Agenda Item #14-50
Effective: Fall 2015

Eastern Illinois University

New/Revised Course Proposal Format

(Approved by CAA on 4/3/14 and CGS on 2/17/15, Effective Fall 2015)

Banner/Catalog Information (Coversheet)

1. **__X__New Course or _____Revision of Existing Course**
2. **Course prefix and number:** _____BCT 5001_____
3. **Short title:** _____Practicum in Biotechnology_____
4. **Long title:** _____ Practicum in Biotechnology _____
5. **Hours per week:** ___ Class _9 Lab _3__ Credit
6. **Terms:** _x_ Fall ___ Spring _x_ Summer _x_ On demand
7. **Initial term**: _x_ Fall ___ Spring ___ Summer Year: _2015__
8. **Catalog course description:** _ This course is designed to give students an intensive Practicum experience in a particular advanced technique in Biotechnology. The students will be assigned appropriate projects by matching student interests with available faculty expertise.
9. **Course attributes:**

   General education component: _____

   ___ Cultural diversity ___ Honors ___ Writing centered ___ Writing intensive ___Writing active
10. **Instructional delivery**
    Type of Course:

    ___ Lecture ___ Lab ___ Lecture/lab combined ___ Independent study/research

    ___ Internship ___ Performance _x_ Practicum/clinical ___ Other, specify: _____

    Mode(s) of Delivery:

    _x_ Face to Face ___ Online ___ Study Abroad ___ Hybrid, specify approximate amount of on-line and face-to-face instruction_____

    Course(s) to be deleted from the catalog once this course is approved. **n/a**
11. **Equivalent course(s): _____ n/a _____**

    a. **Are students allowed to take equivalent course(s) for credit?** ___ Yes ___ No
12. **Prerequisite(s):** Student must have completed BCT 5000 (Techniques in Biotechnology)

    a. **Can prerequisite be taken concurrently?** ___ Yes _x__ No

    b. **Minimum grade required for the prerequisite course(s)?** C or higher is required in BCT 5000 (Techniques in Biotechnology) or by permission of the Program Coordinator.

    c. **Use Banner coding to enforce prerequisite course(s)?** _x__ Yes ___ No

d. Who may waive prerequisite(s)?

___ No one ___ Chair ___ **Instructor** ___ Advisor _x__ Other (Program Coordinator)

13. Co-requisite(s): _____n/a_____

14. Enrollment restrictions

a. Degrees, colleges, majors, levels, classes which <u>may</u> take the course: Admission to the Masters in Biochemistry and Biotechnology program or by permission of the Program Coordinator**.**

15. Degrees, colleges, majors, levels, classes which may <u>not</u> take the course: Students that are not enrolled in the Masters in Biochemistry and Biotechnology program or by permission of the Program Coordinator**.**

16. Repeat status: ___ May not be repeated _x__ May be repeated once with credit

17. Enter the limit, if any, on hours which may be applied to a major or minor: _6__

18. Grading methods: _x__ Standard ___ CR/NC __ Audit ___ ABC/NC

19. Special grading provisions:

___ Grade for course will <u>not</u> count in a student's grade point average.

___ Grade for course will <u>not</u> count in hours toward graduation.

___ Grade for course will be removed from GPA if student already has credit for or is registered in: _____

___ Credit hours for course will be removed from student's hours toward graduation if student already has credit for or is registered in: _____

20. Additional costs to students:
Supplemental Materials or Software_____

1. Course Fee ___No _x__Yes, Explain if yes The reagents and supplies necessary for this course have very high costs.

21. Community college transfer:

___ A community college course may be judged equivalent.

___ A community college may <u>not</u> be judged equivalent.

Note: Upper division credit (3000+) will <u>not</u> be granted for a community college course, even if the content is judged to be equivalent.

Rationale, Justifications, and Assurances (Part I)

1. ___Course is required for the major(s) of _____

   ___Course is required for the minor(s) of _____

   ___Course is required for the certificate program(s) of _____

   _x__ Course is used as an elective

2. **Rationale for proposal** : This course has been developed to serve the needs of the new Master's in Biochemistry and Biotechnology being proposed by the Departments of Biological Sciences and Chemistry. This course will serve as the optional advanced techniques course to prepare students for employment in the Biotechnology industry and/or related fields.

3. **Justifications for (answer N/A if not applicable)**

   Similarity to other courses: **n/a**

   Prerequisites: This is an advanced techniques class that will build on techniques learned in BCT 5000.

   Co-requisites: **n/a**

   Enrollment restrictions: This course will be limited to six students due to equipment and personnel limitations.

