

**Information Technology: Computer Engineering and Python Programming Pathways**

**Career Pathway Plan of Study for ► Learners ► Parents ► Counselors ► Teachers/Faculty**

This Career Pathway Plan of Study (based on the Programming and Software Development Pathway of the Information Technology Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Core courses listed within this plan are individualized to meet each learner’s educational and career goals. This Plan of Study meets appropriate high school graduation, college entrance, and Academy of Information Technology requirements.

EDUCATION LEVELS	GRADE	English/ Language Arts Course Offerings	Math Course Offerings	Science Course Offerings	Social Studies Course Offerings	Other Required Courses Other Electives Recommended Electives Learner Activities	*Career and Technical Courses and/ or Degree Major Courses for Programming and Software Development Pathway	SAMPLE Occupations Relating to This Pathway
<b>SECONDARY</b>	9	•English I, or •English I Honors	•Introductory Math; •Foundations of Math1; •Math 1; or •Math 1 Honors	•Earth/Environmental Science; •Earth/Environmental Science Honors	•World History; •World History Honors	Health/PE	•Web Design/Professional Ethics, and •Excel Honors	► Applications Analyst ► Applications Engineer ► Business Analyst ► Computer Engineer ► Data Modeler ► Game Developer ► Operating System Designer/ Engineer ► Program Manager ► Programmer ► Programmer Analyst ► Project Lead
	10	•English II, or •English II Honors	•Foundations of Math 1; •Math 1; •Math 1 Honors; •Math 2; or •Math 2 Honors	•Biology •Biology Honors; or •Physical Science •Physical Science Honors	•AP World History; •AP Human Geography; or •American History 1; •American History 1 Honors	2 Electives of choice	•Adobe Visual Design; and •CompTIA IT Fundamentals	► Software Applications Specialist ► Software Applications Tester ► Software Design Engineer ► Systems Administrator ► Systems Analyst ► Test Engineer ► Tester
	11	•English III •English II Honors; or •AP Language	•Math 2; •Math 2 Honors; •Math 3 •Math 3 Honors; •Pre-Calculus; •Pre-Calculus Honors; •Math 4; or •an Advanced Math	•Chemistry Honors; •Biology; or •Physical Science	•AP US History; or •American History II; •American History II Honors	2 Electives of choice	<u>Computer Engineering Pathway:</u> FTCC CTS 120; FTCC CTS 220 <u>Python Programming:</u> Python Programming I & II	
	12	•English IV; • English IV Honors; or •AP Literature	•Pre-Calculus; •Math 3; •Math 3 Honors; •Math 4; or •an Advanced Math		•Civics & Economics; •Personal Finance	OPTIONAL Electives: •Advanced Studies •Adobe Video Design	<u>Computer Engineering Pathway:</u> FTCC Options <u>Programming Pathway:</u> FTCC Options Additional FTCC Options in other IT fields	Foreign Language 2 years of the same language is required for the UNC system schools