



Level 1

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| AP Computer Science Principles Computer Science I Game Programming and Design |
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Level 2

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| Introduction to C# Programming Applications AP Computer Science A, MATH AP Computer Science A, LOTE Mobile Application Development Computer Science II IB Computer Science Standard Level Discrete Mathematics for Computer Science Advanced Cloud Computing |
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Level 4

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| Computer Science III IB Computer Science Higher Level, LOTE IB Computer Science Higher Level, MATH Practicum in Information Technology Practicum in Audio/Video Production Practicum in Science, Technology, Engineering, and Mathematics Practicum in Entrepreneurship (TBD) Career Preparation I Independent Study in Technology Applications Independent Study in Evolving/Emerging Technologies |
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| HIGH SCHOOL/INDUSTRY CERTIFICATION | CERTIFICATE/LICENSE* | ASSOCIATE'S DEGREE | BACHELOR'S DEGREE | MASTER'S/DOCTORAL PROFESSIONAL DEGREE |
|---|--|---|---|---------------------------------------|
| Oracle Certified Association JAVA SE 8 Programmer | Certified Computing Professional | Computer Programming/ Programmer Genera | Management Information Systems, General | Computer Software Engineer |
| Oracle Certified Database Associate | Cloud Technology Associate Certification | Computer Software Engineer | Computer Software Engineer | Computer Science |
| Microsoft Technology Associate, Introduction to Programming Using Python, HTML or CSS | AEM 6 Developer | Computer Science | Computer Science | Information Science/ Studies |
| Microsoft Technology Associate, Introduction to Programming Using Java or Java Script | Certified Software Analyst | Certified Software Analyst | Information Science/ Studies | |

| Occupations | Median Wage | Annual Openings | % Growth |
|--------------------------------------|-------------|-----------------|----------|
| Software Developer, Systems Software | \$103,334 | 2,985 | 25% |
| Software Developers, Applications | \$104,499 | 6,311 | 30% |
| Computer Programmers | \$79,893 | 1,454 | 9% |

| WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES | |
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| Exploration Activities: | Work Based Learning Activities: |
| Join TSA Participate in coding club at school | Obtain an industry-based certification. |

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

 The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Programming and Software Development program of study will fulfill requirements of the Business and Industry and STEM endorsement if the math and science requirements are met. Revised - July 2020



Suggested SWIFT Programming Academy Level 1 Certificate

| 9th Grade | | | | |
|----------------------|------------|----------|-----|----------|
| ISD | Service ID | CR | LIT | SCH |
| English I | | 1 | | |
| W. Geography | | 1 | | |
| Algebra I | | 1 | | |
| IPC | | 1 | | |
| Foreign Langague I | | 1 | | |
| Fine Arts Credit | | 1 | | |
| P.E. Credit | | 1 | | |
| TOTAL CREDITS | | 7 | | 0 |

| 11th Grade | | | | |
|----------------------------------|------------|----------|---------------|----------|
| ISD | Service ID | CR | LIT | SCH |
| English III | | 1 | | |
| World History | | 1 | | |
| Algebra 2 | | 1 | | |
| Physics | | 1 | | |
| Elective | | 1 | | |
| Fundamentals of Computer Science | 03580140 | 1 | ITSC 1301 (F) | 3 |
| Computer Science I | 03580200 | 1 | ITSE 1302 (S) | 3 |
| TOTAL CREDITS | | 7 | | 6 |

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|--------------------------|-----------|
| ISD Total Credits | 28 |
|--------------------------|-----------|

| 10th Grade | | | | |
|----------------------|------------|----------|-----|----------|
| ISD | Service ID | CR | LIT | SCH |
| English II | | 1 | | |
| US History | | 1 | | |
| Geometry | | 1 | | |
| Biology | | 1 | | |
| Foreign Langage 2 | | 1 | | |
| Speech | | 0.5 | | |
| Electives | | 1.5 | | |
| TOTAL Credits | | 7 | | 0 |

| 12th Grade | | | | |
|--|------------|----------|---------------|-----------|
| ISD | Service ID | CR | LIT | SCH |
| English IV | | 1 | | |
| Economics | | 0.5 | | |
| US Government | | 0.5 | | |
| Pre-Cal/ 4th Math | | 1 | | |
| 4th Science | | 1 | | |
| Practicum in STEM | 13037400 | 2 | IMED 1341 (F) | 3 |
| | | | ITSE 2310 (S) | 3 |
| | | | ITSE 2321 (F) | 3 |
| | | | INEW 2330 (S) | 3 |
| Elective | | 1 | | |
| TOTAL CREDITS | | 7 | | 12 |
| LIT TOTAL Semester Credit Hours | | | | 18 |

| LIT Course | LIT Course Name |
|------------|---|
| ITSC 1301 | Introduction to Computers |
| ITSE 1302 | Computer Programing |
| IMED 1341 | Interface Design |
| ITSE 2321 | Object-Oriented Programming |
| ITSE 2310 | iOS Application Programming |
| INEW 2330 | Comprehensive Software Project: Planning & Design |

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| Endorsement: STEM |
| Program of Study: Programming & Software Development |
| Cluster: STEM |

Program Information

Students completing this course of study will graduate from LIT with their Level 1 SWIFT Program Academy Level 1 Certificate. This award can be applied to the AAS of Computer Information Systems at LIT for those who wish to continue on this path. Students will be prepared to take the Certiport SWIFT Certification. In most cases, ISD CTE instructors who are currently teaching these courses can be credentialed as LIT adjuncts to teach these courses.