

Commonwealth of Virginia Plan of Study

Student Name: _____
School: Alexandria City Public Schools
Date: 2014-2015

Rev: 11/13

Cluster: Science Technology Engineering & Mathematics Pathway: Engineering & Technology

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 http://www.cteresource.org/apg/	SAMPLE – Occupations Relating to This Pathway: http://www.doe.virginia.gov/instruction/career_technical/career_clusters/sample_plans_study/index.shtml http://www.careerclusters.org http://www.cteresource.org/cpg/	
		NOTE: Indicate State Course Titles and Codes							
Graduation Requirements: http://www.doe.virginia.gov/instruction/graduation/index.shtml									
MIDDLE	7	English 7 (1110)	Math 7 (3111)	Life Science (4115)	U S History (2354)	Health, PE, Family Life	Inventions & Innovations (8464)	Aerospace Engineer Architecture Engineer Agricultural Engineer Automotive Engineer Biomedical Engineer Chemical Engineer Civil Engineer Communications Engineer Computer Engineer Computer Programmer Construction Engineer Electrical Engineer Geothermal Engineer Human Factor Engineer Industrial Engineer Manufacturing Engineer Mechanical Engineer Nuclear Engineer Process Engineer Systems Engineer Transportation Engineer	
	8	English 8 (1120)	Algebra I (3130)	Physical Science (4125)	Civics & Economics (2357)	Health, PE, Family Life	Technological Systems (8463)		
Career Assessment: Identify an appropriate career assessment instrument at the middle school level used to help students and their parents plan for high school: VA Wizard <input type="checkbox"/> or other assessment (please indicate): <u>Naviance</u>									
SECONDARY	9	English 9 (1130)	Geometry (3143)	Earth Science (4210)	World History/ Geography I (2215)	Economics & Personal Finance (6120) Health & PE (2 years) Foreign Language (3 years) Other Electives to Complement Pathway (Core Academic and CTE):	Engineering Explorations I (8450)		
	10	English 10 (1140)	Algebra II (3135)	Biology (4310)	World History/ Geography II (2216)		Aerospace Technology I (8487)		
	11	English 11 (1150)	Pre-Calculus (3162)	Chemistry (4410)	US/VA History (2360)		Advanced Engineering Analysis & Applications II (8451)		
	12	English 12 (1160)	Advanced Math (3160) or AP Calculus BC (3177)	Physics (4510)	US/VA Government (2440)		DE Engineering Statics (8498)		
College courses offered locally in the high school for college credit should be coded: DE (Dual Enrollment), AP (Advanced Placement) and/or VC (Validated Credit)									
List related certifications/credentials approved by VDOE and offered locally: http://www.cteresource.org/apg (Go to Certification – License Section)						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 checked="" type="checkbox"/> TSA			
Workplace Readiness Skills						Work-Based Learning: <input checked="" type="checkbox"/> Career Research <input type="checkbox"/> Cooperative Education <input checked="" 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 Virginia Placement Test or COMPASS						College Entrance Exams such as ACT, SAT and AP			
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		
	Engineering & Technology		AS Engineering		BS Engineering		MS Engineering		

College: [Northern Virginia Community College](#)

School Division(s): [Alexandria City Public Schools](#)

Postsecondary: Placement Assessments such as Virginia Placement Test, ACT or SAT

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 1st Semester	ENG 111 College Composition I	MTH 173 Calculus with Analytic Geometry I	PHY 231 General University Physics I		SDV 100 College Success Skills	EGR 120 Introduction to Engineering		
	Year 1 2nd Semester	ENG 112 College Composition II	MTH 174 Calculus with Analytic Geometry II	PHY 232 General University Physics II		PE Elective	EGR 126 Computer Programing for Engineers		
	Year 2 1st Semester		MTH 277 Vector Calculus	CHM College Chemistry I		Humanities Elective & Social Science Elective	EGR 240 Solid Mechanics Statics		
Year 2 2nd Semester	CST Elective				Humanities Elective & Social Science Elective	Engineering Elective	EGR 245 Engineering Mechanics	EGR 246 Mechanics of Materials	
College courses offered locally in the high school for college credit should be coded: DE (Dual Enrollment), AP (Advanced Placement) 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: George Mason University
 Degree or Major: Engineering
 Number of Articulated CC Credits: 68

Notes: This degree is designed for students wishing to transfer to an Engineering program. Students interested in going directly into the workforce should follow an AAS Engineering program.