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**Project Lead The Way
Biomedical Sciences
Course Sequence**

**Block Scheduling: 2-85 minute classes per semester
4 classes/year or A/B Block**

Project Lead the Way (PLTW) Biomedical Sciences-2 year Program

Course (OCAS Code)	Minimum Course Hours
First Year	
PLTW-Principles of Biomedical Science (8706)	120
Choose one of the following Advanced Mathematics courses: Geometry (4520), Algebra II (4412), Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612)	120
Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	120
PLTW Human Body Systems (8707)	120
Second Year	
PLTW Medical Interventions (8708)	120
Choose one of the following Advanced Mathematics courses: Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612), AP Calculus AB (4615), AP Calculus BC (4616), AP Statistics (4760)	120

Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	120
PLTW Biomedical Innovations (8719)	120
Total—8 Courses	Total Program Hours-960

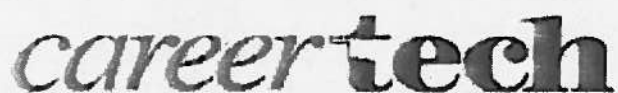
Project Lead the Way (PLTW) Biomedical Sciences-3 year Program

Course (OCAS Code)	Minimum Course Hours
First Year	
PLTW Principles of Biomedical Science (8706)	120
Choose one of the following Advanced Mathematics courses: Geometry (4520), Algebra II (4412), Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612)	120
Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	120
Health Careers Course (8551) Or Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	120
Second Year	
PLTW Human Body Systems (8707)	120
Choose one of the following Advanced Mathematics courses: Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612),	120

AP Calculus AB (4615), AP Calculus BC (4616), AP Statistics (4760)	
Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	120

PLTW Medical Interventions (8708) or Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	120
Third Year	
PLTW Medical Interventions (8708) or PLTW Computer Science and Software Engineering (8851) or Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	120
Choose one of the following Advanced Mathematics courses: Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612), AP Calculus AB (4615), AP Calculus BC (4616), AP Statistics (4760)	120
Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055),	120

AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121), Anatomy/Physiology (5333/5220), Microbiology (5336)	
PLTW Biomedical Innovations (8719)	120
Total—12 Courses	Total Program Hours-1440



**Project Lead the Way
Pre-Engineering
Course Sequence**

**Block Scheduling: 2-85 minute classes per semester
4 classes/year or A/B Block**

Project Lead the Way (PLTW) Pre-Engineering—2 year Program

Course (OCAS Code)	Minimum Course Hours
First Year	
PLTW-Introduction To Engineering Design (8709)	120
Choose one of the following Advanced Mathematics courses: Geometry (4520), Algebra II (4412), Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612)	120
Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121)	120
PLTW-Principles of Engineering (8710)	120
Second Year	
Choose one of the following PLTW-Engineering Specialty Courses: Digital Electronics (8711), Computer Integrated Manufacturing(8712), Civil Engineering and Architecture (8713), Biological Engineering/Environmental Sustainability (8854), Aerospace Engineering (8715) Computer Science and Software	120

Engineering	
Choose one of the following Advanced Mathematics courses: Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612), AP Calculus AB (4615), AP Calculus BC (4616), AP Statistics (4760)	120
Choose one of the following Advanced Laboratory Science courses: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217), AP Biology (5035), AP Environmental (5121)	120
PLTW-Engineering Design and Development-Capstone (8716)	120
Total—8 Courses	Total Program hours-960

PLTW Advanced Pre-Engineering—3-year program

Course (OCAS Code)	Minimum Course Hours
First Year	
PLTW-Introduction To Engineering Design (8709)	120
Choose one of the following Advanced Mathematics: Geometry (4520), Algebra II (4412), Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612)	120
Choose one of the following Advanced Laboratory Sciences: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217) AP Biology (5035), AP Environmental Science (5121)	120
PLTW-Principles of Engineering (8710)	120
Second Year	
Choose one of the following PLTW-Engineering Specialty Courses: Digital Electronics (8711), Computer Integrated Manufacturing (8712), Civil Engineering and Architecture (8713), Biological Engineering/Environmental Sustainability (8854), Aerospace Engineering (8715) Computer Science and Software Engineering (8851)	120
Choose one of the following Advanced Mathematics: Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612),	120

AP Calculus AB (4615), AP Calculus BC (4616), AP Statistics (4760)	
Choose one of the following Advanced Laboratory Sciences: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217), AP Biology (5035), AP Environmental Science (5121)	120
Choose one of the following PLTW-Engineering Specialty Courses: Digital Electronics (8711), Computer Integrated Manufacturing (8712), Civil Engineering and Architecture (8713), Biological Engineering/Environmental Sustainability (8854), Aerospace Engineering (8715) Computer Science and Software Engineering (8851)	120
Third Year	
Choose one of the following PLTW-Engineering Specialty Courses: Digital Electronics (8711), Computer Integrated Manufacturing 8712), Civil Engineering and Architecture (8713), Biological Engineering/Environmental Sustainability (8854), Aerospace Engineering (8715) Computer Science and Software Engineering (8851)	120
Choose one of the following Advanced Mathematics: Trigonometry/Pre-Calculus (4750/4611), Pre-AP Calculus (4612), AP Calculus AB (4615), AP Calculus BC (4616), AP Statistics (4760)	120
Choose one of the following Advanced Laboratory Sciences: Pre-AP Chemistry (5051), Pre-AP Physics (5211), AP Chemistry (5055), AP Physics B (5215),	120

AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Elec. & Magnetism (5217), AP Biology (5035), AP Environmental Science (5121)	
PLTW-Engineering Design and Development-Capstone (8716)	120
Total—12 Courses	Total Program hours-1440



Biotechnology Course Sequence

Block Scheduling: 2-85 minute classes per semester
4 classes/year or A/B Block

ODCTE-Biotechnology-2 year program

Course (OCAS code)	Minimum Course Hours
First Year	
Survey of Biotechnology (8701)	120
Biotechnology I (8702)	120
Choose one of the following Advanced Laboratory Sciences: AP Biology (5035), Pre-AP Chemistry (5051), AP Chemistry (5055), AP Environmental Science (5121), Microbiology (5336), Pre-AP Physics (5211), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216), AP Physics C-Electricity & Magnetism (5217)	120
Biotechnology II (8703)	120
Second Year	
Advanced Biotechnology I (5038)	120
Advanced Biotechnology II (8717)	120
Choose one of the following Advanced Laboratory Sciences: AP Biology (5035), Pre-AP Chemistry (5051), AP Chemistry (5055), AP Environmental Science (5121), Microbiology (5336), Pre-AP Physics (5211), AP Physics B (5215), AP Physics 1 (5213), AP Physics 2 (5214), AP Physics C-Mechanics (5216),	120

AP Physics C-Electricity & Magnetism (5217)	
Biotechnology Capstone (8705)	120
Total Courses—8 courses	Total Program Hours-960

Prerequisite: Algebra I & Biology I
May be concurrently enrolled in Algebra II.

Requirement: Advanced Mathematics course will be taken each school year.