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UNIVERSITY OF KENTUCKY

New Course Report

3/11/2013 8:30:40 AM
OFFICE OF THE SENATE COUNCIL

1. General Information

1a. Submitted by the College of: ARTS &SCIENCES

Date Submitted: 3/11/2013

1b. Department/Division: Biology

1c. Contact Person

Name: Ruth E. Beattie

Email: rebeat1@uky.edu

Phone: 859-257-7647

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

1d. Requested Effective Date: Semester following approval

1e. Should this course be a UK Core Course? No

2. Designation and Description of Proposed Course

2a. Will this course also be offered through Distance Learning?: No

2b. Prefix and Number: BIO 580

2c. Full Title: Special Topics in Biology (Advanced Level): Subtitle required

2d. Transcript Title:

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 0-4

LABORATORY: 0-4

RECITATION: 0-4

SEMINAR: 0-4

2g. Grading System: Letter (A, B, C, etc.)

2h. Number of credit hours: 1-4

2i. Is this course repeatable for additional credit? Yes

If Yes: Maximum number of credit hours: 12 cr hr under different subtitles

If Yes: Will this course allow multiple registrations during the same semester? Yes

2j. Course Description for Bulletin: Interdisciplinary, topical or experimental course in advanced (500-level) biology. Subtitle required. Prerequisites: Determined by Instructor May be repeated for a maximum of 12 credit hours under different subtitles. Variable credit 1 - 4 cr hr Course format: variable - Lecture and/or laboratory and/or recitation and/or seminar

2k. Prerequisites, if any: Determined by Instructor

2l. Supplementary Teaching Component:

3. Will this course taught off campus? No

If YES, enter the off campus address:

4. Frequency of Course Offering: Winter,

Will the course be offered every year?: No

If No, explain: Depends on number of pilot courses being offered each year

5. Are facilities and personnel necessary for the proposed new course available?: Yes

If No, explain:

6. What enrollment (per section per semester) may reasonably be expected?: 30-50

7. Anticipated Student Demand

Will this course serve students primarily within the degree program?: Yes

Will it be of interest to a significant number of students outside the degree pgm?: Yes

If Yes, explain: [var7InterestExplain]

8. Check the category most applicable to this course: Traditional – Offered in Corresponding Departments at Universities Elsewhere,

If No, explain:

9. Course Relationship to Program(s).

a. Is this course part of a proposed new program?: No

If YES, name the proposed new program:

b. Will this course be a new requirement for ANY program?: No

If YES, list affected programs:

10. Information to be Placed on Syllabus.

a. Is the course 400G or 500?: Yes

b. The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from **10.a** above) are attached: Yes

Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1.How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2.How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3.How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4.Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5.How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6.How do course requirements ensure that students make appropriate use of learning resources?

7.Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8.How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (http://www.uky.edu/UKIT/)?

9.Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10.Does the syllabus contain all the required components? NO

11.I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|VCASS2|Vincent Cassone|Dept approval for ZCOURSE_NEW BIO 580|20121126

SIGNATURE|RHANSON|Roxanna D Hanson|College approval for ZCOURSE_NEW BIO 580|20121126

SIGNATURE|JMETT2|Joanie Ett-Mims|Undergrad Council approval for ZCOURSE_NEW BIO 580|20121211

SIGNATURE|ZNNIKO0|Roshan N Nikou|Graduate Council approval for ZCOURSE_NEW BIO 580|20130131

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Courses | Request Tracking

New Course Form

https://myuk.uky.edu/sap/bc/soap/rfc?services=

Open in full window to print or save

Generate R

Attachments:

Browse... Upload File

	ID	Attachment
Delete	1265	BIO 580 syllabus.doc
Delete	1266	BIO580 memo.doc

First 1 Last

Select saved project to retrieve... Get New

(*denotes required fields)

1. General Information

a. * Submitted by the College of: ARTS & SCIENCES Today's Date: 3/11/2013

b. * Department/Division: Biology

c.

* Contact Person Name: Ruth E. Beattie Email: rebeat1@uky.edu Phone: 859-257-7647

* Responsible Faculty ID (if different from Contact) Email: Phone:

d. * Requested Effective Date: ◉ Semester following approval OR ○ Specific Term/Year [1]

e.

