

Fort Zumwalt East High School Program of Study (POS)



Career Cluster Plan of Study (Pathways: Engineering and Technology, Science and Math)

This Career Cluster Plan of Study can serve as a guide, along with other career planning materials, as you continue your career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. All plans should meet high school graduation requirements as well as college entrance requirements.

Grade	English	Math	Science	Social Studies/ Sciences	Other Required Courses, Recommended Elective	Additional Learning Opportunities	SAMPLE Occupations Relating to this Pathway
9	English I/ Pre-AP English I	Algebra I, Geometry Pre-AP Geom.	Physical Science, Biology, Pre-AP Biology	US History Pre-AP US Hist.	PE / Health or Fine Arts Foreign Language Computer Application, Desktop Publishing, Intro Draft, Arch Draft, Engin Draft, PLTW Computer Sci and Soft Engineering; PLTW Into to Engineering	Clubs: FBLA, FCCLA, DECA, Key, NHS, STUCO	<ul style="list-style-type: none"> ▶ Aerospace Engineer ▶ Agricultural Engineer ▶ Analytical Chemist ▶ Anthropologist ▶ Architectural Engineer ▶ Astrophysicist ▶ Biomedical Engineer ▶ CAD Technician ▶ Civil Engineer ▶ Computer Programmer ▶ Ecologist ▶ Geologist ▶ Geothermal Engineer ▶ Math Teacher ▶ Mathematician ▶ Metallurgist ▶ Statistician ▶ Survey Technician ▶ Zoologist
10	English II/ Pre-AP English II	Geometry Pre-AP Geom. Algebra II Pre-AP Alg. II	Biology Pre-AP Biology Chemistry Gen Physics Zoology Astron, Geology, Env Sci I/II	World History AP World Hist.	Personal Finance Arch & Eng Drafting (Arch area), Arch & eng (Eng area), Collaborative Study in Engineering, Accounting, Drawing, Digital Art, PLTW Principles of Engineering	Athletics Summer Camps Job Shadow Volunteer Community Service see www.communitycouncil.org	
11	American Lit./ Pre-AP American Literature/ AP Lang	Geometry Pre-AP Geom Algebra II Pre-AP Alg. II Algebra III Pre- AP Calc, College Algebra	Chemistry Gen Physics Applied Bio/ Chemistry, AP Physics, AP Chem, AP Bio, Zoology, Astron, Geology	Govt. AP Govt	AP US History, Adv. Computer Applications, Adv. Accounting; PLTW (engineering track)		
12	Senior Lit AP Lit AP Lang (or 2 sem classes	Algebra II, Algebra III College Algebra, Pre- AP Calculus AP Statistics, AP Calculus AB AP Calculus BC	See 11 th grade options, Applied Bio/ Chem. II	Western Civ AP US History AP World History AP Govt	PLTW (engineering track)	Part-time Employment Entrepreneurship Assessments: PSAT, ACT SAT, ASVAB MO Connections	

Post Secondary: For listing of Community Colleges, Tech Schools, and 4 year colleges: www.missouriconnections.org
Military, On-the-Job Training, Apprenticeship

Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

Sample Career Specialties / Occupations	<p>Aerospace Engineer* Aeronautical Engineer* Agricultural Engineer* Agricultural Technician* Application Engineer* Architectural Engineer* Automotive Engineer* Biomedical Engineer* Biotechnology Engineer* Chemical Engineer* Civil Engineer* Communications Engineer* Computer Engineer* Computer Hardware Engineer* Computer Programmer* Computer Science Technician* Computer Software Engineer* Construction Engineer* Consultant* Development Engineer* Drafter* Electrical Engineer* Electrician* Electronics Technician* Energy Transmission Engineer* Environmental Engineer* Facilities Technician* Fire Protection Engineer* Geothermal Engineer* Hazardous Waste Engineer* Hazardous Waste Technician* Human Factors Engineer * Industrial Engineer* Industrial Engineering Technician* Licensing Engineer* Manufacturing Engineer* Manufacturing Technician* Manufacturing Processes Engineer* Marine Engineer* Materials Engineer* Materials Lab & Supply Technician* Mechanical Engineer* Metallurgic Engineer* Mining Engineer* Naval Engineer* Network Technician* Nuclear Engineer* Ocean Engineer* Operations Research Engineer* Packaging Engineer* Packaging Technician* Petroleum Engineer* Pharmaceutical Engineer* Plastics Engineer* Power Systems Engineer* Product Design Engineer* Project Engineer* Project manager* Prototype Engineer* Quality Engineer* Quality Technician* Radio/TV Broadcast Technician* Radiology Engineer* Researcher* Safety Engineer* Software Engineer* Sound Technician* Structural Engineer* Survey Technician* Systems Design Engineer* Technical Sales Manager* Technical Writer* Telecommunications Engineer* Textile Engineer* Transportation Engineer* Nuclear Engineer and Procurement Engineer</p>	<p>Analytical Chemist* Anthropologist* Applied mathematician* Archeologist* Astronomer* Astrophysicist* Atmospheric scientist* Biologist* Botanist* CAD operator* Cartographer* Chemist* Communications technologist* Conservation scientist* Cosmologist* Cryptographer* Crystallographer* Demographer* Dye chemist* Ecologist* Economist* Electronmicroscopist * Environmental scientist* Expert systems scientist* Geneticist* Geologist* Geophysicist* Geoscientist* Herpetologist* Hydrologist* Ichthyologist* Inorganic chemist* Laboratory Technician * Mammalogist* Marine scientist* Materials analyst* Materials scientist* Mathematician * Mathematics* Metallurgist* Meteorologist* Microbial Physiologist* Mycologist* Nanobiologist* Nuclear chemists* Nuclear technician* Numerical analyst* Nutritionist* Oceanographer* Organic chemist* Ornithologist* Paleontologist* Physicist* Polymer scientist* Programmer* Protein scientist* Protozoologist* Quality-control scientist* Radio chemist* Research chemist* Research Technician* Science Teacher * Lab Technician* Scientific visualization / graphics expert* Spectroscopist* Statistician* Technical writer* Technologist* Toxicologist* Zoologist*</p>
Pathways	<p>Engineering and Technology</p>	<p>Science and Math</p>
Cluster K&S	<p>Cluster Knowledge and Skills</p> <ul style="list-style-type: none"> ◆ Academic Foundations ◆ Communications ◆ Problem Solving and Critical Thinking ◆ Information Technology Applications ◆ Systems ◆ Safety, Health and Environment ◆ Leadership and Teamwork ◆ Ethics and Legal Responsibilities ◆ Employability and Career Development ◆ Technical Skills 	