Eastern Illinois University
New Course Proposal
BIO 5433, Neurobiology of Diseases

CGS Agenda Item: 17-99
Effective Summer 2018

Banner/Catalog Information (Coversheet)

1. **X New Course or _____Revision of Existing Course**
2. **Course prefix and number:** BIO 5433
3. **Short title:** Neurobiology of Diseases
4. **Long title:** Neurobiology of Diseases
5. **Hours per week:** 4 Class 0 Lab 4 Credit
6. **Terms:** Fall Spring X Summer On demand
7. **Initial term**: Fall Spring X Summer Year: 2018
8. **Catalog course description:** This course will cover in-depth the biology of important neurological and psychiatric diseases.
9. **Course attributes:**

   General education component[SLR1]: N/A

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

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

    ___ Internship ___ Performance __ 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_____
11. **Course(s) to be deleted from the catalog once this course is approved.** None
12. **Equivalent course(s):** BIO 4833, Neurobiology of Diseases

    a. Are students allowed to take equivalent course(s) for credit? ___ Yes X No
13. **Prerequisite(s):** BIO 3120

    a. Can prerequisite be taken concurrently? ___ Yes X No

    b. Minimum grade required for the prerequisite course(s)? C

    c. Use Banner coding to enforce prerequisite course(s)? ___ Yes X No[SLR2]

d. Who may waive prerequisite(s)?

___ No one X Chair X Instructor ___ Advisor ___ Other (specify)

14. Co-requisite(s): None

15. Enrollment restrictions

a. Degrees, colleges, majors, levels, classes which <u>may</u> take the course: All

b. Degrees, colleges, majors, levels, classes which may <u>not</u> take the course: May not have previously taken BIO5970D-001 (CRN#60736). The proposed course was offered as a special topics course (BIO5970D-001) in Summer 2016.

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

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

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

19. Special grading provisions: N/A

___ 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_____

Course Fee X No ___Yes, Explain if yes_____

21. Community college transfer:

___ A community college course may be judged equivalent.

X 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 Graduate students in Biological Sciences are required to take a minimum of 22 hours of courses numbered 5000 and above. Due to faculty attrition, we offer fewer courses at 5000 and above. Concurrently listing the existing BIO 4833 (Neurobiology of Diseases) as BIO 5433 (Neurobiology of Diseases) would allow graduate students to fulfill the required minimum of 22 hours of 5000-level courses.

   Students in BIO 5433 will be held to higher performance standards in all facets of the course. Additional requirements for students in BIO 5433 will include: (1) Homework will contain higher level analytical questions requiring primary literature review. (2) Term paper assignment requires 12 pages of substantive analysis, which is greater than the 6 pages required for students in BIO 4833. (3) Term paper will also be held to a higher standard for their research analysis, literature review, writing style and maturity of thought. (4) Students in BIO 5433 will be assigned to lead in-class discussions. (5) BIO 5433 students will work with the instructor to develop a grant proposal on an open-ended problem in Neurobiology.

2. **Rationale for proposal**: In Neurobiology of Diseases, students will explore genetic, molecular, and cellular mechanisms that underlie important neurological and neuropsychiatric disorders. This course would be of interest to numerous students at Eastern who are interested in a health-related career.
3. **Justifications for (answer N/A if not applicable)**

   Similarity to other courses: None

   Prerequisites: BIO 3120 to provide basic knowledge in cell biology.

   Co-requisites: None

   Enrollment restrictions: May not have previously taken BIO5970D-001 (CRN#60736). The proposed course was offered as a special topics course (BIO5970D-001) in Summer 2016.

   Writing active, intensive, centered:
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

   Interaction: N/A

Model Syllabus (Part II)

1. **Course Number, Title, Credit Hours**
   BIO 5433, Neurobiology of Diseases, 4-0-4

2. **Catalog Description**
   This course will cover in-depth the biology of important neurological and psychiatric diseases.

3. **Learning Objectives (Goals)**
   a. Students will learn [SLR3][JLF4]genetic, molecular, and cellular mechanisms that underlie important neurological and neuropsychiatric disorders (CT 1-5, GLG 1-2).
   b. Students will read and critique important findings in neurological and psychiatric disorders. They will also formulate their own hypothesis, mechanisms of pathogenesis, predict the results and discuss and summarize the key findings in neurological diseases and disorders (CT6, WR 1-7, RC 1-4, GLG 2-4).
   c. Students will implement speaking and listening skills in the articulation and discussion of important neurological and neuropsychiatric disorders (SL – 1-5,7) (GLG 1, 3)

4. **Course Materials**

   Course materials will be compiled from many sources, such as the peer-reviewed literature.

5. **Weekly Outline of Content**

   Week 1: Basic neuroanatomy; Basic cell and molecular neurobiology.

   Week 2: Alzheimer's disease; Parkinson's disease.

   Week 3: Huntington's disease; Stroke.

   Weeks 4: Autism; Schizophrenia.

   Week 5: Depression and suicide; Neurobiology of addiction.

   Week 6: Amyotrophic lateral sclerosis; Down Syndrome.

   Week 7: Attention deficit/hyperactivity; Myasthenia gravis and muscular dystrophy.

   Week 8: Infectious and immune-mediated diseases of the nervous system; Final Exam

6. **Evaluation**

Tests	200 points
Homework	50
In Class Discussions	50
Term Papers	100 (BIO 4833), 50 (BIO 5433)
Grant Proposal	None (BIO 4833), 50 (BIO 5433)
Final Exam	100
Total	**500**

7. **Grading Scale**

   90% or more [SLR5]= A; 80-89% = B; 70-79% = C, 60-69% = D; <60% = F

8. Correlation of learning objectives to assignments and evaluation

Learning Objectives	Tests, homework, class discussion (60%)	Final Exam (20%)	Term Papers and Grant Proposal (20%)
Students will learn [SLR6][JLF7]genetic, molecular, and cellular mechanisms that underlie important neurological and neuropsychiatric disorders (CT 1-5, GLG 1-2).	X	X	X
Students will read and critique important findings in neurological and psychiatric disorders. They will also formulate their own hypothesis, mechanisms of pathogenesis, predict the results and discuss and summarize the key findings in neurological diseases and disorders (CT6, WR 1-7, RC 1-4, GLG 2-4).	X	X	X
Students will implement speaking and listening skills in the articulation and discussion of important neurological and neuropsychiatric disorders (SL – 1-5,7) (GLG 1, 3)	X		

Date approved by the department or school:

Date approved by the college curriculum committee:

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

Date approved by CAA:

Date approved by CGS: