

Science (SCI)

Science (SCI) Classes

SCI 121 : Introduction to Science (Biological Science)

Credits: 3

Class Hours: 3 lecture

Description:

This general introduction to the basic concepts of biology is intended to provide the non-science majors with a basic understanding of their own bodies and the environment in which they live. This course is taught with a marine emphasis.

Semester Offered: Fall, Spring

Designation: Diversification: Biological Sciences — DB

Course Student Learning Outcomes (CSLOs):

1. Describe the mechanism through which DNA controls an organism's structure, function, and adaptability.
2. Compare and contrast the life processes of the three domains of life.
3. Explain the role of evolution in biology.
4. Discuss the interrelationship and interdependence of all living organisms on earth.

SCI 121L : Introduction to Science Lab

Credits: 1

Class Hours: 3 lab

Prerequisites:

"C" or higher or concurrent enrollment in SCI 121.

Description:

This laboratory science course is designed to accompany SCI 121.

Semester Offered: Fall, Spring

Designation: Diversification: Lab (Science) — DY

Course Student Learning Outcomes (CSLOs):

1. Demonstrate an awareness of the biological scientist's approach to natural phenomenon.
2. Demonstrate a sense of relevance in data collection, data handling, interpretation, accurate reporting, and working with hypothesis and isolation of variables.
3. Identify and label the parts of a microscope and use the microscope as a tool.

SCI 122 : Introduction to Physical Science

Credits: 3

Class Hours: 3 lecture

Prerequisites:

Qualified for ENG 100 and MATH 82X.

Corequisite Courses: SCI 122L

Description:

In this course, students will explore how relatively simple physical principles can explain and predict the outcome of natural events observed on Earth and beyond.

Semester Offered: Fall, Spring

Designation: Diversification: Physical Sciences — DP

Course Student Learning Outcomes (CSLOs):

1. Describe important basic physical principles from the course (examples might be the law of conservation of energy, kinetic theory of motion, Archimedes principle, Ohm's Law, Laws of thermodynamics, Pascal's principle, principle of inertia, etc.).

2. Explain why certain physical processes progress the way they do (e.g. for processes arising from principles discussed in class).
3. Apply physical principles to solve problems and predict outcomes.
4. Calculate quantities and solve problems using mathematical formulations of physical principles.

SCI 122L : Introduction to Physical Science Laboratory

Credits: 1

Class Hours: 3 lab

Prerequisites:

Qualified for ENG 100 and MATH 82X.

Corequisite Courses: SCI 122

Description:

This course provides hands-on learning activities, investigates methods of general scientific inquiry, and explores laboratory methods in physical sciences such as physics, chemistry, astronomy, geology, meteorology, and oceanography. Students will also explore characteristics of science and its utility in gaining knowledge and solving problems.

Semester Offered: Fall, Spring

Designation: Diversification: Lab (Science) – DY

Course Student Learning Outcomes (CSLOs):

1. Describe and provide examples of the utility and limitations of science for society.
2. Appropriately apply scientific principles and methods of scientific inquiry.
3. Record observations and data with integrity in a manner that is well documented, organized, legible, and complete.
4. Characterize the guiding principles and methods of science.
5. Properly use various instruments to make measurements and characterize errors or uncertainty.

SCI 125L : Experimental Methods in Science

Credits: 1

Class Hours: 3 lab

Prerequisites:

Qualified for ENG 100 and MATH 100.

Description:

SCI 125L explores experimental design, guiding principles, and limitations of good science. It emphasizes the analysis and credibility of scientific approaches and design and application of experimental methods to formulate hypotheses and test ideas.

Semester Offered: Fall, Spring

Course Student Learning Outcomes (CSLOs):

1. Characterize the guiding principles and methods of science
2. Describe and provide examples of the utility and limitations of science for society
3. Critically evaluate scientific approaches or experimental designs
4. Formulate, design, and apply methods to test a hypothesis
5. Properly use various instruments to make measurements and characterize errors or uncertainty
6. Record observations and data with integrity in a manner that is well documented, organized, legible, and complete

SCI 170 : STEMinar: Science, Technology, Engineering, and Mathematics Seminar

Credits: 1

Class Hours: 1 lecture

Description:

This one-credit course primarily explores current topics in science, technology, engineering, and mathematics (STEM) in a seminar format. The course will also cover the process and guidelines of science, careers pathways in STEM, and the role of STEM in our modern economy and society.

Semester Offered: Fall

Course Student Learning Outcomes (CSLOs):

1. Describe individual and inter-related roles of science, technology, engineering, and mathematics in modern society.
2. Describe the aims and methods of science.
3. Formulate detailed academic plans toward a bachelor's degree.
4. Articulate a clear vision for prospective careers.
5. Explain and evaluate a modern STEM topic or idea, including the discussion of ethical dimensions of the scientific issue.

SCI 199V : Special Studies

Description:

See explanation under the heading of Special Studies.

SCI 295 : STEM Research Experience

Credits: 1

Class Hours: 3 lab

Prerequisites:

Approval of instructor.

Recommended:

"C" or higher in ENG 100. "C" or higher in MATH 115 or qualified for MATH 140X.

Comments:

May be repeated for a maximum of 6 credits.

Description:

This course offers a research experience in science, technology, engineering, and/or mathematics, emphasizing the application of the scientific principles and methods to a specific project.

Semester Offered: Fall, Spring

Designation: Diversification: Lab (Science) — DY

Course Student Learning Outcomes (CSLOs):

1. Work responsibly in a lab setting
2. Collaborate as a member of a research team
3. Enhance understanding of scientific concepts
4. Formulate a hypothesis
5. Collect and analyze data as appropriate
6. Design methods to test a hypothesis
7. Document and formally present results of hypothesis testing to an audience