MATH/SCIENCE

Science has to do with the tested and proven laws concerning the universe and how physical items function and interact. Applying scientific principles and knowledge often involves mathematical skills.

Career Opportunities

While not all math-based careers involve science, many careers in the sciences require the use of math. Some careers that involve both math and science are postsecondary computer science teachers, pharmacists, forensic science technicians, chemical engineers, and hazardous materials removal workers.

Transfer

The Associate in Science degree in Math/Science is often a degree earned by students who are pursuing a bachelor's degree in transfer majors such as Biology, Chemistry, Engineering, Environmental Studies, Geology, Mathematics, and Physics. It is also commonly earned by students planning to enter a Nursing program. To explore a bachelor's degree in these fields, visit assist.org (https://www.assist.org/). Please stop by the Transfer Center in Building 23 or make an appointment with a counselor if you have questions.

Math/Science, AS

State Control Number: 04976
Program Code: MASC.AS, MASC.NURS.AS, or MASC.RT.AS
Approved for Federal Financial Aid: Yes

The Math/Science major requires 18 units from any of the following courses.

To earn this degree, complete the major coursework with "C" grades or better and all of the following graduation requirements: 60 minimum degree-applicable units (including a maximum 4 units of activity); 2.0 minimum overall GPA; 12 degree-applicable units through VVC; Information Competency; Global Citizenship; Kinesiology, and the VVC General Education pattern (https://catalog.vvc.edu/degrees-certificates/vvcge/#vvcge). Courses may count in one area only, either in the major or in a general education category. Courses counted in one AA/AS major may not be used in another AA/AS major.

Code	Title	Units
Required Courses		
Complete 18 units from any of the following courses:		18.0
Mathematics		
ELCT 57		
ELCT 58		
ELCT 59		
ELCT 60		
MATH 104	Trigonometry	
MATH 105	College Algebra	
MATH 105H		
MATH 120	Introduction to Statistics	
MATH 120S	Introduction to Statistics With Skills Support	
MATH 129	Independent Study	
MATH 132	The Ideas of Math	
MATH 226	Analytic Geometry and Calculus I	
MATH 226H	Honors Analytic Geometry and Calculus I	
MATH 227	Analytic Geometry and Calculus II	
MATH 227H	Honors Analytic Geometry and Calculus II	
MATH 228	Analytic Geometry and Calculus III	
MATH 228H	Honors Analytic Geometry and Calculs III	
MATH 231	Linear Algebra	
MATH 270	Differential Equations	
PSYC 215	Introduction to Statistics in Social and Behavioral Sciences	
Life Sciences		
AGNR 123	Introduction to Plant Science	
ANTH 101	Introduction to Physical Anthropology	
ANTH 101L	Physical Anthropology Laboratory	
BIOL 100	General Biology	
BIOL 107	Introduction to Human Biology	
BIOL 110	Introduction to Human Nutrition	
BIOL 118	Principles of Heredity	
BIOL 201	Biology of Cells	
BIOL 202	Biology of Organisms	
BIOL 203	Population and Environmental Biology	
BIOL 211	Human Anatomy	
BIOL 213		
BIOL 215	Human Gross Anatomy	
BIOL 221	General Microbiology	
BIOL 231	Human Physiology	
BIOL 233	Pathophysiology	
HLTH 102	Contemporary Problems in Personal and Community Health	
Physical Sciences		
AGNR 131	Introduction to Soil Science	
AGNR 170	Environmental Science and Sustainability	
ASTR 101	Descriptive Astronomy	
CHEM 100	Introductory Chemistry	
CHEM 201	General Chemistry	
CHEM 202	General Chemistry	
CHEM 206	Introductory Chemistry II: Organic Chemistry	
CHEM 207	Introductory Chemistry III: Biochemistry	
CHEM 281	Organic Chemistry	
CHEM 282	Organic Chemistry II	
GEOG 101	Introduction to Physical Geography	
GEOG 101L	Geography 1 Laboratory	
GEOG 103	Geography of California	
GEOG 130	Introduction to Weather and Climate	
GEOL 101	Physical Geology	
OCEA 101	Oceanography	
PSCI 101	Principles of Physical Science	
PHYS 100	Introductory Physics	
PHYS 201	Engineering Physics I-Mechanics	
PHYS 202	Engineering Physics II - Fluids, Sound, and Thermodynamics	
PHYS 203	Engineering Physics III Electricity And Magnetism	
PHYS 204	Engineering Physics IV-Optics and Modern Physics	

Code	Title	Units
PHYS 221	General Physics I	
PHYS 222	General Physics II	
Total Units		**18**

Program Learning Outcomes

Program Learning Outcomes (PLOs) are statements of the kind of learning a program hopes a student will achieve. The PLOs describe the knowledge, skills, problem-solving, communication and values that apply to all certificates and/or degrees within that program. For the IGETC program, PLOs link to the college's Institutional Learning Outcomes (ILOs).

Upon completion of this program, students should be able to:

1. **Communication:** Read and write analytically including evaluation, synthesis, and research; deliver focused and coherent presentations.
2. **Computation:** Apply complex problem-solving skills using technology, computer proficiency, decision analysis (synthesis and evaluation), applications of mathematical concepts and reasoning, and the analysis and use of numerical data.
3. **Creative, Critical and Analytical Thinking**: Apply procedures for sound reasoning in the exercise of judgment and decision making; demonstrate intellectual curiosity and a respect for learning; solve problems through analysis, synthesis, evaluation and creativity; identify, evaluate and appropriate use of multiple sources of information.
4. **Social and Personal Responsibility:** Evaluate the relationship between natural, social and economic systems and the significance of sustainability; demonstrate responsible attitudes toward cultural diversity, citizenship, personal contribution to local and international communities, and the effect of human actions on the environment.
5. **Information Competency**: Students demonstrate information competency and critical thinking skills through their ability to effectively locate, retrieve, evaluate and utilize use library and information resources within the guidelines of academic standards to meet collegiate and personal information needs.
6. **Health and Human Flourishing:** Synthesize educational aims into a holistic approach to the many facets of human flourishing; apply principles of physical, psychological and emotional health and fitness; demonstrate scholarly skills that support intellectual virtues for life-long learning; embrace concepts of fiscal responsibility; and define goals that extend beyond oneself.