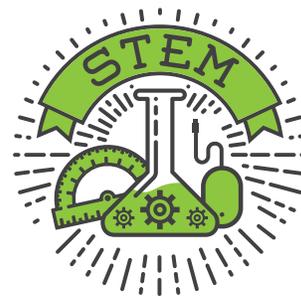# PLTW PRE-ENGINEERING

OVERVIEW

From launching space explorations to delivering clean water to communities, engineers find solutions to pressing problems and turn their ideas into reality. The Project Lead the Way Pre-Engineering Pathway empowers students to step into the role of an engineer, adopt a problem-solving mindset, and make the leap from dreamers to doers. Pathway courses engage students in compelling, real-world challenges that help them become better collaborators, problem-solvers, and critical and creative thinkers. Students take from the courses in-demand knowledge and transportable skills they will use in high school and for the rest of their lives, on any career path they take.

COLLEGE AND CAREER CONNECTIONS

College Ready	Career Ready
• Aerospace Engineering • Biological Engineering • Chemical Engineering • Civil Engineering • Computer Engineering • Computer Science • Construction Management • Electrical Engineering • Environmental Engineering • Industrial Engineering • Mechanical Engineering • Petroleum Engineering • Structural Engineering • Architecture	• Engineering Assistant • Engineering Technician • Architectural Drafter • Civil Drafter • Mechanical Drafter • Computer Programmer • Software Engineer • Computer-integrated Manufacturing Technician

STATEWIDE CREDENTIALS INCLUDED

All students who successfully complete the 4 Required Courses within the pathway will be prepared to attain the following credential:

• *Autodesk Inventor Certified User* **Advanced**

Depending upon coursework selected from the Additional Courses list, students may also be prepared to attain the following credentials:

• *Autodesk AutoCAD* **Basic**

STEM DIPLOMA SEALS

GOLD SEAL

Students will earn a Gold STEM Diploma Seal by satisfying the requirements for a Silver STEM Diploma Seal and completing four additional courses from the Qualifying Course list.

SILVER SEAL

Students who successfully complete four of the required courses will earn a Silver STEM Diploma Seal.

STEM PATHWAY

CORE COURSES: (M) MATH · (Sci) SCIENCE

Required Courses (choose 4)			
Course Title	**Course Code**	**Carnegie Credits**	**5-Point Scale**
PLTW Intro to Engineering Design	110802	1	
(Sci) PLTW Principles of Engineering	080109	1	
PLTW Engineering Design and Development	110862	1	
Computer Integrated Manufacturing **OR**	110850	1	
PLTW Civil Engineering and Architecture **OR**	110841	1	
AP Computer Science Principles	061177	1	

Additional Courses (choose an additional 4)			
Course Title	**Course Code(s)**	**Carnegie Credits**	**5-Point Scale**
PLTW Aerospace Engineering	110831	1	
PLTW Civil Engineering and Architecture	110841	1	
PLTW Digital Electronics	110821	1	
PLTW Environmental Sustainability	312098	1	
Computer Integrated Manufacturing (1 credit)	110850	1	
(M) Calculus: AP Calculus AB **OR**	160327	1	✓
Calculus: AP Calculus BC	160328	1	✓
(M) Statistical Reasoning **OR**	165031	1	
Probability and Statistics: AP Statistics	160352	1	✓
AP Computer Science Principles	061177	1	
(M) AP Computer Science A	061175	1	✓
(Sci) Chemistry II **OR**	150402	1	
Chemistry II: AP Chemistry **OR**	150410	1	✓
Chemistry I: DE - CCEM 1103 Chemistry I	150414	1	✓
(Sci) Physics I: AP Physics I- Algebra Based **OR**	150724	1	✓
Physics: AP Physics II - Algebra Based **OR**	150725	1	✓
AP Physics C: Electricity and Magnetism **OR**	150794	1	✓
AP Physics C: Mechanics	150795	1	✓
(Sci) Environmental Science **OR**	150310	1	
Environmental Science: AP Environmental Science	150311	1	✓

For Jump Start Tops Tech Diploma: Required Career Readiness Courses (1)			
Course Title	**Course Code(s)**	**Carnegie Credits**	**5-Point Scale**
Intro to STEM Pathways and Careers: LSU Partnership	061139	1	
Quest for Success	080411	1	
Agriscience I	010301	1	
Jobs for America's Graduates I	042010	1	
General Technology Education (Introduction to Skilled Crafts)	110010	1	
Introduction to Health Occupations	090029 **OR** 090930	1	

DE: Dual Enrollment, AP: Advanced Placement

UNIVERSAL DOCUMENTS

CDF ELIGIBLE COURSES • JUMP START FUNDING • UNIVERSAL COURSE CODES