

HANDS-ON, MINDS-ON INSTRUCTIONAL PRACTICES

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Exploring the Engineering Design Process in Advanced Manufacturing Through Hands-On STEM Project-Based Learning

This presentation will share adaptable STEM course content created during the implementation of a National Science Foundation-funded community-based engineering design course for underrepresented middle school students in rural North Carolina. The hands-on, project-based STEM content is centered on the local advanced manufacturing industry in food science, pharmaceuticals and energy systems. The content was taught to students through a series of elective courses spanning 6th through 8th grade. The goal of the courses was to provide students with opportunities to learn about STEM careers, to increase STEM content knowledge and to build a sense of STEM identity. Sample lessons will be shared.

Presentation Target:

Middle School

Presenter(s):

1. Donald McCoy, Consultant, North Carolina State University
2. Anthony Bowser, Project Coordinator, North Carolina Math/Science Education Network Pre-College Program
3. Tameshia Baldwin, NC State College of Engineering