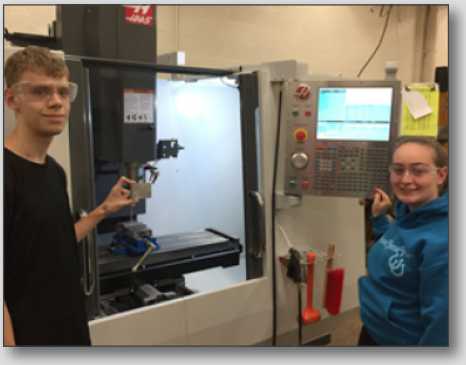
GREATNESS STEMS FROM IOWANS
GOVERNOR'S STEM ADVISORY COUNCIL

STEM BEST: INSPIRE - Manufacturing Enterprise

Businesses Engaging Students and Teachers

Affiliated School District: Davenport West High School in Davenport, Iowa

Partnering Businesses/Higher Education: Eastern Iowa Community College, University of Iowa: College of Business, Hamilton Technical College, MA Ford, Phoenix Closures, John Deere, Alcoa, Quad Cities Chamber of Commerce, Project Management Institute.



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1. What is the goal for your STEM BEST program?
INSPIRE is dedicated to creating a school-wide culture where students identify, select and pursue career pathways and develop necessary skills that lead to post-secondary careers. As a STEM BEST® Partner, we were able to bring in the manufacturing pathway. The coursework offered is reflective of the community's needs to graduate students into postsecondary programs that further their manufacturing education and place them in jobs that strengthen the industry in the Quad Cities.

2. How many and what type of students participate in your program?
Currently, 13 students are enrolled in the manufacturing pathway of INSPIRE, including 10 males and 3 females in grades 10-12 with ethnicities ranging from white, Asian, Hispanic and more. All students have completed previous Project Lead the Way coursework and most are involved in West High's First Tech Challenge Robotics Club. So far, we have 43 students interested to join next year.

3. Describe the physical environment of your STEM BEST program, including how it differs from standard classrooms.
The manufacturing course takes place in three different rooms at West High School. The main instruction occurs in a collaborative space equipped with high-speed computers and dual monitors. A metals lab next door houses an industry grade CNC machine for metal cutting. The third room, situated inside the actual classroom, holds another CNC machine for wood where students are able to train and complete complex cuts to support designs from the Engineering cohort.

4. Describe what skills and content are covered in the STEM BEST learning environment.
Students will develop high-quality manufacturing skills, embedded in relevant and real-world situations that allows them to understand that manufacturing has many different occupations. Communication, collaboration and problem solving are a few of the main skills students are honing during enrollment in the pathway.

5. What specific roles do business, community and higher education partners play in your STEM BEST model?
The business and community partners visit the classrooms regularly or join virtually to provide guidance and support as students take on complex tasks and solve challenging problems. Scott Community College started an Advanced Manufacturing Career Academy this year, with Davenport students attending courses on campus for the year, earning a Basic Electricity Certificate upon completion.

6. What professional development has occurred to prepare educators for instruction in your STEM BEST environment?
Lead teachers have attended trainings, including on the metal CNC machine at Productivity in Cedar Rapids and the CNC Educators' Training Conference in Maine this summer. The entire INSPIRE team attended the STEM Innovator (a 2014 STEM BEST® Partner) training this summer, learning best practices for integration of entrepreneurship and innovation into the capstone course.

7. What indicators of growth are evident so far in the program?
As our program has become more established, the number of applicants and mentors has increased substantially. The entire staff at West High School is assisting in the recruitment efforts. Our lead teachers have also started receiving requests from other districts to visit, and they are more than happy to share. Progress is very positive at this point, and we look forward to continuing to build this innovative program.