



## Fort Zumwalt East High School Program of Study (POS) for Agriculture, Food & Natural Resources



### Career Cluster Plan of Study (Pathways: Food Products and Processing Systems; Plant Systems; Animal Systems; Power, Structural and Technical Systems; Natural Resources and Environmental Systems; Agribusiness Systems)

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 4 credits	Math 3 credits (4 recommended)	Science 3 credits	Social Studies/ Sciences 3 credits	Other Required Courses, Recommended Electives, Career and Technical Courses and/or Degree Major Courses	Additional Learning Opportunities	SAMPLE Occupations Relating to this Cluster
9	Pre-AP English I/ English I	Algebra I Geometry Pre-AP Geometry	Physical Science Biology Pre-AP Biology	US History Pre-AP US His.	PE / Health or Fine Arts, Foreign Language, FACS/Foods and Nutrition Hunter Safety-Conserv., Intro/Applied Metal Tech, Intro/Applied Wood Tech Intro Drafting, Intro CADD, Principles of Business, Word Processing, Intro to Leadership, Adv. Leadership	Clubs: FBLA ,DECA, Key Club, NHS, STUCO	Occupations Requiring Postsecondary Education ▶ Agricultural Chemical Dealer ▶ Aquaculturalist ▶ Bank/Loan Office ▶ Environmental Compliance-Assurance Manager ▶ Equine Manager ▶ Farm Manager ▶ Health and Safety Sanitarian ▶ Meat cutter-Meat Grader ▶ Park Manager ▶ Produce Buyer ▶ Recycling Technician ▶ Wildlife Manager
10	Pre-AP English II/ English II	Geometry, Pre-AP Geometry Algebra II Pre-AP Algebra II	Biology Pre-AP Biology Chemistry General Physics Zoology Earth Sci -Astron Earth Sci – Geol Environ I & II	World History AP World History	Personal Finance Accounting Business & Personal Law	Athletics Summer Camps Job Shadow Community Service	Occupations Requiring Baccalaureate Degree ▶ Agricultural Educator ▶ Botanist ▶ Ecologist ▶ Environmental Engineer ▶ Fish and Game Officer ▶ Plant Pathologist ▶ Veterinarian
11	Pre-AP Amer Lit./ American Literature AP Lang	Algebra II Pre-AP Algebra II Algebra III Pre-AP Cal College Algebra AP Statistics	Chemistry General Physics Environ I & II ABC I Earth Sci -Astron Earth Sci – Geol AP Biology AP Chem. Human A & P AP Physics	Gov't  AP US History AP World Hist. AP Govt	Adv. Account., Adv. Computer Apps., Marketing Concepts, Advertising & Promotion, Retail & Hospitality, Culinary Arts I & II <u>Lewis and Clark Career Center Programs</u> Auto Service Tech Combination Welding Drafting/CAD Power Equipment Tech Electrical Trades	Volunteer see <a href="http://www.communitycouncilstl.org">www.communitycouncilstl.org</a> Part time Employment Entrepreneurship	
12	Senior Lit AP Lit AP Lang (or 2 sem classes)	College Algebra Algebra III Pre-AP Calculus, AP Calculus AB, AP Calculus BC AP Statistics	See 11 <sup>th</sup> grade options ABC II Science Res.		Business Internship Marketing Internship See 11 <sup>th</sup> grade options	<b>Assessments:</b> PSAT ACT SAT ASVAB MO Connections	

**Post-Secondary:** For listing of Community Colleges, Tech Schools, and 4 year colleges: [www.missouriconnections.org](http://www.missouriconnections.org) or [www.collegeboard.com](http://www.collegeboard.com)  
Military, On-the-Job Training, Apprenticeship



