



Commonwealth of Virginia Plan of Study

Student Name: _____

School: _____

Date: _____

Cluster: Science, Technology, Engineering & Mathematics

Pathway: Engineering (Transfer)

This Career Pathway Plan of Study can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.

EDUCATION LEVELS	GRADE	English/ Language Arts	Mathematics	Science	Social Studies/ Science	Other Required Courses Recommended Electives Learner Activities	Recommended Career and Technical Courses Source: Administrative Planning Guide www.doe.virginia.gov/VDOE/ Instruction/CTE/apg/	SAMPLE – Occupations Relating to This Pathway: www.doe.virginia.gov/VDOE/ Instruction/CTE/careerclusters/ www.careerclusters.org www.cteresource.org/cpg/	
Graduation Requirements: http://www.doe.virginia.gov/2plus4in2004/index.shtml									
MIDDLE	7	English	Math 7/3111	4115/Life Science	Social Studies 7/2355	Health & PE	8462 Technological Systems/ 8464 Inventions and Innovations	<ul style="list-style-type: none"> - Aeronautical/Aerospace Engineer - Agricultural Engineer/Technician - Application Engineer - Architectural Engineer - Automotive Engineer - Biomedical/Biotechnology Engineer - CAD Technician - Chemical Engineer - Civil Engineer - Communications Engineer - Computer Engineer - Computer Hardware Engineer - Computer Programmer - Construction Engineer - Drafter - Electrical/Electronic/Engineering Technician - Electrical Engineer - Geothermal Engineer - Industrial Engineer/Technician - Manufacturing Engineer/Technician - Marine Engineer - Mechanical Engineer - Metallurgist - Mining Engineer - Nuclear Engineer - Petroleum Engineer - Product/Process Engineer - Survey Technician - Systems Engineer - Transportation Engineer 	
	8	English	Math 8/3112	4125/Physical Science 8	Social Studies 8/2220 Civics & Economics	Health & PE	8402 Technology Foundations		
Career Assessment: Administration of a career assessment instrument is appropriate at the middle school level to help students and their parents plan for high school (Virginia's Career Planning System or other assessment product).									
SECONDARY	9	English	3343 Engineering Mathematics I	4310 Biology I	World History/ Geography	Health & PE (2 years) Foreign Language (3 years) Other Electives to Complement Pathway (Core Academic and CTE): Eng. Design & Methods/EGR 123 and Eng. Design & Methods/EGR 124	8492 Foundations of Engineering & Design		
	10	English	3333 Engineering Mathematics II AB	4410 Chemistry	World History/ Geography		8493 Engineering I		
	11	English	3162 Analysis/Trig. & AP Calculus BC	4510 Physics	US/VA History		8494 Engineering II		
	12	English 12 English 111/112	AP Calculus BC	AP Chemistry	US/VA Government		Eng. Design & Methods/EGR 102 (VCU)		
High school courses in the pathway offered locally for college credit should be coded: DE (Dual Enrollment) and/or VC (Validated Credit)									
List related certifications/credentials approved by VDOE and offered locally: http://www.doe.virginia.gov/VDOE/Instruction/CTE/apg/ (Go to Section 9.)						Additional Learning Opportunities: CTSO Organization(s): <input type="checkbox"/> DECA <input type="checkbox"/> FBLA <input type="checkbox"/> FCCLA <input type="checkbox"/> FFA <input type="checkbox"/> FEA <input type="checkbox"/> HOSA <input type="checkbox"/> SkillsUSA <input type="checkbox"/> TSA			
						Work-Based Learning: <input type="checkbox"/> Career Research <input type="checkbox"/> Cooperative Education <input type="checkbox"/> Internship <input type="checkbox"/> Mentorship <input type="checkbox"/> Job Shadowing <input type="checkbox"/> Service Learning Project <input type="checkbox"/> Student Apprenticeship			
Postsecondary: Placement Assessments such as COMPASS & SAT II						College Entrance Exams such as ACT & SAT			
POSTSECONDARY	SAMPLE POSTSECONDARY PROGRAMS RELATED TO THIS CAREER PATHWAY Individual plans must include locally agreed upon courses at the postsecondary level (See page 2)								
	Pathway	Associate Degree, College Certificate, or Apprenticeship			Bachelors Degree		Postgraduate Degree		
	Science, Technology, Engineering & Mathematics	Engineering AS (JSRCC)			Engineering BS				

College: [J. Sargeant Reynolds Community College](#)

School Division(s): _____

Postsecondary: Placement Assessments such as COMPASS & SAT II

POSTSECONDARY - COMMUNITY COLLEGE or APPRENTICESHIP - Determined Locally	Semester	English	Mathematics	Science	Social Studies	Required Courses or Recommended Electives			
	POSTSECONDARY PLAN OF STUDIES MUST INCLUDE POSTSECONDARY ACADEMIC, CTE, AND OTHER ELECTIVE COURSES APPROPRIATE FOR AN ASSOCIATE DEGREE.								
	Year 1 1 st Semester	ENG 111 College Composition I DE	MTH 173 Calculus with Analytic Geo. I	CHM 111 College Chemistry I	SDV 100 College Success Skills	Personal Wellness Elective	EGR 124 Intro. To Engineering & Eng. Methods DE		
	Year 1 2 nd Semester	ENG 112 College Composition II DE	MTH 174 Calculus with Analytic Geo. II	EGR 123 Intro. To Engineering Design DE or EGR 110 Engineering Graphics	Humanities/Fine Arts Elective	Personal Wellness Elective	EGR 140 Engineering Mech.-Statics or EGR Engineering Elective		
	Year 2 1 st Semester	Social/Behavioral Science Elective	MTH 277 Vector Calculus & MTH 285 Linear Algebra for Transfer to VT	PHY 241 University Physics I	EGR Engineering Elective	EGR 206 Engineering Economy or EGR Engineering Elective			
Year 2 2 nd Semester	Social/Behavioral Science Elective	MTH 279 Ordinary Differential Equations	PHY 242 University Physics II	Humanities/Fine Arts elective Elective	EGR Engineering Elective				

College courses offered locally in the high school for college credit should be coded: DE (Dual Enrollment) and/or VC (Validated Credit)

Related Industry Certifications Available:

Additional Suggested Learning Opportunities:

Work-Based Learning:

- Cooperative Education
 Internship
 Mentorship
 Job Shadowing
 Service Learning Project
 Registered Apprenticeship

UNIVERSITY

University/College:
Degree or Major:
Number of Articulated CC Credits:

Notes: