minor in Banner by following these instructions (<https://spu.atlassian.net/l/cp/Th4S0jCE>).
- If you are an SPU student with an SPU cumulative GPA of 2.0 or better, follow these instructions (<https://spu.atlassian.net/wiki/spaces/OTR/pages/179077187/Major+Minor+and+Concentration+Application+Instructions>) to enter a minor in this department.
- The University requires a grade of C- or better in all classes that apply to a minor; however, programs may require higher minimum grades in specific courses. You may repeat an SPU course only once for a higher grade.
- To advance in this program, meet with your faculty advisor regularly to discuss your grades, course progression, and other indicators of satisfactory academic progress. If your grades or other factors indicate that you may not be able to successfully complete the minor, your faculty advisor can work with you to explore options, which may include choosing a different minor.
- You must complete the minor requirements that are in effect in the SPU Undergraduate Catalog for the year you enter the minor.

Appropriate & Sustainable Engineering Minor

37 Credits Minimum, Including 15 Upper Division (UD)

Code	Title	Credits
Foundational Math Prerequisite		
MAT 1234	Calculus I	

Section credits required. 5

Foundational Physics Prerequisites (take one of the sequences listed below)

PHY 1121 & PHY 1122 & PHY 1123	Physics for Science and Engineering and Physics for Science and Engineering and Physics for Science and Engineering
PHY 1101 & PHY 1102 & PHY 1103	General Physics and General Physics and General Physics

Section Credits Required 15

Applied Engineering Skills (take at least 4 credits among the following courses)

EE 2726	Electric Circuits I
EGR 1501	Computer Aided Design Applications for Engineers
EGR 1502	Machining and Fabricating
EGR 3311	Experimental Methods I

Section Credits Required 4

Appropriate and Sustainable Engineering Core (take 2 of the following courses)

EE 3500	Power Systems Fundamentals
EE 3520	Microgrids
EGR 3611	Appropriate and Sustainable Engineering I: Alternative Energy Systems
EGR 3630	Participatory Development in Appropriate Engineering
PHY 3011	Global Climate Change: Scientific, Social and Moral Implications

Section Credits Required 8

Multicultural/Global Development Elective (at least 5 credits from the following courses)

COM 4180	Cultural Communication
ECN 3811	Microeconomics of Development: Community Development
ECN 3812	Macroeconomics of Development: International Economic Growth
HON 2000	Honors Core: Culture and Social Systems
ISD 2000	Introduction to International Sustainable Development
POL 3320	Political and Economic Development of Nations
POL 3330	Global Women's Issues
PSY 3410	Cross-Cultural Psychology
PSY 3485	Cultural Developmental Psychology
SOC 2351	Living on the Margins: Cities in the Global South
SOC 3105	Introduction to Community Development
THEO 2620	Global and Urban Ministry

Section Credits Required 5

Total Credits 37