Should this course be a UK Core Course? ○ Yes ◉ No

If YES, check the areas that apply:

- ☐ Inquiry - Arts & Creativity
- ☐ Inquiry - Humanities
- ☐ Inquiry - Nat/Math/Phys Sci
- ☐ Inquiry - Social Sciences
- ☐ Composition & Communications - I
- ☐ Composition & Communications - II
- ☐ Quantitative Foundations
- ☐ Statistical Inferential Reasoning
- ☐ U.S. Citizenship, Community, Diversity
- ☐ Global Dynamics

2. Designation and Description of Proposed Course.

a. * Will this course also be offered through Distance Learning? ○ Yes [4] ◉ No

b. * Prefix and Number: BIO 580

c. * Full Title: Special Topics in Biology (Advanced Level): Subtitle required

d. Transcript Title (if full title is more than 40 characters):

e. To be Cross-Listed [2] with (Prefix and Number):

f. * Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours[3] for each meeting pattern type.

0-4	Lecture	0-4	Laboratory[1]	0-4	Recitation		Discussion
	Indep. Study		Clinical		Colloquium		Practicum
	Research		Residency	0-4	Seminar		Studio
	Other	If Other, Please explain:					

g. * Identify a grading system: ◉ Letter (A, B, C, etc.) ○ Pass/Fail

h. * Number of credits: 1-4

i. * Is this course repeatable for additional credit? ◉ Yes ○ No

If YES: Maximum number of credit hours: 12 cr hr under different su

If YES: Will this course allow multiple registrations during the same semester? ◉ Yes ○ No

j. * Course Description for Bulletin:

Interdisciplinary, topical or experimental course in advanced (500-level) biology. Subtitle required.

Prerequisites: Determined by Instructor
May be repeated for a maximum of 12 credit hours under different subtitles.
Variable credit 1 - 4 cr hr
Course format: variable - Lecture and/or laboratory and/or recitation and/or seminar

k. Prerequisites, if any:

Determined by Instructor

l. Supplementary teaching component, if any: ○ Community-Based Experience ○ Service Learning ○ Both

3. * Will this course be taught off campus? ○ Yes ◉ No

If YES, enter the off campus address:

4. Frequency of Course Offering.

a. * Course will be offered (check all that apply): ☑ Fall ☑ Spring ☑ Summer ☑ Winter

b. * Will the course be offered every year? ○ Yes ◉ No

If No, explain: Depends on number of pilot courses being offered each year

5. * Are facilities and personnel necessary for the proposed new course available? ◉ Yes ○ No

If No, explain:

6. * What enrollment (per section per semester) may reasonably be expected? 30-50

7. Anticipated Student Demand.

a. * Will this course serve students primarily within the degree program? ◉ Yes ○ No

b. * Will it be of interest to a significant number of students outside the degree pgm? ◉ Yes ○ No

If YES, explain:

It may be of interest to students in other life science majors

8. * Check the category most applicable to this course:

☑ Traditional – Offered in Corresponding Departments at Universities Elsewhere
☐ Relatively New – Now Being Widely Established
☐ Not Yet Found in Many (or Any) Other Universities

9. Course Relationship to Program(s).

a. * Is this course part of a proposed new program? ○ Yes ◉ No

If YES, name the proposed new program:

b. * Will this course be a new requirement for ANY program? ○ Yes ◉ No

If YES, list affected programs::

10. Information to be Placed on Syllabus.

a. * Is the course 400G or 500? ◉ Yes ○ No
If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in 10.b. You must include: (i) ident additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR

b. ☑ * The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if appl 10.a above) are attached.

[11] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.
[12] The chair of the cross-listing department must sign off on the Signature Routing Log
[13] In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, re two hours per week for a semester for one credit hour. (from SR 5.2.1)
[14] You must also submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.
[15] In order to change a program, a program change form must also be submitted

Rev 8/09

Submit as New Proposal Save Current Changes Delete Form Data and Attachments

Bio 580- Advanced Genetic Analysis- Spring 2013 (3 cr hr)

LECTURE: Tuesdays & Thursdays, 11:00 – 12:15 P.M.
205 T.H. Morgan Bldg.

INSTRUCTOR: Dr. Doug Harrison, 300 T.H. Morgan Bldg.
Tel.: 257-6275 e-mail: dough@email.uky.edu
Office Hours: TR 12:30-2 PM or by appointment

COURSE GOALS/OBJECTIVES: This is an upper level course in contemporary genetic analysis, including the use of mutagenesis and other gene-specific manipulations, use of genome-wide genetic approaches, and use of quantitative analysis to understand biological processes. The emphasis of the course will be on experimental approaches using model eukaryotes, relying on scientific literature and web resources. It is expected that the course should not only familiarize you with current genetic and genomic techniques, but to provide you with experience in applying those techniques to modern problems in biology. Additionally, graduate students will write a research proposal with the goal of learning to assemble a logical research plan using genetic approaches.

