Banner/Catalog Information (Coversheet)

1. ___ New Course or ___ Revision of Existing Course

2. Course prefix and number: PSY 3820

3. Short title: Cognitive Neuroscience

4. Long title: Cognitive Neuroscience

5. Hours per week: 3 Class 0 Lab 3 Credit

6. Terms: ___ Fall ___ Spring ___ Summer X On demand

7. Initial term: ___ Fall ___ Spring X Summer Year: 2017

8. Catalog course description: Examination of the brain’s role in cognition. The brain is considered as a biological computational device whose output can be studied from various perspectives including cognition, genetics, and mathematics in addition to biology. Topics include developmental processes and brain disorders that impair cognition.

9. Course attributes:

   General education component: 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 X 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): None

   a. Are students allowed to take equivalent course(s) for credit? ___ Yes X No

13. Prerequisite(s): PSY 1879G or 1890G (Introductory Psychology)

   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)? X Yes ___ No
d. Who may waive prerequisite(s)?

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

14. Co-requisite(s): None

15. Enrollment restrictions

   a. Degrees, colleges, majors, levels, classes which may take the course: All

   b. Degrees, colleges, majors, levels, classes which may not take the course: None

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: N/A

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

19. Special grading provisions: None

   ___ Grade for course will not count in a student’s grade point average.

   ___ Grade for course will not 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: None

   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 not be judged equivalent.

Note: Upper division credit (3000+) will not be granted for a community college course, even if the content is judged to be equivalent.
Rationale, Justifications, and Assurances (Part I)

1. X Course is required for the major(s) of: Psychology. (This course is one of three courses in Group B of the Psychology major. Psychology majors must complete one course in Group B).

___X__ Course is required for the minor(s) of Neuroscience
___Course is required for the certificate program(s) of ______________
___X__ Course is used as an elective

2. Rationale for proposal: Revising this course for online delivery will allow the accommodation of students who can only take online courses; furthermore, it is a necessary component for the online psychology major.

3. Justifications for (answer N/A if not applicable)
   Similarity to other courses: N/A
   Prerequisites: PSY 1879G (Intro to Psychology) or PSY 1890G (Intro to Psychology – Honors) is a prerequisite course to ensure that students have foundational knowledge in psychology prior to taking this upper division course. Students in Introductory Psychology typically have a chapter on the relationship between brain and cognition that will help prepare them for material in this course.
   Co-requisites: N/A
   Enrollment restrictions: N/A
   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: This course is currently delivered in a face-to-face format, but there is a demand for more online courses, particularly for upper-division psychology classes that psychology undergraduate majors and minors take to fulfill their degree requirements. Furthermore, beginning Spring 2017, the Psychology Department is offering enough online courses for students to complete a psychology undergraduate degree online. By modifying this course for online delivery, students will have more options of online courses in the Group B category. (One course in Group B is required for the major).
**Instruction**: Students will be able to access lectures with narrated content through an online course management system (e.g., D2L). Other online instructional materials are available on external websites. Writing assignments, discussion postings, and quizzes/exams will be completed or submitted within the course management system. Feedback from the instructor can be provided through phone, email, online discussion boards, and through synchronous video chat, when applicable. All faculty who will deliver this course online will be OCDI (or appropriate equivalent) trained.

**Integrity**: The course syllabus includes a statement about academic dishonesty. EIU has software that can be utilized to ensure that students taking online exams are the person registered for the course (by using a student’s webcam to record the test taker and testing environment). To deter academic misconduct by students, the writing assignments are checked automatically for plagiarism after being submitted in the course management system.

**Interaction**: Lecture portions of the course will be delivered via written, audio-recorded or video-recorded slideshows posted in the online course management system. The instructor and students will interact with one another using phone, email, discussion boards, and live video chat if desired.

**Model Syllabus (Part II)**

Please include the following information:

1. **Course number and title:**
   PSY 3820, Cognitive Neuroscience

2. **Catalog description:**
   Examination of the brain’s role in cognition. The brain is considered as a biological computational device whose output can be studied from various perspectives including cognition, genetics, and mathematics in addition to biology. Topics include developmental processes and brain disorders that impair cognition.

3. **Learning objectives.**
   1. Demonstrate the ability to think theoretically, critically, and empirically about the brain and the relationship it has with the psychological experience of cognition. (CT 1-6, WCR 5-6).
   2. Apply the fundamentals of biological computation. (QR 3-4)
   3. Read, analyze, and critique scientific articles in cognitive neuroscience. (WCR 3-6)
   4. Synthesize studied materials to respond to challenging questions. (CT 1-6)
4. Course materials.


