

AEC 502: Introduction to Biological Research

In Workflow

1. 11AE Grad Head (harry_daniels@ncsu.edu)
2. CALS CC Coordinator GR (renutt@ncsu.edu)
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4. CALS CC Chair GR (david_ritchie@ncsu.edu)
5. CALS Final Review GR (renutt@ncsu.edu)
6. CALS Dean GR (sam_pardue@ncsu.edu)
7. mbreiski (martha_reiskind@ncsu.edu)
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13. PeopleSoft (ldmihalo@ncsu.edu; blpearso@ncsu.edu; Charles_Cliff@ncsu.edu; jmharr19@ncsu.edu; Tracey_Ennis@ncsu.edu)

Approval Path

1. Fri, 13 Nov 2015 11:38:22 GMT
Harry Daniels (harry_daniels): Approved for 11AE Grad Head
2. Thu, 14 Jan 2016 15:33:36 GMT
Robin Clements (renutt): Approved for CALS CC Coordinator GR
3. Mon, 25 Jan 2016 16:51:42 GMT
Robin Clements (renutt): Approved for CALS CC Meeting GR
4. Mon, 25 Jan 2016 17:29:43 GMT
David Ritchie (david_ritchie): Approved for CALS CC Chair GR
5. Mon, 25 Jan 2016 18:06:29 GMT
Robin Clements (renutt): Approved for CALS Final Review GR
6. Mon, 25 Jan 2016 22:06:45 GMT
Samuel Pardue (sam_pardue): Approved for CALS Dean GR
7. Thu, 28 Jan 2016 18:34:16 GMT
Martha Reiskind (martha_reiskind): Approved for mbreiski
8. Mon, 01 Feb 2016 20:35:04 GMT
George Hodge (george_hodge): Approved for ABGS Coordinator
9. Tue, 09 Feb 2016 20:54:21 GMT
Martha Reiskind (martha_reiskind): Approved for mbreiski
10. Wed, 10 Feb 2016 14:07:09 GMT
George Hodge (george_hodge): Approved for ABGS Meeting

New Course Proposal

Date Submitted: Thu, 12 Nov 2015 19:27:43 GMT

Viewing: AEC 502 : Introduction to Biological Research

Changes proposed by: mbreiski

Course Prefix

AEC (Applied Ecology)

Course Number

502

Dual-Level Course

No

Cross-listed Course

No

Title

Introduction to Biological Research

Abbreviated Title

Intro to Biol Res

College

College of Agriculture and Life Sciences

Academic Org Code

Applied Ecology (11AE)

CIP Discipline Specialty Number

03.0104

CIP Discipline Specialty Title

Environmental Science.

Term Offering

Fall Only

Year Offering

Offered Every Year

Effective Date

Fall 2015

Previously taught as Special Topics?

Yes

Number of Offerings within the past 5 years

1

Course Prefix/Number

AEC 592 Section 10

Semester/Term Offered

Fall 2015

Enrollment

11

Course Delivery

Face-to-Face (On Campus)

Grading Method

Graded/Audit

Credit Hours

2

Course Length

15

weeks

**Contact Hours
(Per Week)**

Component Type

Discussion

Contact Hours

1.67

Course Is Repeatable for Credit

No

Instructor Name

Craig Layman

Instructor Title

Associate Professor

Grad Faculty Status

Full

Anticipated On-Campus Enrollment

Open when course_delivery = campus OR course_delivery = blended OR course_delivery = flip

Enrollment Component	Per Semester	Per Section	Multiple Sections?	Comments
Discussion	15	15	No	Students in both the Zoology and FWCB graduate programs will be strongly encouraged to take this course their first year.

Course Prerequisites, Corequisites, and Restrictive Statement

There are no prerequisites, corequisites or restrictive statements related to this course.

Is the course required or an elective for a Curriculum?

No

Catalog Description

The course provides a philosophical background for the field of ecology, then transitions to practical aspects of the field including a focus on grant proposal development, how to read and review papers and grant proposals, and how to give a presentation at a scientific meeting. A series of outside speakers will provide a broad perspective on the resources and opportunities available for graduate students at North Carolina State University. An emphasis will be placed on peer collaboration and feedback, developing professional relationships that will be important throughout the graduate tenor of this cohort of students.

Justification for new course:

The main objective in this course is to develop the tools and skills that are needed to excel in graduate school. Currently there is no course offered in the Zoology and Fisheries, Wildlife, and Conservation Biology programs that focuses on building skills for conducting successful research in ecology, developing writing and communication skills in these graduate programs.

Does this course have a fee?

