

Virtual Work-Based Learning Experiences For Students



With Couragion's Challenges, students assume computer science (CS), data analytics, & engineering roles to develop knowledge, discover careers, & make informed decisions about pursuing STEM pathways.

This multidisciplinary STEM program incorporates greater purpose through demonstration of how STEM workers help society, animals, & the environment; real world context that shows relevance of learning tasks; mastery of career-specific skills via applied, authentic professional experiences.



Couragion's Challenges Build Students' CS, Engineering, & Data Skills

-  Agile Software Life Cycle, Product Management, & Collaboration
-  User-Centered Design, Research, & Human Computer Interaction
-  Software Quality Assurance & Test Plan Development/Execution
-  Data Collection, Transformation, Analysis, & Visualization
-  Network Functionality, Software, & Hardware Components
-  Technical Support & Systematic Troubleshooting
-  Advanced Manufacturing, Additive Manufacturing, & Mechanical Systems
-  Biomedical Systems, Medical Technology, & Biological Systems
-  Electrical Systems, Energy & Power, & Renewable Energy
-  Engineering Ethics, Human Factors Engineering, & Sustainable Engineering
-  CAD Models & Simulations, Spatial Reasoning, & Engineering Design
-  Measurement, Six Sigma, & Material Properties

"I intersperse Couragion throughout the year as an instructional tool within the relevant units in my secondary classroom. The Electrical Engineering Challenge teaches students how to use multimeters better than I ever have myself!" - Engineering Teacher

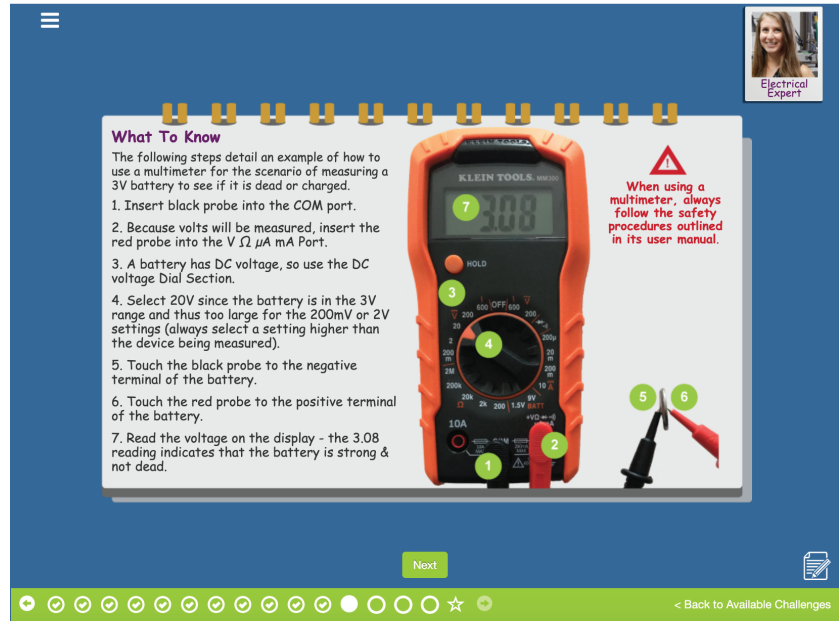
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"It was fun to try a new learning style different than what they'd been used to in computer science class. When students got a chance to get into Couragion & learn a little bit more about career fields that related to their courses that made it easier for them to choose their internships & find a good fit." - CTE Director

Couragion's Challenges Support Industry & Education Standards

- International Society for Technology in Education (ISTE)
- Computer Science Teachers Association (CSTA)
- Next Generation Science Standards (NGSS)
- International Technology & Engineering Educators Association (ITEEA)
- American Society for Engineering Education (ASEE)
- Engineering for US All (E4USA)



Couragion's Challenges Are Easy For Educators To Implement



12 curricular units allow for a flexible scope & sequence. Educators may tailor the program by selecting the units that best complement & expand their existing curriculum topics.



Each unit takes 45 - 150 minutes to complete depending on students' ages & abilities & whether educators leverage the suggested pre-readings & supplemental exercises.



Detailed lesson plans outline objectives, outcomes, duration, resources, & procedures. Student guides are available to facilitate student-centered STEM learning & self-directed pacing.



Professional learning experiences are available to accompany the program. These experiences take the form of educator workshops, institutes, & web-based training.