STUDENT LEARNING OUTCOMES: It is anticipated that at the end of the course, all students will be able to:

1. Demonstrate an understanding of mutations, mutagenesis, and gene manipulation methodologies and ability to apply these techniques to address specific biological questions
2. Demonstrate an understanding of how genes can interact and ability to recognize specific types of interactions based on genetic behaviors
3. Demonstrate an understanding of genetic tools used for genome-wide analysis and ability to apply these techniques to address specific biological questions
4. Demonstrate an understanding of genetic mapping tools and ability to apply these techniques to address specific biological questions
5. Demonstrate an understanding of basic methodologies for quantitative trait analysis and ability to apply these techniques to address specific biological questions

In addition, it is anticipated that the graduate students will be able to:

1. Demonstrate the ability to identify a relevant contemporary biological question and design an experimental plan to investigate that question using appropriate genetic analyses.
2. Demonstrate the ability to write a scientific document that is clear, logical, and uses appropriate terminology.

PREREQUISITES: BIO 304 (Introductory Genetics) or equivalent or consent of the instructor is required. BIO 315 (Cell Biology) or equivalent is recommended, but not required.

OFFICE HOURS/CONSULTATION: This course will involve frequent required consultations (for proposal and presentation preparations), as well as meetings for any other matters that students wish to discuss. Rather than formal office hours, students should contact the instructors for appointments.

TEXT/REFERENCE MATERIALS: There is no required textbook, but strongly recommended is "Principles of Gene Manipulation and Genomics-7th ed." by Primrose and Twyman. Scientific papers and web resources will be extensively used. Reference lists and other materials will be distributed by e-mail and/or posted on the web site; students are expected to read required references in advance of the class meeting so that they may participate fully in the discussion of course material.

Web site:

http://web.as.uky.edu/Biology/faculty/harrison/bio621/

GRADES:

The final grade for graduate students will be based on performance in:

First exam	25%
Second exam	25%
Paper presentation	20%
Research proposal	25%
Preparation & Participation	5%
Total	100%

The final grade scale will be : (100-90), B (89-80), C (79-70), E (<70).

The final grade for undergraduate students will be based on performance in:

First exam	35%
Second exam	35%
Paper presentation	20%
Preparation & Participation	10%
Total	100%

The final grade scale will be : (100-90), B (89-80), C (79-70), D (69-60), E (<60).

Undergraduates will be informed of their current progress based on the criteria above before the midterm date of the semester.

EXAMS will be composed primarily of essay and short-answer questions derived from the class discussions and readings. The two exams will be weighted equally and the second exam will not be cumulative. Students who miss the mid-term exam due to an excused absence will take a make-up exam during the week preceeding final exam week. Students who miss the final exam due to an excused absence should discuss scheduling of a make-up exam as soon as possible. Students who miss an exam due to an unexcused absence will receive a 0 for that exam.

Make-up exams and assignments will only be given for excused absences as defined by University Senate Rules . Make-up exams and assignments will be scheduled at a time convenient for instructor and student. A missed exam or assignment will result in a score of zero for that exam or assignment, unless an **acceptable** written excuse is presented **within one week of the absence. See Senate Rule 5.2.4.2**

Absences due to observance of Religious Holidays are excused absences as defined by University Senate Rules. See Senate Rule 5.2.4.2. Make-up exams and assignments will

be scheduled at a time convenient for Instructor and student. A missed exam or assignment will result in a score of zero for that exam or assignment, unless a written excuse is presented **within one week of the absence** This should be in the form of an e-mail to the Instructor stating you missed the exam /assignment due to observation of a Religious Holiday.

PAPER PRESENTATION. Each student will be assigned a journal article and a date during the semester on which to make a presentation to the class on that topic, including leading a discussion of the work. These should be relatively brief presentations (~30-35 minutes). Students must meet with the instructor to discuss the paper at least one week before the presentation date. Students should have already read through the paper several times and prepared a draft of their presentation before that meeting with the instructor.

RESEARCH PROPOSAL. Each graduate student will develop a research proposal in which genetic analysis is applied to a contemporary question in biology. Topics will be selected by the student in consultation with the course instructor. Acceptable topics may include, but are certainly not limited to, those from a current or prior rotation project, but may not include topics that are the subject of the student's dissertation. Preparation of the proposal will take place throughout the semester (see annotations on the attached class schedule).

PREPARATION AND PARTICIPATION. Each student is expected to participate in classroom discussions on a daily basis. Involvement in discussions will require that students come to class prepared. In particular, students are expected to have read the assigned papers prior to each class. To promote preparation, students are required to write a very brief summary (approximately 150 words) of each paper designated as "required reading" and submit it to the instructor before each class. Reading lists, including links to papers and designations of "required reading", will be posted on the course website, along with date on which summaries will be due. The grade for this assignment will be determined both on submitted summaries and in-class involvement in discussions.

