

Mechanical Engineering Tech Elective: MCEN 4228/5228, Project-Based Learning in Rural Schools

Two-semester course, 1 hour in the fall, 2 hours in the spring. Undergraduate and Graduate Sections

No specific technical background required, training on monitoring equipment provided

Meeting Wednesdays at 10am

Interested in teaching engineering to high school students and learning about cutting-edge environmental monitoring technology?

This two-semester course “Project-Based Learning in Rural Schools” provides training, support and placement for students in high school classrooms to help high school student teams develop air quality research projects.

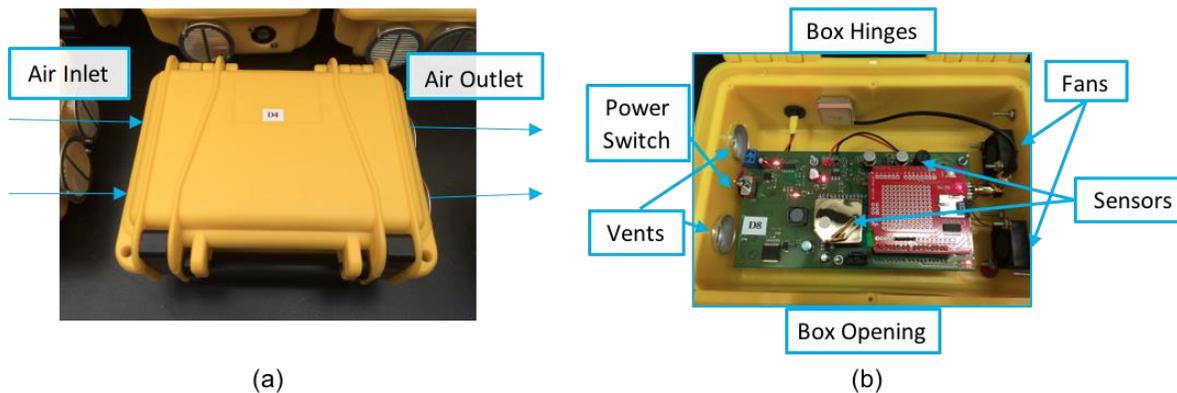
- Choose from rural partner high schools in the Greeley, CO, Lone Star, CO and Delta, CO school districts.
- Also have schools in Lakewood, CO and developing partnership internationally in Mongolia.
- Fall semester focused on learning the technology and how work with a high school team.
- Spring semester focused around 3-4 monthly trips to schools. Travel costs are covered.
- Has a flexible schedule. Meets once a week at CU and travel adjusted to student schedules.
- Grading is participation and project-based, no tests or textbook

Positive outcomes of taking this course:

- Learning how to guide a high school student research project
- Builds teaching and communication skills from teaching air quality monitoring
- Builds teamwork skills from working with a high school student team
- Help high school students understand what it is like to be a college student

The instructors

- Mike Hannigan is a Professor in the Mechanical Engineering Department at CU Boulder and the inventor of the environmental monitoring technology known as the Y-Pod, which employs low-cost sensors and on-line data visualization tools to investigate air quality research questions in local communities surrounding the high schools.
- Daniel Knight is a Research Associate with the Mechanical Engineering Department at CU Boulder who has a background in engineering education and preparing students to teach engineering in high school settings.



Contact Daniel.Knight@Colorado.Edu for enrollment details.
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