BI 115 : SCIENTIFIC THINKING WITH LAB

Transcript title

Scientific Thinking with Lab

Credits

4

Grading mode

Standard letter grades

Total contact hours

60

Lecture hours

30

Lab hours

30

Course Description

Introduces the language and process of the scientific method and scientific studies. Provides tools to evaluate scientific information, including identifying pseudoscience and unethical uses of science. Promotes critical evaluation of scientific data and effective science communication. Labs offer students hands-on exploration of scientific inquiry.

Course learning outcomes

1. Describe the scientific process.
2. Identify pseudoscience and types of bias.
3. Describe types of scientific studies and their limitations.
4. Evaluate scientific data, including graphs and images.
5. Examine impacts of unethical applications of scientific information.

Content outline

1. Language of science; what science is and isn't
2. Scientific method and science as a process
3. Identifying pseudoscience and types of bias in science using the fundamentals of information literacy
4. Types of scientific studies
5. Limitations of scientific studies, including non-representative samples, unrepeatability, and data collection errors
6. Evaluating and interpreting graphs and images
7. Applying critical scientific thinking to decision making
8. Identifying impacts of applying science unethically
9. Effective scientific communication

Required materials

Required materials may include a course pack or textbook.

General education/Related instruction lists

- Science Lab