

1. General Information

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

Date Submitted: 4/11/2013

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 198

2c. Full Title: Scholars Biology Research

2d. Transcript Title:

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 0-2

LABORATORY: 0-2

SEMINAR: 0-2

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

2h. Number of credit hours: 2

2i. Is this course repeatable for additional credit? No

If Yes: Maximum number of credit hours:

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

2j. Course Description for Bulletin: Biology 198 is one of the Scholars courses for biology majors in the Department of Biology Scholars Program. This course is designed to provide a solid introduction to 21st century bioscience research. Students will learn how to critically read, interpret, understand and discuss original literature. Students will learn how to discuss data and information from the original literature appropriately, develop reasonable hypotheses from current 21st century bioscience problems and provide plausible conclusions and presentations in regard to those problems using original information and data. Lastly, the course is designed to equip students with the necessary skills to participate and succeed in an upper level research experience. The course substitutes for BIO 155 for BIOLOGY majors

2k. Prerequisites, if any: ACT 30 or Reading/Math SAT of 1320 or Reading/Math/Writing SAT of 1980, and declared biology major, and a min High School GPA of 3.5.

2l. Supplementary Teaching Component:

3. Will this course taught off campus? No

If YES, enter the off campus address:

4. Frequency of Course Offering: Fall,

Will the course be offered every year?: Yes

If No, explain:

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?: 2 sections of 30 students

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?: No

If Yes, explain: [var7InterestExplain]

8. Check the category most applicable to this course: Not Yet Found in Many (or Any) Other Universities ,

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?: No

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|RHANSON|Roxanna D Hanson|College approval for ZCOURSE_NEW BIO 198S|20130301

SIGNATURE|JMETT2|Joanie Ett-Mims|Undergrad Council approval for ZCOURSE_NEW BIO 198S|20130501

SIGNATURE|VCASS2|Vincent Cassone|Dept approval for ZCOURSE_NEW BIO 198S|20121218

Biology 198
Scholars Biology Research
Fall XXX

Instructors: Jeffrey L. Osborn, Ph.D. David Weisrock, Ph.D.
Email: jlosbo3@uky.edu dweis2@uky.edu
Office hours: By Appointment (email only) By Appointment (email only)
Office Location: THM 115A THM 316

General Course Information

Credits: 2 credit hour lecture/ laboratory/ seminar course
Class Meeting Time: Mondays, 3-4:50 p.m.
Location: TH Morgan Building, Room 211
Pre-requisites: *ACT 30 or Reading/Math SAT of 1320 or Reading/Math/Writing SAT of 1980, and declared biology major, and a min High School GPA of 3.5.*
Note: The course substitutes for BIO 155 for BIOLOGY majors.

Official Course Text

None – Assigned Handout Reading Weekly

Course Description:

Biology 198 is one of the Scholars courses for biology majors in the Department of Biology Scholars Program. This course is designed to provide a solid introduction to 21st century bioscience research. Students will learn how to critically read, interpret, understand and discuss original literature. Students will learn how to discuss data and information from the original literature appropriately, develop reasonable hypotheses from current 21st century bioscience problems and provide plausible conclusions and presentations in regard to those problems using original information and data. Lastly, the course is designed to equip students with the necessary skills to participate and succeed in an upper level research experience.

Student Learning Outcomes:

At the completion of the course, the student will be able to:

- 1) Write a critical review of the scientific literature
- 2) Write a scientific report.
- 3) Acquire genomic and proteomic data from public databases.
- 4) Analyze and compare protein and gene sequences.

General Course Policies

1. Course Absences

A major requirement for this course is class attendance and preparation for discussion of the original literature. Attendance at all classes is required for the course. When classes are missed, there will not be an opportunity to make-up that missed class. Students are only permitted to make up material from a missed class session if they have a documented excusable absence. In the case of documented emergency absences,

alternative assignments will be assigned to make up for the emergency absence. For excused and documented absences, this course adheres to the University policy as follows:

- A. Illness of the student or serious illness of a member of the student's immediate family. The instructor shall have the right to request appropriate verification.
- B. The death of a member of the student's immediate family. The Instructor shall have the right to request appropriate verification.
- C. Trips for members of student organizations sponsored by an academic unit, trips for University classes, and trips for participation in intercollegiate athletic events. When feasible, the student must notify the instructor prior to the occurrence of such absences, but in no case shall such notification occur more than one week after the absence. Instructors may request formal notification from appropriate university personnel to document the student's participation in such trips.
- D. Major Religious Holidays. Students are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day for adding a class.
- E. Any other circumstances, which the instructor finds reasonable cause for nonattendance.

