

NEW COURSE PROPOSAL

PROGRAM AREA BIOLOGY

1. Catalog Description of the Course.

BIOL 170 FOUNDATIONS OF LIFE SCIENCE (4)

Three hours of lecture and three hours of laboratory per week

This course meets the needs of prospective Elementary School teachers. The course will cover a broad spectrum of topics including introduction to scientific inquiry with living organisms, physiology, cell biology, genetics, evolution and ecology. Current issues in biology will also be considered. The laboratories will focus on hands-on activities particularly relevant to Elementary School students. No credit given toward the major in Biology. A lab fee is required.

GenEd: B2

2. Mode of Instruction.

	Units	Hours per Unit	Benchmark Enrollment
Lecture	3	1	72
Seminar			
Laboratory	1	3	24
Activity			

3. Justification and Learning Objectives for the Course. Does it meet University Writing, and/or Language requirements?

This is a required course for the Bachelor of Arts in Liberal Studies (Teaching and Learning Option). This course will use lectures, audiovisual material, laboratory investigations and field work to demonstrate biological concepts and promote discovery. It will build student confidence in "science as a way of knowing".

Students who successfully complete this course will be able to:

- describe levels of organization and related functions in plants and animals
- identify the characteristics and basic needs of living organisms and ecosystems
- explain the processes of growth and development in individuals and populations
- design and critically assess the scientific investigations they perform
- identify the crucial role of life science in planning K-6 curricula
- evaluate student progress using guided inquiries
- demonstrate critical thinking skills

4. Is this a General Education Course YES

If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	2
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

5. Course Content in Outline Form.

- Cells and sub-cellular organelles
- Tissues, organs, systems
- Chemistry of biological systems
- Characteristics and basic needs of living organisms
- Ecosystem dynamics

- Life cycles (growth, reproduction)
- Evolutionary processes
- Evidence for evolution (Darwin)
- Scientific Method (testable hypotheses, variables, constants, controls, repeated trials, quantitative measurements etc.)

The course is based on the recommendations from The National Science Education Standards and it is taught in a "hands-on" format using activities, equipment and living organisms appropriate for K-6 classrooms.

6. References

- Campbell, Neil & Reece, Jane. 2002. *Biology*. Benjamin Cummings
 Hampton, Carolyn H. Hampton Carol D.& Kramer, David 1994. *Classroom Creature Culture: Algae to Anoles*. NSTA Press.
 Johnson, George B. 2003. *The Living World*. McGraw Hill.
 Moore, Randy & Vodopich, Darrell 1995. *General Biology Laboratory Manual*. McGraw Hill.
 NSTA Pathways to the Science Standards. 2000. Lowery, Lawrence F., Texley, Juliana & Wild, Ann. NSTA Press.
 Shimeld, Lisa 2003. *Student Study Guide to accompany The Living World*. McGraw Hill

7. List Faculty Qualified to Teach This Course.

Biology faculty

8. Frequency.

Projected semesters to be offered: Fall ___x___ Spring ___x___ Summer _____

9. New Resources Required.

- Computer (data processing), audio visual, broadcasting needs, other equipment
- Library needs
- Facility/space needs

Biology teaching laboratory with standard laboratory equipment and supplies.

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

Ching-Hua Wang _____ 20th Dec, 2002 _____
 Proposer of Course Date