



Idaho State University

GREAT IDEAS IN TEACHING *MINI CONFERENCE*

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ISU College of Education, ISU Center for Learning and Instructional Excellence,
and the ISU Graduate School

Experiential Training Through Case Studies for Technology Students

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In response to a growing need for Engineering Technicians in the energy sector, the College of Technology at Idaho State University has established the Energy Systems Technology and Education Center (ESTEC) on the Idaho State University campus in Pocatello, Idaho. The Nuclear Operations Technology Associate of Applied Science degree within ESTEC specifically prepares students to work in the nuclear industry, supporting power operations through training future reactor operations, and also training facility operators to work in fuel fabrication, research, and waste facilities utilizing various radiological containment, including gloveboxes. There is also an emphasis on preparing for and responding to abnormal conditions and emergencies, as is emphasized in national standards for training nuclear operators (Charles Murray, 2021).

In July 2025, a unique opportunity arose for the ESTEC students to participate in a faculty-led trip to the Fukushima Daichi Nuclear Power Plant in Japan and use the March 2011 accident and ongoing recovery efforts as a case study in nuclear emergency management. The trip was led by Mackenzie Gorham, Program Coordinator for ESTEC, and Laurie Holien, Associate Professor in the Emergency Management and Homeland Security program. Students from both programs, as well as Civil and Nuclear Engineering students, participated in the Special Topics. The course capstone consists of a 10-day field study in Japan and on-site at the Daichi Nuclear Power Plant.

This presentation focuses on the case study methodology used to ensure that interdisciplinary teams of students were able to synthesize broadly impactful case study questions; perform field work safely and thoroughly through cultural barriers and in radiological environments; and the benefits the students reported in post-class surveys.

Reference: Charles Murray, e. a., 2021. REGULATORY GUIDE 1.101, REVISION 6 EMERGENCY RESPONSE PLANNING AND PREPAREDNESS FOR NUCLEAR POWER REACTORS. s.l.:U.S. NUCLEAR REGULATORY COMMISSION.