MATHEMATICS

DEGREES, CERTIFICATES AND AWARDS
Associate in Science Degree (A.S.)

DESCRIPTION
The study of Mathematics concerns the nature and manipulation of numbers. The IVC mathematics program is designed to provide students with an appreciation of the nature, scope and power of mathematics, as well as an understanding of how mathematics is applied to business, engineering, science and daily life. The program consists of a clear sequence of courses which prepares students for transfer, a variety of fields of study, and career opportunities.

PROGRAM LEARNING OUTCOMES
1. Students will use mathematical reasoning to solve problems and a generalized problem solving process to work word problems.
2. Students will learn mathematics through modeling real-world situations.
3. Students will use appropriate technology to enhance their mathematical thinking and understanding, solve mathematical problems, and judge the reasonableness of their results.

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.

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/

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CAREER OPPORTUNITIES
Virtually all two-year career programs in business or technology fields also require a solid foundation in mathematics. Many BA/BS level careers require extensive background in Mathematics.

- Auditor
- Actuary
- Appraiser
- Assessor
- Biology/Agriculture
- Budget Analyst
- Business/Economics
- Casualty Rater
- Chemistry
- Controller
- Education
- Engineer
- Engineering Analyst
- Finance Director
- Financial Analyst
- Industry
- Investment Analyst
- Loan Officer
- Marketing/Advertising
- Mathematician
- Mathematics
- Numerical Analyst
- Operations Analyst
- Opinion Polling
- Physical Science
- Public Health
- Sociology
- Statistician
- Systems Analyst
- Tax Collector
- Teacher
- Technical Writer

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/
ASSOCIATE DEGREE PROGRAM

MATHEMATICS 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 (27.0 units)
   A.  Fifteen (15.0) units required:
       MATH 192  Calculus I  5.0
       MATH 194  Calculus II  5.0
       MATH 210  Calculus III  5.0
   B.  Three (3.0) units selected from:
       MATH 220*  Elem Differential Equations (3.0)
       MATH 230*  Introduction to Linear Algebra with Applications (3.0)
   C.  Nine (9.0) units selected from:
       CIS 210  Programming in C++ (3.0)
       CS 220  Introduction to Object Oriented Programming Using Java (4.0)
       MATH 119  Elementary Statistics (4.0)
       MATH 220*  Elementary Differential Equations (3.0)
       MATH 230*  Introduction to Linear Algebra with Applications (3.0)
       MATH 240  Discrete Mathematics (3.0)
       MATH 241  Mathematics Software Matlab (1.0)
       PHYS 200  Principles of Physics I (5.0)
       PHYS 202  Principles of Physics II (5.0)
       PHYS 204  Principles of Physics III (5.0)

* Courses designated with an asterisk may be counted in one area only.

Total Major Units 27.0
IVC Graduation Requirements and GE Pattern: 30.0
Electives (as needed to reach 60 degree applicable units) 
Total Maximum Units: 60.0