Computer Programmer/Analyst A.B.

Curriculum Code: 0113
Effective: Fall 2020 – Summer 2025

Description

Programmer/analysts plan, develop, test, and document computer programs at the request of a specific user, applying knowledge of programming, project management, testing, and quality assurance techniques and computer systems. They may evaluate user requests to determine feasibility, cost, and time required, as well as compatibility with current system and computer capabilities. In addition, they read manuals, periodicals, and technical reports to develop programs that meet user requirements and to remain current with developments and standards in the information technology industry. They formulate a plan outlining steps required to develop programs and convert project specifications into program source instructions which are entered into the computer system and tested. They may write documentation and the user manual. Students completing this curriculum may also be eligible for a Certificate of Completion for Computer Programmer/Analyst (0969), Certificate of Achievement for Computer Software Tester (1633), and a Certificate of Achievement for Mobile Application Developer (1712). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

Contact Information

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

General Education - Applied Degree, Recommended Choices

(For the full list of options, see General Education)

- English Composition – *Select one*
  ENGL 121, Composition I, 4 credits / 4 billing hours

- English Composition (Second Course)/Communications or Applied Communications – *Select one*
  COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
  COMM 120, Dynamics of Communication, 3 credits / 3 billing hours
  COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences– *Select one*
  GEOG 200, World Regional Geography, 4 credits / 4 billing hours
  MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
  SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

- Mathematics or Applied Mathematics – *Select one*
  MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
  STAT 170, Introduction to Statistics, 4 credits / 4 billing hours

- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*
  BIOL 120, Environmental Science, 4 credits / 6 billing hours
  CHEM 135, Chemistry in Society, 4 credits / 5 billing hours
  PHYS 120, The Art of Physics, 4 credits / 5 billing hours

Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITD 120	SQL Concepts	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
CITF 260	Systems Analysis and Design	4 / 4
CITP 110	Intro to Programming-Python	4 / 4
CITP 130	Intro to Mobile App Devel	3 / 3
CITP 140	Software Testing	3 / 3
CITP 190	Intro to Programming in JAVA	4 / 4
CITW 150	Internet Literacy	3 / 3
CITW 160	Web Development HTML & CSS	3 / 3

Program of Study Required Courses, Limited Choices - Introductory Programming *- Select one*

Course Code	Course Title	Credit / Billing Hours
CITP 150	Intro to VB.NET Programming	4 / 4
CITP 180	Intro to C#.NET Programming	4 / 4
CITP 230	Mobile App Devel for Android	4 / 4
CITP 235	Mobile App Devel for Apple	4 / 4

Program of Study Required Courses, Limited Choices - Computer *- Select two courses, minimum 6 credits*

Course Code	Course Title	Credit / Billing Hours
CITD 250	Database Concepts	3 / 3
CITF 140	Information Technology Ethics	3 / 3
CITN 120	Networking Concepts	3 / 3
CITP 220	Game Design & Development	2 / 4
CITP 295	Programming Internship	3 / 3
CITW 165	Web Development JavaScript	3 / 3
CITW 180	Web Development ASP.NET	4 / 4
CITW 185	Web Development PHP & MySQL	4 / 4

Program of Study Required Courses, Limited Choices - Advanced Programming -
Select one

Course Code	Course Title	Credit / Billing Hours
CITP 230	Mobile App Devel for Android	4 / 4
CITP 235	Mobile App Devel for Apple	4 / 4
CITP 250	Advanced VB.NET Programming	4 / 4
CITP 280	Advanced C#.NET Programming	4 / 4
CITP 290	Adv JAVA Programming for Busn	4 / 4

Total Credit Hours

65-68 credits / 66-70 billing hours

Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics CITF 110 CITP 110 CITP 130 CITW 150	Gen Ed – English Composition BUSN 118 CITD 120 CITW 160 Limited Choice - Introductory Programming

Semester III	Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications CITP 140 CITP 190 Limited Choice - Computer	Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab CITF 260 Limited Choice - Advanced Programming Limited Choice - Computer