Supplemental material will be provided by the instructor and shared through an online course management system (e.g., D2L).

5. Weekly outline of content.

The amount of time required for reading, preparing for class, studying for exams, attending class (or viewing online lectures and participating in discussions), writing, and completing assignments is approximately 7.5 hours per week (112.5 total hours for the semester) for both online and face-to-face sections. (Three 50-minute or two 75-minute class periods, weekly.)

<table>
<thead>
<tr>
<th>Week</th>
<th>Module Topic</th>
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| 1    | Introduction  
History, the mind-brain problem (Chapter 1) |
| 2    | Neurons and plasticity (Chapter 2)  
**Quiz #1 on assigned reading** |
| 3    | Brain anatomy and function (Chapter 2) |
| 4    | Methods used in Cognitive Neuroscience (Chapter 3)  
**EXAM 1** |
| 5    | Hemispheric Specialization (Chapter 4)  
**Journal Critique #1 due** |
| 6    | Hemispheric Specialization (Chapter 4)  
**Journal Critique #1 due** |
| 7    | Vision (Chapter 5)  
**Quiz #2 on assigned reading** |
| 8    | Vision and plasticity (Chapter 6)  
**EXAM 2** |
| 9    | Audition (Chapter 5) |
| 10   | Language (Chapter 11)  
**Journal Critique #2 due** |
| 11   | Memory (Chapter 9)  
**Quiz #3 on assigned reading** |
| 12   | Neurological bases of memory (Chapter 9)  
**EXAM 3** |
| 13   | Frontal lobes and executive control (Chapter 12) |
| 14   | Frontal lobes and executive control (Chapter 12)  
**Journal Critique #3 due** |
| 15   | Representation of knowledge (Chapter 6)  
**Quiz #4 on assigned reading** |
| 16   | **FINAL EXAM** |
6. Assignments and evaluation, including weights for final course grade.

Exams. Most of the questions are either conceptual in nature or are based on the application of information. Includes a combination of multiple-choice questions, exercises, and short-essay open questions. Each exam is worth 100 pts. (Total = 400 pts).

Quizzes. Multiple-choice content questions to assess the understanding of assigned readings. Most of the readings consist of short report journal articles. This assignment helps students to familiarize with reading primary literature on cognitive neuroscience and to gain critical reading skills. Each quiz is worth 40 pts. (Total = 160 pts).

Journal Critiques. Students are required to summarize and critique a research article that is related to content in the course. This assignment helps students gain skills necessary to read, interpret, and synthesize original research, which will be applicable in research methods, capstone courses, and other courses in the major. Each journal critique is worth 80 pts. (Total = 240 pts).

Participation. A portion of students’ grades will depend on participation – whether face-to-face or, for the online section, responding to other students’ discussion posts on the online course management system. This ensures an active role of the students and helps create a stimulating learning environment. Worth 80 pts.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Points</th>
<th>% of final Grade</th>
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<tbody>
<tr>
<td>Exams (4 x 100 points)</td>
<td>400</td>
<td>46%</td>
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<tr>
<td>Quizzes (4 x 40 points)</td>
<td>160</td>
<td>18%</td>
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<tr>
<td>Journal article critiques (3 x 80 points)</td>
<td>240</td>
<td>27%</td>
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<td>Class participation</td>
<td>80</td>
<td>9%</td>
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<td><strong>TOTAL</strong></td>
<td><strong>880</strong></td>
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7. Grading scale.

A: 90-100%  B: 80-89%  C: 70-79%  D: 60-69%  F: below 60%

8. Correlation of learning objectives to assignments and evaluation.

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<tr>
<th>Requirement</th>
<th>Exams (46%)</th>
<th>Quizzes (18%)</th>
<th>Journal Critiques (27%)</th>
<th>Participation (9%)</th>
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<td>Demonstrate the ability to think theoretically, critically, and empirically about the brain and the relationship it has with the psychological experience of cognition. (CT 1-6, WCR 5-6)</td>
<td>X</td>
<td>X</td>
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<td>Apply the fundamentals of biological computation. (QR 3-4)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>Read, analyze, and critique scientific articles in cognitive neuroscience. (WCR 3-6)</td>
<td>X</td>
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Synthesize studied materials to respond to challenging questions. (CT 1-6)

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<td>X</td>
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Date approved by the department or school: November 11, 2016
Date approved by the college curriculum committee: December 2, 2016
Date approved by the Honors Council (if this is an honors course):
Date approved by CAA: January 19, 2017  CGS: Not applicable