



SUSTAINABLE ENGINEERING FOR INTERNATIONAL DEVELOPMENT TRACK

INTRODUCTION TO SUSTAINABLE ENGINEERING FOR INTERNATIONAL DEVELOPMENT:

As the track's introductory course, development is first considered on a global scale, taking into account geographical, historical, and geo-political perspectives, and the role of the development aid sector. The remainder of the course is focused on frameworks for successful and ethical development practice on a project scale, covering areas including project management, community appraisal, capacity strengthening, and monitoring and evaluation. A systems dynamics approach is employed throughout, and special focus is given to the application of engineering and technology to development. **Planned offering: Fall 2016**

SUSTAINABLE WASH AND ENVIRONMENTAL ENGINEERING FOR DEVELOPMENT:

Primarily focused on work in the WaSH (Water, Sanitation, and Hygiene) in general and on the provision of drinking water supply specifically. Topics covered include piped water supply networks, groundwater and hand pumps, water quality and treatment, water resources management, household level sanitation, solid waste management, and indoor air quality. **Planned offering: Spring 2017**

INFORMATION, COMMUNICATION, AND ENERGY TECHNOLOGIES FOR DEVELOPMENT:

Both ICT and access to clean, reliable energy will play prominent roles in accelerating the achievement of many of the SDGs, in areas such as education, healthcare, and economic development. This course focuses on the application of ICT to these and other areas, as well off-grid renewable and alternative energy options for developing community contexts. Energy topics include energy storage, micro grids, solar, small-scale hydro, and biomass conversion. **Planned offering: Spring 2018**

SUSTAINABLE INFRASTRUCTURE FOR DEVELOPMENT:

Infrastructure serves as the backbone upon which other development objectives may be achieved. This course considers a wide spectrum of infrastructure related topics including buildings, building materials, transportation networks, and city and regional planning. **Planned offering: Spring 2018**

SUSTAINABLE PRODUCT DEVELOPMENT FOR LOW RESOURCE SETTINGS:

The SDGs will not be achieved via traditional development aid alone, and will require a generation of development practitioners with an entrepreneurial mindset. This course explores not only the concept of appropriate technology the design of products that help accelerate the meeting of basic human needs, but also business models for their deployment. **Planned offering: Spring 2017**

INTERNATIONAL INTERNSHIPS AND THESIS AND CAPSTONE PROJECTS:

Development practice is not something that can be learned only in a classroom, and requires experience in the field. The cornerstone of the Sustainable Engineering for International Development track is a final 6 credit research thesis or 3 credit capstone design project based on an international field experience. The length of the field experience will depend on the previous experience of the candidate, the scope of their project, and the candidate and project partner's mutual interest, but range from 3 to 12 months.