

Scientific Literacy

In the broadest sense, the overall goal of BIO 1431 (and of the SWT Biology Curriculum in general) is to help students attain scientific literacy in Biology. Attaining scientific literacy is an especially important component of a well-rounded university education. Attaining scientific literacy requires both mastering of course content and applying what has been learned to novel situations. A scientifically literate person is described in "Science for All Americans" by Rutherford and Ahlgren as one who

... is aware that science, mathematics, and technology are interdependent human enterprises with strengths and limitations; understands key concepts and principles of science; is familiar with the natural world and recognizes both its unity and diversity; and uses scientific knowledge and ways of thinking for individual and social purposes.

Furthermore, the National Science Education Standards consider a scientifically literate individual one who can

...ask, find, or determine answers derived from curiosity about everyday experiences; describe, explain, and predict natural phenomena; read with understanding articles about science in the popular press and engage in social conversations about the validity of the conclusions; identify scientific issues underlying national and local decisions and express positions that are scientifically and technologically informed; evaluate the quality of scientific information on the basis of its source and the methods used to generate it; and pose and evaluate arguments based on evidence and apply conclusions from such arguments.

References:

Science as a Way of Knowing. American Society of Zoologists (1984)
Developing Scientific Literacy: Innovative Science Education BSCS (1993)
Benchmarks for Science Literacy AAAS (1993)

Strategies for Academic Success:

- Focus on understanding themes; don't just memorize seemingly unrelated minute facts
- Connect ideas and topics / lecture and lab
- Try to see the big picture
- Keep up because this class builds topic by topic
- Learn the subject because exams will require more than recognition of terms, they will test comprehension of fundamental concepts and critical thinking
- Relate the foundation you receive in this class to your continued exploration of Biology
- Develop a commitment to your education; relate your education to your life goals; have fun, but make your education your first priority
- Take responsibility for your education
 - attend lectures and pay attention
 - rewrite your notes soon after each lecture
 - incorporate notes and handouts
 - read the text and study figures and tables; use the table of contents, index, appendix, and glossary

- combine information presented in lecture with laboratory activities and assignments
- develop a schedule that includes: all regular time commitments (classes, work, meetings, etc.); time for eating, exercise, sleep; time to study and complete assignments (2 hrs. per hour in class / Daily for BIO 1431)
- select a good time and distraction-free place to study
- use available resources (computers, internet, SLAC, Writing Center, Library)
- test yourself (work problems at end of chapters, arrange study groups to discuss course content)
- visit your professor and IA if needed during office hours