

Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Engineering Statewide Program of Study



The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

Secondary Courses for High School Credit

Level 1

- Introduction to Engineering (PLTW) - Weighted
 - 1 Semester at Ben Barber
 - 1835CT/9-12
 - **Autodesk Associate Certified User Fusion 360 Possible**

Level 2

- Principles of Engineering (PLTW) - Weighted Science Credit
 - 1 Semester at Ben Barber
 - 1836CT/11-12
 - **Prerequisites: Intro to Engineering AND Algebra I AND Biology AND Chemistry OR IPC OR Physics**

Level 3

- Computer Integrated Manufacturing (PLTW) - Weighted
 - 1 Semester at Ben Barber
 - 1838CT/10-12
 - **Prerequisites: Introduction to Engineering**
- Aerospace Engineering (PLTW) - Weighted
 - 1 Semester at Ben Barber
 - 1834CT/11-12
 - **Prerequisites: Principles of Engineering**
- Engineering Design & Development (PLTW) - Weighted
 - 1 Semester at Ben Barber
 - 1845CT/11-12
 - **Prerequisites: Computer Integrated Manufacturing OR Aerospace Engineering**

Level 4

- Practicum in STEM
 - 2 Semesters at Ben Barber
 - 1857CA-CB/12 Only
 - Selection Process

Roadmap to Completer

Levels	Courses		
Level 1	1835CT Introduction to Engineering (1 Credit)		
Level 2	1836CT Principles of Engineering (1 Credit)		
Level 3	1838CT Computer Integrated Manufacturing (1 Credit)	1834CT Aerospace Engineering (1 Credit)	1845CT Engineering Design & Development (1 Credit)
Level 4	1857CA-CB Practicum in STEM (2 Credits) <i>Students must complete a level 1 or 2 course AND a level 3 or 4 course to take a practicum course</i>		

1 Semester Home Campus	2 Semester Home Campus	1 Semester Ben Barber	2 Semesters Ben Barber	Ben Barber or HC
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- Failure to follow the sequence of courses in the Roadmap to Completer could result in a student not meeting standards to be a CTE Completer in the program of study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Engineering program of study will fulfill requirements of the STEM and Business & Industry endorsement.