

CATALOG YEAR 2006-2007
(Please use separate form for each add/change)

COLLEGE/SCHOOL :

College of Arts and Sciences

Current Catalog Page(s) Affected

pp. 260-261

Course:

(check all that apply)

Add: X

Change:

Delete: _____

Number _____ Title _____ SCH _____

Description _____ Prerequisite _____

If new, provide Course Prefix, Number, Title, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current catalog, copy and paste the text from the and indicate changes in red.

BIOL 5480 Field Biology. Four semester hours.

A field course on the diversity and ecology of populations and communities along the Rio Grande. A field trip of two to three weeks will be required. Prerequisite: Graduate standing and permission of the instructor. Laboratory fee: \$30.00.

Justification: New course for the Master of Science in Biology

Approvals:

Signature

Date

Chair
Department Curriculum Committee

Chair
Department

Chair
College Curriculum Committee

Dean

BIOL 5480 Field Biology

I. Course

A field course on the diversity and ecology of populations and communities along the Rio Grande. A field trip of two to three weeks will be required. Prerequisite: Graduate standing and permission of the instructor. Laboratory fee: \$30.00.

II Learning Outcomes:

Student will demonstrate:

1. Knowledge of general biological principles to include:
 - a. Awareness of the diversity of life (organismal and evolution).
 - b. Mechanisms which link all forms of life (morphology, cell & molecular biology, genetics & ecology).
2. The ability to think critically and to integrate factual and conceptual information into an understanding of scientific data.
3. Use of the scientific method to distinguish fact from fiction.
4. The ability to organize data and effectively communicate scientific understanding graphically, orally and in writing.
5. The ability to design and carry out scientific research with appropriate controls in a biological discipline.
6. An in depth understanding or competency in a specific area of biological science.
7. The ability to apply knowledge through critical thinking, inquiry, analysis and written communication to solve problems and produce a thesis or research paper.
8. The ability to effectively communicate with others in the biological sciences.
9. The ability to apply mathematical and statistical approaches to model, analyze and interpret biological information.
10. An understanding of professional ethics as applied to biological research in regards to ownership of intellectual properties and authorship, collaborative efforts with colleagues and the importance of strict adherence to the scientific method.

III. Course Syllabus

Course in three parts:

1. Prior to field trip:

Causal Questions

(Literature search on ecology and diversity of Rio Grande)

Hypotheses

Predictions

Experimental design

2. Field Trip

Testing Hypotheses

Data collection

3. Post field trip

Data analysis

Scientific Conclusion

Writing of research report.