ATTENDANCE POLICY: Because class participation is an integral and important part of this course, attendance is mandatory. The instructor should be informed at least one week in advance of a planned excused absence or consulted upon return of an unexpected absence. Absences will be excused only under standard criteria stipulated in University regulation. In addition to potential influences on the class participation grade, each unexcused absence will reduce the course score by 5%.

POLICY ON ACADEMIC ACCOMMODATIONS: If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257□2754, email address jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

POLICY ON PLAGIARISM & OTHER FORMS OF CHEATING: It is acceptable to discuss papers, assignments, and course material with other students in the class, but it is expected that all **submitted** work in the class is entirely that of only that student. Academic honesty is required, and cheating and plagiarism will not be tolerated. According to the Encarta Dictionary, plagiarism is "copying what somebody else has written or taking somebody else's

idea and trying to pass it off as original". If I had failed to cite the Encarta Dictionary in the previous sentence, that would have been plagiarism. It is not expected that every idea in your proposal will be completely original; you will be reading papers to come up with ideas about what to propose. It is OK to use those ideas if you express them in your own words and you reference the source of your ideas. You are expected to do both in the proposal assignment. There will be no assignments in this course in which it would be acceptable to simply "cut and paste" text or images from another source, whether you cite that source or not. The only exception will be the paper presentations, in which case it will be necessary to display figures from the paper for class discussion purposes.

It is highly recommended that students review the paper "Plagiarism: What is it?" that may be found at the Ombud web site http://www.uky.edu/Ombud/Plagiarism.pdf. The Ombud web site also includes a link to a Prentice Hall Companion Website "Understanding Plagiarism" http://wps.prenhall.com/hss_understand_plagiarism_1/0,6622,427064-,00.html. If you have any questions about what constitutes plagiarism, you should discuss it with Dr. Harrison before turning in an assignment. Ultimately, you are responsible for ensuring that all material you submit is your own and cannot be construed as plagiarism.

The minimum penalty for any form of cheating will be a zero on the assignment, but could be more severe, including an E in the course, suspension, or expulsion.

A&S 500 Advanced Genetic Analysis
Tentative Schedule - Spring 2013

Date		Topic
1/10		Mutagenesis and Screens I
1/15		Mutagenesis and Screens II
1/17		*Student Presentation- Paper A* (Mutational screening)
1/22		Gene Knock-outs I
1/24		Gene Knock-outs II
1/29	**	*Student Presentation- Paper B* (KO strategy)
1/31		Mosaic analysis I
2/5		Mosaic analysis II
2/7		RNAi/morpholinos
2/12	**	RNAi/morpholinos II
2/14		Genetic Interactions I
2/19		Genetic Interactions II
2/21		*Student Presentation- Paper C* (Genetic Interactions)
2/26		Transgenesis
2/28		**First Exam**
3/5		Gene Misexpression
3/7		Gene Misexpression II **MIDTERM GRADES POSTED**
3/11-3/15		*Spring Break- No class*
3/19		*Student Presentation- Paper D* (Misexpression)
3/21	**	Transcriptome analysis I
3/26		Transcriptome analysis II
3/28		*Student Presentation- Paper E* (Transcriptome analysis)
4/2		Protein interaction analysis
4/4		*Student Presentation- Paper F* (Protein interaction analysis)
4/9		Proteome analysis
4/11		Molecular Markers and Mapping
4/16		Genome-wide association studies
4/18	**	Quantitative Genetics
4/23		*Student Presentation- Paper G* (Quantitative genetics)
4/25		Quantitative Genetics II
5/2		**Second Exam at 1:00PM**

** Proposal deadlines:

1/29 Proposal topic must be approved by instructor
2/12 Outline due
3/21 Initial proposal draft due
4/18 Final proposal due

BIO 580: Special Topics in Biology (Advanced Level): Subtitle required

Interdisciplinary, topical or experimental course in advanced (500-level) biology. Subtitle required.

Prerequisites: Determined by Instructor
May be repeated for a maximum of 12 credit hours under different subtitles.
Variable credit 1 - 4 cr hr

This course will be used to pilot new advanced (500-level) biology courses. A course can only be offered under the same subtitle twice. After that time, the course must be submitted as a new course with its own course number.

Course offering/ subtitle must be approved by the Faculty of the Department of Biology each time the course is offered.

Variable format: lecture, laboratory, recitation and/or seminar.

The syllabus for a sample pilot course (BIO 580) is attached.