



Science,
Technology,
Engineering &
Mathematics

2020-2021

STEM: Engineering

Science, Technology, Engineering & Mathematics Endorsement

Program of Study: Engineering

Grand Prairie Collegiate Institute

Grade	ELA	Math	Science	Social Studies	Required CTE Courses (Project Lead The Way)	Potential Certification Opportunities					
9th	English 1	Algebra I	Biology	World Geography or AP Human Geography	Introduction to Engineering Design (1 Credit)	8 th Grade • OSHA					
					Principles of Engineering (1 Credit)	9 th Grade • Cyber Safety					
10th	English 2	Geometry	Chemistry or OnRamps Chemistry	World History, AP World History, or Political Science	Civil Engineering and Architecture (1 Credit)	• Career Safe: Employability • Career Essentials: Customer Service					
11th	English 3	Algebra II	Physics, AP Physics, AP Chemistry, or OnRamps Physics	U.S. History, AP US History, or OnRamps US History	Aerospace Engineering (1 Credit)	• Autodesk Certified User in AutoCAD • Autodesk Certified User in Revit • Autodesk Certified User in Inventor • NCCER Electronic Systems Technician, Level 1, Level 2 • Maya • WFR Electronics					
					Digital Electronics (1 Credit)						
12th	Business English, or Approved CTE 4 th year English	Financial Mathematics, or Approved CTE 4 th year Math	Principles of Technology, or Approved CTE 4 th year Science	Government <hr/> Economics	Practicum in STEM Engineering (2 Credits) EDD Capstone	• WFR Engineering Technology					
Student Organizations				Additional Required Electives							
SkillsUSA				Fine Arts Health		Foreign Language Physical Education					
Dual Credit Offerings				Additional Recommended Electives							
Selected Core courses and electives will be Pre-AP, AP, or Dual Credit when applicable				Psychology (.5 Credit) Medical Microbiology (1 Credit) Introduction to Aircraft Technology (1 Credit)		Sociology (.5 Credit) Pathophysiology (1 Credit)					
Sample Career Opportunities				High School	On the Job Training	Certificate	Associates Degree	Bachelor's Degree	Advanced College Degree	Average Annual Salary	Possible Majors for this Pathway
Engineering Manager								X	X	\$144,830—\$208,000	• Biomedical Engineering • Biomechanical Engineering • Civil Engineering • Industrial Engineering • Mechanical Engineering • Chemical Engineering • Petroleum Engineering • Aerospace Engineering • Agricultural Engineering • Environmental Engineering
Biomedical Engineer							X	X	X	\$91,410—\$148,210	
Mechanical Engineer							X	X	X	\$88,430—\$138,020	
Civil Engineer							X	X	X	\$87,060—\$144,560	
Petroleum Engineer							X	X	X	\$137,720—\$208,000	
Chemical Engineer							X	X	X	\$108,770—\$176,090	
Aerospace Engineer							X	X	X	\$116,500—\$166,620	
Agricultural Engineer							X	X	X	\$80,720—\$160,950	
Health and Safety Engineer							X	X	X	\$91,410—\$143,880	
Environmental Engineer							X	X	X	\$88,860—\$142,070	
Industrial Engineer							X	X	X	\$88,020—\$134,070	