



Four Rivers Career Center
Project Lead the Way Engineering
Career Cluster Program of Study
www.fourriverscc.org

Minimum Graduation Requirements		SUGGESTED COURSE OF HIGH SCHOOL STUDY						
It is suggested that students consider dual credit, articulation, or advanced placement opportunities for postsecondary credit.								
	Grade	English	Math	Science	Social Studies	Electives or Fine/Practical Arts	FRCC and Fine/Practical Arts	Additional Learning Opportunities
Secondary	9	ENGLISH I	PATH A: Algebra I Concepts Pre-Algebra PATH B/C: Algebra I Geometry Honors Geometry	PATH A: Applied Biology PATH B/C: Biology I Honors Biology I	United States History	PATH A/B/C: PLTW Intro to Engineering/Design PLTW Engineering I Engineering Essentials Modern Manufacturing Intro to Woods* Modern Manufacturing Intro to Metals* Design and Construction* Computer Applications* Web and Mobile App Design* Fine Art Choice PATH C: World Language	HEALTH & PE	School-Based: <input checked="" type="checkbox"/> Career Research <input checked="" type="checkbox"/> Cooperative Education <input checked="" type="checkbox"/> Internship <input checked="" type="checkbox"/> Job Shadowing <input checked="" type="checkbox"/> Service Learning Project Community Based: <input checked="" type="checkbox"/> Volunteer <input checked="" type="checkbox"/> Part-time Employment <input checked="" type="checkbox"/> Apprenticeship
	10	PATH A/B/C: English II PATH B/C: Honors English II	PATH A/B: Algebra I Concepts Geometry Concepts Geometry PATH C: Algebra II Honors Algebra II	PATH A/B: Applied Chemistry Chemistry I PATH C: Honors Chemistry I Physics I	World Studies	Any elective listed above PATH A/B/C: PLTW II Engineering II Principles of Engineering Modern Manufacturing Woodworking Modern Manufacturing Metalworking Digital Design* Multimedia * Business Essentials	PERSONAL FINANCE (1/2 CREDIT) (Required for graduation; may take during 10 th , 11 th , or 12 th grade)	Assessments/Certifications: <input checked="" type="checkbox"/> Technical Skills Attainment (TSA) <input checked="" type="checkbox"/> Career and Technical Education Certificate <input type="checkbox"/> National Career Readiness Cert. <input checked="" type="checkbox"/> FRCC Soft Skills Assessment
	11	PATH A: Speech and Debate* Technical and Career Writing* PATH B/C: AP Lit & Composition CC Public Speaking CC Comp Embedded English at FRCC (1 credit)	PATH A: Geometry Concepts Algebra II Concepts Algebra II PATH B/C: Algebra II (CC) Pre-Calculus Algebra II	PATH A: Applied Physics PATH B/C: Chemistry I Chemistry II PATH C: AP Chemistry AP Physics I	PATH A/B: Government* Social Studies * PATH C: AP Government	Any elective listed above PATH A/B/C: PATH B/C Business Admin and Management A+ Tutor * ACT Prep *	PLTW Engineering IIIa (Fall) Computer Integrated Manufacturing PLTW IIIb (Spring) Engineering Development and Design @ FRCC (Embedded English at FRCC – 1 credit – may be taken as replacement for Senior English)	Placement Assessments: <input checked="" type="checkbox"/> PLTW EOC Exam <input type="checkbox"/> ACT <input type="checkbox"/> SAT <input type="checkbox"/> ASVAB <input type="checkbox"/> WorkKeys Student Organizations: <input checked="" type="checkbox"/> SkillsUSA
	12	PATH A/B/C: Choice PATH C: AP Lit & Composition CC Public Speaking CC Comp	PATH A: Algebra III Concepts PATH B/C: College Prep Algebra AP Statistics CC Algebra AP Calculus (CC) Pre-Calculus Math Analysis and Statistics	PATH A: Elective Choice Fine Art Choice PATH B/C: Chemistry I Chemistry II AP Chemistry AP Physics	PATH A/B/C: Elective Choice Fine Art Choice	PATH A/B/C: (In addition to the classes above) Elective Choice * ½ credit	PLTW Engineering IIIa (Fall) Computer Integrated Manufacturing PLTW IIIb (Spring) Engineering Development and Design @ FRCC with opportunity to be an apprentice	3 CREDIT HOURS OFFERED THROUGH EAST CENTRAL COLLEGE

PATH A – OFF TO WORK

PATH B – ASSOCIATE'S DEGREE/PROFESSIONAL CERTIFICATION

PATH C – 4-YEAR DEGREE AND BEYOND

Academic Focus for Success at Four Rivers Career Center					
Focus on Academics	Core Academics		Physical/Health	Fine/Practical Arts	Professionalism
	Mathematics: <ul style="list-style-type: none">• Basic math• Binary math• Logic• Fractions• Decimals• Percentages• Problem solving	English Language Arts : <ul style="list-style-type: none">• Verbal communication• Written communication• Technical vocabulary development• Compare and Contrast• Locating information• Technical writing	Safety: <ul style="list-style-type: none">• Basic safety awareness• Training to recognize, avoid, and prevent safety and health hazards in the work place• Cyber safety training• First aid	<ul style="list-style-type: none">• Public speaking• Typing skills• Detail oriented	<ul style="list-style-type: none">• Reliable• Motivated• Work independently• Follow Multi-Step Directions• Prepared to work daily• Teamwork• Attention to detail• Code of ethics• Flexible• Task oriented• Punctual• Professional attitude• Professional communication• Trade related professional attire• Respectful and courteous• Competent• Enthusiastic• Empathetic• Anger management
	Science: <ul style="list-style-type: none">• Principles of electricity• Thermal dynamics• Basic physics	Social Studies : <ul style="list-style-type: none">• History of engineering• Economics• Current events in technology• Global communications			
	Embedded English : <ul style="list-style-type: none">• Analyze informational text• Application process• Build technical vocab• Career specific research• Career specific writing• Cite textual evidence• Interview skills• Oral presentations/ collaborative discussion• Resume development	General: <ul style="list-style-type: none">• Mechanical ability• Computer skills• Task completion			
	Sample Careers By Educational Level - For Occupational Specialties, go to www.careerclusters.org or www.missouriconnections.org				
	On-The-Job Training or Less		Technical Training or Associate Degree	Bachelors Degree	Masters Degree or More
			Electronics Engineering Technologists Engineering Technicians Manufacturing Engineering Technologists Precision Agriculture Technicians	Aerospace Engineers Chemical Engineers Electrical and Electronics Engineers Energy Engineers Fuel Cell Engineers Industrial Engineers Manufacturing Engineers Materials Engineers Mining Engineers Nanotechnologists Nuclear Engineers Petroleum Engineers Photonics Engineers Robotics Engineers Safety Engineers Validation Engineers Wind Energy Engineers	Architectural and Engineering Managers Geologists and Geophysicists Mathematicians Physicists