



# Programming and Software Development



**Course Overview:** Encompass entry level, technical, and professional careers related to the design, development and support of hardware, software, multimedia, and systems integration services.

**Career Goal (O\*NET Code):** [Computer Programmer \(15-1021\)](#), [Applications Specialist \(15-1031\)](#), [Software Engineer \(15-1032\)](#), [Software Tester \(15-1099\)](#), [Computer Support Specialist \(15-1041\)](#).

**Student's Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
**School:** Mabank High School **Grade:**  9th  10th  11th  12th  AR  
**Primary Endorsement:** Business & Industry **Additional Endorsements:**  Arts & Humanities  Multidisciplinary  
 Public Service  STEM  
**Parent's Signature:** \_\_\_\_\_ **Student's Signature:** \_\_\_\_\_

## SUGGESTED COURSEWORK

## EXTENDED LEARNING EXPERIENCES

Middle School	8th	<b>HS Courses:</b>	Algebra I Art I Health	Spanish I Touch Systems Data Entry
	9th	<b>Core Courses:</b>	English I Algebra I or Geometry Biology	World Geography Languages other than English I Physical Education
10th		<b>Career-Related Electives:</b>	Business Information Management I	
	11th	<b>Core Courses:</b>	English II Geometry or Alg II IPC or Chemistry	World History Languages other than English II
12th		<b>Career-Related Electives:</b>	Digital Media	
	High School	11th	<b>Core Courses:</b>	English III Algebra II or Pre-Cal Physics
<b>Career-Related Electives:</b>			Computer Programming	
High School	12th	<b>Core Courses:</b>	English IV Alg II, Pre-Calculus, AP Calculus, AP Statistics or Math Elective Science Elective	Government/Economics Fine Arts Languages other than English IV
		<b>Career-Related Electives:</b>	Practicum in Information Technology or Dual Credit ITSC 1325, 1305 and 1391 for A+ Certification Dual Credit ITNW 1358, 1325 & 1392 for Network+ Certification	

**Curricular Experiences:**  
[Business Professionals of America](#)  
[Future Business Leaders of America](#)  
[SkillsUSA](#)  
[Technology Student Association](#)

**Career Learning Experiences:**  
 Apprenticeship  
 Career Preparation  
 Internship  
 Job Shadowing

**Extracurricular Experiences:**  
 Computer Tutor  
 Junior Engineering Technical Society  
 Language Immersion Programs  
 School Newspaper  
 Student Government  
 UIL Academic Competitions  
 Yearbook

**Service Learning Experiences:**  
 Boy Scouts of America  
 Campus Service Organizations  
 Community Service Volunteer  
 Girl Scouts of the USA  
 Peer Mentoring / Peer Tutoring

## COLLEGE CREDIT OPPORTUNITIES -- High School

Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated credit courses, if possible. List those courses that count for college credit on your campus.

Postsecondary	Practicum and/or Work-Based Experiences	Product Specialist	Applications Support	Web Developer
	Certificates	A+ JAVA Programmer	Network + MTA	OSHA CareerSafe

NOTE: These experiences may be started and/or completed as part of the high school experience.

NOTE: Students may earn all or part of these certificates as part of the high school experience.

**Career Options:**  
 Applications Specialist  
 Database Associate  
 Product Instructor  
 System Administrator

**Professional Associations:**  
[Association for Women in Computing](#)  
[Computer Security Institute](#)  
[Computer Technology Industry Association](#)  
[Help Desk Institute](#)  
[IEEE Computer Society](#)  
[National Council of Examiners for Engineers and Surveying](#)  
[National Society of Professional Engineers](#)  
[National Workforce Center for Emerging Technologies](#)  
[Texas Board of Professional Engineers](#)

Postsecondary	Associate Degrees	<a href="#">Cluster Foundation</a>	<a href="#">Program of Study Specific Courses</a>	<a href="#">15 hrs General Ed Curriculum</a>
	Bachelor Degrees	<a href="#">Computer Engineering</a> <a href="#">Computer Information Systems</a>	<a href="#">Computer Science</a> <a href="#">Computer Systems Management</a>	<a href="#">Software Engineering</a> <a href="#">Telecommunications</a>
	Graduate Degrees	<a href="#">Business Computer Information Systems</a>	<a href="#">Computer Science and Engineering Information Systems</a> <a href="#">Information Technology</a>	<a href="#">Information Technology &amp; Management</a> <a href="#">Information Systems Security</a>

**Career Options:**  
 Documentation Developer  
 Data Normalizer  
 PLC Programmer  
 SQL Script Writer  
 Assembly Language Retro-Agent

**Career Options:**  
 Configuration Analyst  
 Software Developer  
 Solutions Developer  
 Data Auditor  
 Technical Support Manager

**Career Options:**  
 Simulations Architect  
 Computer Linguist  
 Technology Columnist  
 Cryptologic Systems Programmer  
 IT Language Historian

This program of study (POS) serves as a guide, along with other college and career planning materials, for pursuing college and career goals. POS developed 2017. A Business & Industry endorsement as defined in 19 TAC 74.13(f)(2)(A) requires a coherent sequence of courses for four or more credits in career and technical education (CTE) that consists of at least two courses in the least one advanced CTE same career cluster, including at course, which includes any course that is the third or higher course in a sequence. The final courses in the sequence must be obtained from one of the Information Technology career cluster.