   Writing active, intensive, centered: **n/a**

4. **General education assurances (answer N/A if not applicable)**

   General education component: **n/a**

   Curriculum: **n/a**

   Instruction: **n/a**

   Assessment: **n/a**

5. **Online/Hybrid delivery justification & assurances (answer N/A if not applicable)**

   Online or hybrid delivery justification: **n/a**

   Instruction: **n/a**

   Integrity: **n/a**

   Interaction: **n/a**

Model Syllabus (Part II)

Please include the following information:

1. Course number and title BCT 5001, Practicum in Biotechnology
2. Catalog description - This course is designed to give students an intensive Practicum experience in a particular advanced technique in Biotechnology. The students will be assigned appropriate projects by matching student interests with available faculty expertise.
3. Learning objectives.
   Through advanced laboratory experiments, students will:
   A. Demonstrate proficiency in an advanced laboratory techniques valued in the biotechnology industries.
      *Meets graduate learning goals: a. Depth of content knowledge.
   B. Analyze data and document results in a variety of ways (*e.g.* publications, patents, reports).
      *Meets graduate learning goals: b. Effective critical thinking and problem solving.
   C. Demonstrate how to make data-driven decisions using current primary research literature in order to design experimental approaches to an identified endpoint.
      *Meets graduate learning goals: b. Effective critical thinking and problem solving, c. Effective oral and written communication, d. Advanced scholarship through research and creative activity.
   D. Demonstrate proficiency in communicating scientific results through writing and speaking.
      *Meets graduate learning goals: b. Effective critical thinking and problem solving, c. Effective oral and written communication.
4. Course materials - Current scientific literature as pertaining to the project selected by the student in consultation with the course instructor.
5. Weekly outline of content.
   Phase 1. Pre-Course
   a. Initial meeting with course instructor at least two weeks prior to the start of the semester to identify students interests. By the end of this meeting, the student will have articulated three techniques of interest to be the focus of their time in the course.
   b. The Program Coordinator will facilitate placement of students within EIU with a supervisor and notify the student the first day of the semester.
   Phase 2. Project Design (Fall Semester, week 1-3, 27 h) (Summer Semester, week 1, 22.5 h)
   a. The supervisor and student will meet to develop the stated experimental endpoint(s).
   The experimental endpoints will then be approved by the Program Coordinator within the first 10 days of the term (student responsibility to facilitate this).
   b. The student will research the current literature to determine the experimental plan and submit a written report and give an oral presentation to the class outlining the project design.
   Phase 3. Initial Experiments (Fall Semester, week 4-9, 54 h) (Summer Semester, week 2-3, 45 h)
   a. The student will accomplish experiments and keep meticulous records in their laboratory notebooks.
   b. The student will meet at least weekly with the Faculty Supervisor (student responsibility to schedule this).
   c. The student will meet weekly with the course instructor (student responsibility to schedule this).

Phase 4. Reflection and Revision (Fall Semester, week 10-12, 27 h) (Summer Semester, week 4-5.5, 33.75 h)

a. The student will summarize results and challenges in a written report and oral presentation to the class.

b. In consultation with the class, course instructor, Faculty Supervisor, and current chemical literature the student will revise experimental parameters in the aim of achieving experimental endpoint(s). A written report will be submitted summarizing the revisions.

Phase 5. Project Culmination (Fall Semester, week 12-15, 27 h) (Summer Semester, week 5.5-6, 33.75 h)

a. The student will implement the revisions in the laboratory.

b. The student will summarize all results in a written report.

c. The student will summarize all results in an oral presentation for the class.

d. The student will submit their laboratory notebook.

6. Assignments and evaluation, including weights for final course grade.

Lab Notebook 25%
Oral Progress Reports 25%
Written Reports 25%
Achieving Experimental Endpoint 25%

7. Grading scale.

90-100% - A
80-89% - B
70-79% - C
60-69% - D
50-59% - F

8. Correlation of learning objectives to assignments and evaluation. For correlation of course specific learning goals to graduate school learning goals please see II.3.

	Learning Objective A	Learning Objective B	Learning Objective C	Learning Objective D
Lab Notebook	**X**	**X**		
Oral Progress Reports			**X**	**X**
Written Reports		**X**	**X**	**X**
Achieving Experimental Endpoint	**X**	**X**	**X**	

Date approved by the Department of Biological Sciences: May 9, 2014

Date approved by the Department of Chemistry: November 22, 2014

Date approved by the college curriculum committee: December 12, 2014

Date approved by the Honors Council *(if this is an honors course):*

Date approved by CAA: **CGS:**