**AS, Computer Programming & Analysis**

**AS CPAN**

**Purpose**

The Associate in Science (AS) in Computer Programming and Analysis program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers such as entry level programmers, programmer specialists, computer programmers, senior programmers, chief business programmers, programmer analysts, andinformation systems programmers.

The content prepares individuals to analyze business situations and to design, develop and write computer programs; to store, locate, and retrieve specific documents, data, and information; analyze problems using logic/analysis tools, code into computer language; test, monitor, debug, document and maintain computer programs. More than one programming language is addressed in this degree program.

**Program Structure**

This program is a planned sequence of instruction consisting of 63 credit hours in the following areas: 18 credit hours of General Education Requirements, 18 credit hours of Information Technology Core Requirements, 15 credit hours of Computer Programming and Analysis Core Requirements, 6 credit hours of Business Requirements, 3 credit hours of Approved Computer Electives, and 3 Open Electives.

The Computer Programmer Certificate is a 33 credit hour certificate and the Computer Programming Specialist Certificate is an 18 credit hour certificate; both of which prepare students for entry into employment and are comprised of core courses in the AS Computer Programming and Analysis degree. As such, they can be earned before the student has earned the AS Computer Programming and Analysis degree.

**Course Prerequisites**

***Many courses require prerequisites.*** Click on each course’s name in the list below to check for prerequisites, minimum grade requirements, and other restrictions related to the course. Students must complete all prerequisites for a course prior to registering for it.

**Graduation**

Students must fulfill all requirements of their program major after which, students must complete an application for graduation through the Office of the Registrar and enroll in the GRD 2000 course the semester in which they intend to graduate. Students must apply for graduation ***by the*** ***published deadline*** to be assured of final clearance for graduation, timely receipt of their diploma, and participation in the commencement ceremony.

**General Education Requirements: 18 Credit Hours**

ENC 1101 - Composition I - 3 credits

ENC 1102 - Composition II - 3 credits

SPC 1017 - Fundamentals of Speech Communication - 3 credits

**OR**

SPC 2023 - Introduction to Public Speaking - 3 credits

PHI 2100 - Logic: Reasoning and Critical Thinking - 3 credits

**OR**

PHI 2600 - Ethics - 3 credits

\*Gen Ed Mathematics (MAC 1105-College Algebra or STA 2023-Statistical Methods I recommended) - 3 credits

\*Gen Ed Social Sciences (ECO 2013 - Economics I Recommended) – 3 credits

\*Courses specified as Mathematics, and Social Sciences may be chosen from any courses listed in the Associate in Arts Degree General Education Program Guide, AA, under their respective categories.

**Information Technology Core Requirements: 18 Credit Hours**

CGS 1000 - Computer Literacy - 3 credits (or CLEP CGS 1077 - 3 transfer credits)

CGS 1100 - Computer Applications for Business - 3 credits

CGS 2260 - Computer Hardware and Software Maintenance - 3 credits

CIS 2321 - Data Systems and Management - 3 credits

CNT 1000 - Computer Networking Essentials - 3 credits

COP 1000 - Introduction to Computer Programming 3 credits

**Computer Programming & Analysis, AS Degree Core Requirements: 15 Credit Hours**

COP 1822 - Internet Programming HTML - 3 credits

COP 2800 - Java Programming - 3 credits

COP 2823 - Advanced Microsoft Web Development - 3 credits

**OR**

COP 2830 - Internet Programming HTML II - 3 credits

**Choose one sequence of courses VB, C++, or C#:**

COP 1170 - Visual Basic Programming I - 3 credits

COP 2171 - Visual Basic Programming II - 3 credits

**OR**

COP 1224 - Programming with C++ - 3 credits

COP 2228 - Advanced Programming with C++ - 3 credits

**OR**

COP 2360 - C# Programming I - 3 credits

COP 2362 - C# Programming II - 3 credits

 **Business Requirements: 6 Credit Hours**

MAN 2021 - Management Principles - 3 credits

SLS 1331 - Personal Business Skills - 3 credits

**Approved Computer Electives: 3 Credit Hours**

Any 1000 or 2000 level course with a COP Prefix (Including COP 1949 Computer Programming Internship I) – 3 credits

**Open Electives: 3 Credit Hours**

**Electives may be taken from any 1000 and 2000 level courses**

**Total Degree Requirements: 63 Credit Hours**

**Information is available online at:** [**http://www.edison.edu/academics/**](http://www.edison.edu/academics/) **or on the School of Business and Technology Home Page at:** [**http://www.edison.edu/sobt**](http://www.edison.edu/sobt)