No

Consultation

College(s) College of Natural Resources	Contact Name Chris Moorman	Statement Summary This course will provide background in biological research for the Fisheries, Wildlife, and Conservation Biology Graduate Program
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Instructional Resources Statement

No additional instructional resources required.

Course Objectives/Goals

The main objective in this course is to develop the tools and skills that are needed to excel in graduate school. An emphasis will be placed on peer collaboration and feedback, developing professional relationships that will be important throughout the graduate tenor of this cohort of students.

Student Learning Outcomes

By the end of this course, students will be able to: (1) develop their own scientific research program or work effectively within an existing research program, (2) convey a philosophical perspective on the field of ecology, (3) read and critically review scientific papers and grant proposals, (4) develop a structured grant proposal, (5) develop and present an oral presentation, (6) design and maintain a personal web page, (7) create a curriculum vita that communicates professional background to potential employers or funders, and (8) identify and access a diverse suite of graduate student resources and opportunities at North Carolina State University.

Student Evaluation Methods

Evaluation Method	Weighting/Points for Each	Details
Written Assignment	74%	Devise a potential committee list; preliminary bibliography; proposal context; develop a personal webpage; write up experimental design for a research proposal; peer review other student's experimental design; research proposal; peer review other student's research proposal; develop a professional CV; manuscript review; peer review other student's manuscript review. Please see syllabus for more details.
Oral Presentation	14%	Verbal presentation of the research presentation in scientific meeting style. Feedback on three colleague's presentations. Please see syllabus for more details.
Participation	12%	An overall assessment of participation in class discussions. Will require weekly contributions to among student interactions. Please see syllabus for more details.

Topical Outline/Course Schedule

Topic	Time Devoted to Each Topic	Activity
1. Graduate School Timeline and General Requirements	1 week	please see syllabus and details of evaluation method
2. How to Critically Evaluate Scientific Papers	1 week	please see syllabus and details of evaluation method
3. What is Science and How Does Science Progress?	1 week	please see syllabus and details of evaluation method
4. History and Philosophy of Ecology	1 week	please see syllabus and details of evaluation method
5. Web Page Design, Web Resources and Data Management	1 week	please see syllabus and details of evaluation method
6. How to Develop a Research Idea and Program	1 week	please see syllabus and details of evaluation method
7. Basics of Experimental Design	1 week	please see syllabus and details of evaluation method

8. How to Write a Grant Proposal	1 week	please see syllabus and details of evaluation method
9. Communication of Science to the Public	1 week	please see syllabus and details of evaluation method
10. Resources for Graduate Students at NCSU	1 week	please see syllabus and details of evaluation method
11. Grant Review Panels	1 week +	please see syllabus and details of evaluation method
12. Affiliated Research Groups with the Department of Applied Ecology	1 week	please see syllabus and details of evaluation method
13. How to Review Scientific Papers	1 week +	please see syllabus and details of evaluation method
14. How to Give a Scientific Presentation	1 week +	please see syllabus and details of evaluation method

Syllabus

Introduction to Biological Research_Syllabus_REVISED.pdf

Additional Documentation

Consultation with DrLeBlanc_AEC502.pdf

Additional Comments

mInosbis 1/26/2016: No overlapping courses. Consultation provided from FWCB program. Suggest College of Sciences consultation.

ghodge 1/26/2016 Agree, ask for College of Sciences consultation from Jo-Ann Cohen. Comment: is it possible for the student learning objectives to be more specific to ecology.

mbreiski 1/28/16 I have attached a consultation with Dr. LeBlanc, note Jo-Ann Cohen is cc'd on that email. There is no conflict with COS. In addition, the course is a professional development course for the Zoology graduate program and as such is broader than ecology. The learning objectives will remain broad to address the needs of the students in this program. Also note the consultations from before were with the DGPs of the graduate program of Zoology, Dr. Nick Haddad and of FWCB, Drs. Harry Daniels and Chris Moorman. Please let me know if you need any additional information.

ghodge 2/1/2016 Ready for ABGS reviewers

ABGS Reviewer Comments:

- Suggest an objective/goal such as, "Create a curriculum vita that communicates professional background to potential employers or funders."
- perhaps tweak abbreviated title- "Introduction" is not abbreviated, while "biological research" is
- Syllabus is not quite compliant with Graduate School requirements (specifically item 14)

ghodge 2/6/2016 Ask program to incorporate ABGS reviewer comments

mbreiski 9Feb16 All changes were made. Most of item 14 was in the syllabus, two references to the Office for Institutional Equity and Diversity and Grades and Grade Point Average were added to the syllabus. This hopefully is the last go around and we can get this course on the books!

ghodge 2/10/2016 Ready for Admin Board meeting

Course Reviewer Comments

Key: 7206