Humanitarian Engineering Minor Coordinator, Rachel Tuttle
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https://osuhe.engineering.osu.edu/

Humanitarian Engineering is the design and creation of products and processes that promote human welfare, especially for the economically disadvantaged or underserved. Examples of humanitarian technologies for developing communities include affordable:

- Technologies for clean water and sanitation
- Non-polluting lighting, heating, and cooking methods
- Off-grid electricity generation (e.g., solar or bicycle)
- Agricultural technologies and methods (e.g., aquaponics or irrigation)
- Healthcare technologies
- Shelters

Examples of humanitarianism in the engineering enterprise:

- Engineer’s involvement in creating profit-generating technological products and processes for the poor (related to the debate over “aid vs. trade”) while respecting social justice (e.g., via local entrepreneurship/business development)
- Engineer’s involvement in a company’s technology transfer to the developing world, including best practices for safety, health impacts, and effectiveness
- Engineer’s involvement in the design and operation of international manufacturing sites (e.g., “sweatshops”) in ways that respect social justice (e.g., safety, environmental impact, living wage, worker’s rights, and unions)
- Engineer’s involvement in development and maintenance of socially responsible technology supply-chains

If you are interested in this minor, you should contact the Humanitarian Engineering Minor Coordinator (Rachel Tuttle; tuttle.146@osu.edu). The Humanitarian Engineering Minor consists of 15 credit hours of course work as listed below as well as the submission and approval of a reflection journal and project report. You are responsible for taking the prerequisites for each course.

Humanitarian Engineering core course (3 credit hours):
ENGR 5050; prerequisites: 1182 or 1282H (in turn the prerequisite for 1182 is 1181 and the prerequisite for 1282H is 1281H)

Understanding of Human Welfare (6 credit hours):
These courses focus on social/cultural, development/poverty, sustainability/environment, economics/international business/public policy and are meant to help humanitarian engineers understand their customers/clients and the context in which they live. Full course list provided in appendix below.

Humanitarian Engineering Project Work (6 credit hours):
Humanitarian engineering project; international (with trip abroad), or local/domestic service project via capstone design, student organization, or individual service. Project Work and Reporting Plan must be preapproved by the HE Minor Coordinator and taken for academic credit. May include Individual Studies. Written reflections journal to be kept throughout service project, and final project report (possibly written by a group) are required and assessed by the HE Minor Coordinator.

Possible Courses:
ENGR 4692.01S Service Learning in Engineering
ENGR 4901 thru 4903 Multidisciplinary Capstone
ENGR x193 Individual Studies (max. 3 credits)
BUSMHR 5530 Topics in Social Entrepreneurship

Humanitarian Engineering Minor Guidelines

- Required for graduation: No

Credit hours required: A minimum of 15 credit hrs. At least 6 credit hrs must be at the 2000 level or above and 6 credits must be at the 3000 level or above.

Transfer credit hours allowed: At least half of the credits counting toward the minor must be earned in regular OSU coursework.

Overlap with the GE: Permitted, no more than 6 credit hours.

Overlap with the major and additional minor(s):
- The minor must be in a different subject than the major
- The minor must contain a minimum of 12 hours distinct from the major and/or additional minor(s)

Grades required:
- Minimum C- for a course to be listed on the minor
- Minimum 2.00 cumulative point-hour ratio required for the minor
- Course work graded Pass/Non-Pass cannot count on the minor
- No more than 3 credit hours of course graded Satisfactory/Unsatisfactory may count toward the minor

X193 credits: No more than 3 credit hours.

Approval required:
Approval of the minor is managed entirely through the Degree Audit Self Service. A minor program form will only be required if a student’s Degree Audit does not certify the courses for the minor as prescribed by the Offering Program. The minor program form must be signed by the HE Minor Coordinator and by the student’s advisor in his/her major program. Copies of this form will be retained by the HE Program and the Major Program.

Filing the minor program form: The minor program form must be filed at least by the time the graduation application is submitted to a college/school counselor.

Changing the minor: Once the minor has been filed, any changes must be approved by the Chair of the Minor’s Oversight Committee. A form will be available on the College of Engineering website.