Physical Sciences

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Program Description

The Physical Sciences program provides students with a comprehensive foundation in the physical sciences, promotes environmental awareness and careful stewardship of earth’s resources, and fosters scientific literacy to enable our students to function well in a world increasingly influenced by science and technology. MSJC offers both transfer and non-transfer degrees in the physical sciences, provide prerequisite courses for transfer degree programs at universities, and courses for degree programs at MSJC, and courses that satisfy General Education requirements for students planning to transfer to colleges and universities. Our emphasis is upon delivering high-quality instruction in an inclusive, positive, learning environment that facilitates success for all students.

Transfer Preparation

MSJC offers a range of course work to prepare students to transfer to four-year colleges and universities. Courses that fulfill major requirements for an associate degree in this program might not be the same as those required for transfer into the major at a four year university. All four-year institutions prescribe their own standards for course evaluation and admissions. Prospective transfer students are advised to research careers, degrees and majors in the Career/Transfer Center, access www.assist.org, review the MSJC catalog and meet with a counselor to expedite their transfer plan.

Learning Outcomes

Astronomy
• Describe the nature of the material universe.
• Employ astronomical instruments.
• Analyze the relationship between science and the astronomical environment
• Appraise the importance of astronomy with regards to scientific progress.

Chemistry
• Demonstrate the ability to apply scientific inquiry to problem solving, including relationships between science and human activities.
• Demonstrate a fundamental knowledge and understanding of the Periodic Table of Elements and the nature and properties of elements.
• Demonstrate a knowledge and understanding of the fundamental principles governing matter and energy and their transformations via chemical reactions.

Earth Science
• Explain the interrelationship between humans and the physical environment.
• Appreciate different cultural and ethnic perspectives within the context of environmental opportunities and challenges.
• Apply the scientific method to objective and subjective analysis of cultural and physical environments.
• Explore and critically appreciate spatial relationships at different local, regional to global scales.
Environmental Science - See Environment Science
Geography - See Geography and Geographic Information Systems

Geology
- Explain and appreciate how scientific knowledge is obtained and verified.
- Achieve basic literacy in the language of geology.
- Think critically about issues using their understanding of geology.
- Explore the ethical and social considerations inherent in geology.

Physics
- Analyze physical problems using the laws of physics and appropriate mathematical techniques.
- Measure and collect data from experiments.
- Use the principles of physics to analyze and draw appropriate conclusions concerning the collected data.