The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fuel, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Sample Career Specialties / Occupations	<p>Agricultural Sales • Agricultural Communications Specialists • Agricultural Educators • Food Scientists • Meat Processors-Toxicologists • Biochemists-Nutritionists-Dieticians • Food Brokers-Food Inspectors • Meat Cutters-Meat Graders • Meat Science Researchers • Food Meal Supervisors • Cheese Makers • Microbiologists • Produce Buyers • Bacteriologists • Food &amp; Drug Inspectors • Bioengineers • Biochemists • Food &amp; Fiber Engineers • Food Processors • Storage Supervisors • Fieldman • Quality Control Specialists</p>	<p>Bioinformatics Specialists • Plant Breeders and Geneticists • Biotechnology Lab Technician • Soil &amp; Water Specialists • Crop Farm Managers • Agricultural Educators • Plant Pathologists • Aquaculturalists • Sales Representatives • Botanists • Tree Surgeons • Education &amp; Extension Specialists • Agricultural Journalists • Commodity Marketing Specialists • Grain Operations Superintendents • Custom Hay/Silage Operators • Forest Geneticists • Golf Course Superintendents • Greenhouse Mangers • Growers • Farmers • Ranchers</p>	<p>Agricultural Educators • Livestock producers • AI Technicians- Aquaculturalists • Animal Caretakers-Poultry Managers • Equine Managers-Veterinarians • Veterinary Assistants-Feedlot Specialists • Animal Scientists • Embryo Technologists • Livestock Buyers • Feed Sales Representatives • Vivarian Technicians • Wildlife Biologists • Livestock Geneticists • Animal Nutritionists • Dairy Producers • Livestock Inspectors • Feed Sales Specialists • Animal Health Salespersons • Meat Science Researcher • Reproductive Physiologists • Embryo Transfer Technicians • Pet Shop Operators • USDA Inspectors</p>	<p>Machine Operators • Electronics Systems Technicians • Agricultural Engineers • Agricultural Extension Engineering Specialists • Heavy Equipment Maintenance Technicians • Recycling Technicians • Waste Water Treatment Plant Operators • Equipment/Parts Managers • Welders • Machinists • Communication Technicians • Agricultural Applications Software Developers/Programmers • Database Administrators • Computer Service Technical Support Technicians • Information Lab Specialists • GPS Technicians • Remote Sensing Specialist • Agricultural Educator</p>	<p>Cartographers • Wildlife Managers • Range Technicians • Ecologists Park Mangers • Environmental Interpreters • Fish and Game Officers Loggers • Forest Technicians • Log Graders • Pulp and Paper Manager • Soil Geology Technician • Geologists • Mining Engineers Fisheries Technicians • Water Monitoring Technician • Hydrologists • Fish Hatchery Manager • Commercial Fishermen • Fishing Vessel Operators • Vessel Crew • Agricultural Educator</p>	<p>Pollution Prevention and Control Managers • Pollution Prevention and Control Technicians • Environmental Sampling and Analysis Scientists/Technicians • Health and Safety Sanitarians • Environmental Compliance Assurance Managers • Hazardous Materials Handlers • Hazardous Materials Technicians / Managers • Water Environment Managers • Water Quality Managers • Waste Water Managers • Toxicologists • Solid Waste Disposers / Recyclers • Solid Waste Technician • Solid Waste Managers • Solid Waste Specialists • Agricultural Educator</p>	<p>Salesperson • Sales Manager • Banker/Loan Officer • Field Representative for Bank, Insurance Company or Government Program • Farm Investment Manager • Agricultural Commodity Broker • Agricultural Economist • Farmer /Rancher/Feedlot Operator • Farm Manager • Livestock Rancher / Breeder • Dairy Herd Supervisor (DHIA) • Agricultural Products Buyer • Animal Health Products Distributor • Livestock Seller • Feed and Supply Store Manager • Produce Commission Agent • Ag Lenders • Agricultural Chemical Dealer • Field Service Representative • Chemical Sales Representative • Agricultural Educator</p>
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<b>Pathways</b>	<p><b>Food Products and Processing Systems</b> (Food Processing and preserving, Packaging, Distribution, Government monitoring &amp; regulation)</p>	<p><b>Plant Systems</b> (Agronomic, Horticulture, Forestry, Turf, Viticulture, Soils, etc.)</p>	<p><b>Animal Systems</b> (Large animals, small animals, wildlife animals, and research animals)</p>	<p><b>Power, Structural &amp; Technical Systems</b> (Power, Structures, Controls, Geospatial Technology, Computer Systems, Electronics, Hydraulics, Pneumatics, etc.)</p>	<p><b>Natural Resources Systems</b> (Habitat Conservation, Forest Products, Parks and Recreation, Mining, Environmental Services, Fisheries, Soil Conservation, etc.)</p>	<p><b>Environmental Service Systems</b> (Pollution Prevention, Water &amp; Air Quality, Hazardous Materials, Solid Waste Management, Health &amp; Safety Sanitation, etc.)</p>	<p><b>Agribusiness Systems</b> (Sales, Service, Farm and Ranch Management, Entrepreneurship, Economics, etc.)</p>
<b>Cluster K&amp;S</b>	<p><b>Cluster Knowledge and Skills</b></p> <p>◆ Premier Leadership ◆ Personal Growth ◆ Career Success ◆ Organizations and Associations ◆ Organizational structures and processes ◆ Safety, Health, and Environmental Management ◆ Health and safety procedures ◆ Tools, equipment, machinery and technology ◆ Issues ◆ Technology and globalization ◆ Scientific Inquiry</p>						

[www.careerclusters.org](http://www.careerclusters.org)