Students missing class-work due to an excused absence bear the responsibility of informing the instructor about their excused absence within one week following the period of the excused absence (except where prior notification is required), and of making up the missed work. The instructor shall give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

2. Punctuality and Attendance

Please do not arrive late or leave early. This is disruptive toward other members of the class. Get your materials out and be ready before you enter the classroom. Students that choose to arrive late may be denied access to prevent disruption to other students that arrive on time.

3. Academic Honesty

Cheating or acts of plagiarism on any graded material are not tolerated. All students are expected to uphold a basic standard of academic honesty as outlined by the University of Kentucky Senate Rules (<http://www.uky.edu/USC/New/SenateRulesMain.htm>).

University Senate Rules Regarding Plagiarism (SR 6.3.1)

– Plagiarism: All academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

University Senate Rules Regarding Cheating (SR 6.3.2)

--Cheating is defined by its general usage. It includes, but is not limited to, the

wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade.

The fact that a student could not have benefited from an action is not by itself proof that the action does not constitute cheating. Any question of definition shall be referred to the University Appeals Board.

Charges of an academic offense may be made against any student that cheats or commits plagiarism on any graded course material. Penalties for such an offense will be assessed according to the University Rules regarding Academic Offenses. For more information regarding specific procedures, visit the website:

http://www.uky.edu/Faculty/Senate/rules_regulations/index.htm and click on any of the “University Senate Rules” links.

4. Classroom Behavior, Decorum and Civility

As a student engaging in a myriad of intellectual pursuits, you are expected to maintain a level of dignity and respect towards faculty, staff, and fellow students. You are expected to value differences among all members of our academic community. You have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students (S.R. 6.1.2). Equally, a faculty member has the right -- and the responsibility -- to ensure that all academic discourse occurs in a context characterized by respect and civility. Acceptable decorum and civility does not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin.

Use of cell phones, iPods, or other similar electronic devices for non-course related activities while class is in session is not allowed. Laptops for use in taking notes are permitted.

5. Disabilities and medical conditions

If you have a documented disability that requires academic accommodation, please contact Dr. Osborn or Dr. Weisrock by XXX so that proper arrangements can be made. To receive special 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 to jkarbes@email.uky.edu) for coordination of the campus disability services available to you.

6. Reading Assignments and Course Grading:

Reading assignments and supplemental materials will be listed within the course topic outline and posted on Blackboard with each unit. These assignments must be read before coming to class. Assigned readings will consist of a variety of materials ranging from websites to supplemental activity materials and the scientific literature. The course is a seminar style format and therefore readings must be conducted and students prepared for discussion prior to attending class.

Grading: Course grades will be based upon the following assignments and the percentage of the overall grade shown:

Class Discussion and Participation:	25 Points
Midterm Paper (8 pages):	25 Points
Laboratory Practical Skills	15 Points
Final Research Poster Presentation	35 Points
	100 Points Total

Final grades will be based on total points earned and assigned as follows:

- A = 85 – 100
- B = 75 – 84
- C = 65 – 74
- D = 55 – 64
- E = Less than 55 points

The following outline is a general plan for the semester. Specific topics and assignments are subject to change. **Midterm grades will be posted by XXX**

Class Schedule & Topics

I. The Process of Bioscience Research (Weeks 1- 4)

- The EXCITEMENT of 21st Century Bioscience!
- Different Types of Experimental Design and Hypotheses Testing
- An Introduction to Biostatistics
- Development and writing your first investigational proposal (term paper).

II. Research Tools (Weeks 5 - 15)

- Scientific Writing in the 21st Century

Midterm Paper Due – XXX

- Writing a Scientific Abstract/Presenting Your Scientific Research
- Conducting appropriate and effective literature searches
- Reading and Analyzing the Literature
- Basic and Fundamental Laboratory Techniques
 - a. Effective pipetting! (micropipet precision)
 - b. Basics of electrophoresis
 - c. Conducting Genomics Data Base Searches
 - d. Fundamentals of Biochemical Analyses
 - e. 21st Century Molecular Genetics
- Laboratory Safety/Care & Use of Laboratory Animals/Scientific Ethics

III. “Meeting Bioscience Leaders” Program

- Students are encouraged to attend all Biology Departmental Seminars (Thursdays, 4:00 p.m. Room 116, THM) and will attend 3 Biology Department seminars of their choosing. In the event of class schedule conflicts with the department seminars, students will discuss alternative science activities with Drs. Osborn and/or Weisrock. In addition to the seminar, Drs. Osborn and Weisrock are organizing for BIO 198 students to participate in a private (198 students only) reception with the seminar speaker to discuss science as a career.