

COMPUTER SCIENCE

DEGREES, CERTIFICATES AND AWARDS

Associate in Science Degree (A.S.)

DESCRIPTION

Computer Science is the study of computer software design, development, and programming. Computer scientists seek to advance the fundamental understanding of how information is processed, as well as the practical design of software and hardware to accomplish specific functions. This Associate in Science degree requirements are designed to satisfy core requirements for many Computer Science transfer patterns. However, students should consult a counselor and especially the catalog of the intended transfer institution for specific transfer requirements in the major. Some transfer institutions require Physics for example.

PROGRAM LEARNING OUTCOMES

1. Manage a programming project from start to finish, both individually and in teams.
2. Think critically and utilize qualitative and quantitative reasoning skills to design and implement an effective problem solution.
3. Apply algorithmic and symbolic thinking to the problem-solving process.

ASSOCIATE DEGREE PROGRAM

The **Associate in Arts (AA) or the Associate in Science (AS) Degree** involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including grades of C in all courses required for the major, and fulfillment of all IVC district requirements for the associate's degree along with all general education requirements. The degree provides a sound basis for transfer to upper division institutions for additional degrees or for higher vocational preparation. To be eligible to receive an Associate Degree the student must complete the requirements for the major, the District requirements for an Associate Degree, and the General Education requirements. In addition students must maintain a minimum grade point average and meet the minimum grade requirements of their program. Detailed information is available in the college catalog.

CAREER OPPORTUNITIES

Of the career opportunities identified many will usually require the completion of degree requirements at 4-year colleges and universities.

- Systems Programmer
- Software Designer
- Computer Researcher
- Systems Administrator
- Security Systems Designer
- Database Programmer
- Consultant
- Educator
- Documentation/Technical Writer
- Technical Sales and Marketing Specialist
- Scientific Application Programmer
- Computer Services Coordinator
- Computer Graphics Specialist
- Computer Scientist
- Computer Systems Analyst
- Technical Representative
- Teleprocessing Coordinator
- Data Processing Application Programmer
- Database Administrator
- Data Processing Manager
- Technical Product Support Personnel
- Management Information Specialist
- Computer Operations Manager
- Data Communications Manager
- Information Specialist
- Programmer Analyst
- Software Engineer
- Systems Manager
- Systems Programmer
- Technical Control Specialist
- Engineer Security Specialist
- Data Mining Analyst

Gainful Employment: Federal regulations require institutions to provide students with Gainful Employment information for specific certificate programs offered at IVC. Please click on our Programs of Study link to view the information for each certificate program: <http://www.imperial.edu/courses-and-programs/programs-of-study/>



TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree at Imperial Valley College may not be the same as those required for completing the major at a transfer institution offering a bachelor's degree. Students who plan to transfer to a four-year college or university should schedule an appointment with an IVC Counselor to develop a student education plan (SEP) before beginning their program.

Transfer Resources:

www.ASSIST.org – CSU and UC Articulation Agreements and Majors Search Engine

www.CSUMentor.edu – CSU System Information

www.universityofcalifornia.edu/admissions/index.html - UC System Information

www.aiccu.edu – California Independent Colleges and Universities, Association of

<http://wiche.edu/wue> - Western Undergraduate Exchange Programs

FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that IVC offers a full array of financial aid programs – grants, work study, scholarships, and fee waivers (we do not participate in the federal loan programs). These programs are available to both full and part time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information: www.imperial.edu/students/financial-aid-and-scholarships/

COMPUTER SCIENCE

ASSOCIATE DEGREE PROGRAM

COMPUTER SCIENCE MAJOR – A.S. DEGREE

Twenty-seven (27.0) units required for the major.

ALL COURSES FOR THIS MAJOR MUST BE COMPLETED WITH A MINIMUM GRADE OF "C" OR BETTER.

I. Required courses for the major (18.0 units)

CS	231	Introduction to Data Structures	3.0
CS	281	Assembly Language and Machine Organization	3.0
MATH	119	Elementary Statistics	4.0
MATH	192	Analytic Geometry and Calculus I	4.0
MATH	194	Analytic Geometry and Calculus II	4.0

II. Select a minimum of nine (9.0) units from the following courses to include at least one (1) mathematics course, and (1) science course

BIOL	180	General Biology: Molecules, Cells & Genetics (4.0)
BIOL	182	General Biology: Principles of Organismal Biology (4.0)
CHEM	200	General Inorganic Chemistry I (5.0)
CHEM	202	General Inorganic Chemistry II (5.0)
CS	170	Introduction to Unix/Linux (3.0)
MATH	230	Introduction to Linear Algebra with Applications (3.0)
MATH	240	Discrete Mathematics (3.0)
PHYS	200	General Physics I (4.0)
PHYS	202	General Physics II (4.0)
PHYS	204	General Physics III (4.0)

Total Major Units

27.0