

HUMANITARIAN ENGINEERING | Certificate



The Mines humanitarian engineering and science (HES) graduate certificate

is designed for working professionals as well as graduate students who are enrolled in other degree programs but wish to gain knowledge in humanitarian engineering and science. A unique mix of social science, applied science, and engineering perspectives prepares students to promote more sustainable and just uses of water, energy, and other earth resources and to understand and mitigate potential hazards.



PROGRAM INFORMATION

Available **online** or **on campus**

Community-development training **designed specifically for engineers and applied scientists**

World-class faculty dedicated to researching best practices by **scientists and engineers serving communities**

Project-based learning that combines **social science with technical practice**

Connecting **engineering practice** with a **passion for social good**

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COURSES

EDNS577: Advanced Engineering and Sustainable Community Development

Analyze the relationship between engineering and sustainable community development from historical, political, ethical, cultural, and practical perspectives.

EDNS479: Community-Based Research

Gain an understanding of the conceptual and methodological tools necessary to conduct community-based research.

EDNS590: Risks in Humanitarian Engineering and Science

Learn about risk and ways of analyzing engineering and scientific projects in relation to risks, and to develop multiple mitigation steps.

ADDITIONAL INFORMATION

To obtain a graduate certificate, students must complete a minimum of 9 credit hours by taking the courses listed. Students may not double-count courses from their undergraduate degrees. Mines students who have already taken one of the courses as undergraduates may find a suitable replacement, to be approved by the HES Director. Students are encouraged to take 12 credit hours of coursework if possible.



ACCEPTING APPLICATIONS

TO LEARN MORE, VISIT:

gradprograms.mines.edu/edns or contact humanitarian@mines.edu