I. ASCRC General Education Form

<table>
<thead>
<tr>
<th>Group</th>
<th>Natural Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept/Program</td>
<td>Psychology</td>
</tr>
<tr>
<td></td>
<td>Course # 270</td>
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<tr>
<td>Course Title</td>
<td>Fundamentals of Biological Psychology</td>
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<tr>
<td>Prerequisite</td>
<td>Introductory Psychology</td>
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<td></td>
<td>Credits 3</td>
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II. Endorsement/Approvals
Complete the form and obtain signatures before submitting to Faculty Senate Office

<table>
<thead>
<tr>
<th>Please type / print name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>Robert Stuart Hall</td>
<td></td>
</tr>
<tr>
<td>Phone / Email</td>
<td>X5667/stuart.hall@umontana.edu</td>
<td></td>
</tr>
<tr>
<td>Program Chair</td>
<td>Allen Szalda-Petree</td>
<td></td>
</tr>
<tr>
<td>Dean</td>
<td>Gerald Fet2</td>
<td></td>
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III. Description and purpose of the course: General Education courses must be introductory and foundational. They must emphasize breadth, context, and connectedness; and relate course content to students’ future lives: See Preamble:
http://www.umt.edu/facultysenate/gened/GEPreamble_final.htm

IV. Criteria: Briefly explain how this course meets the criteria for the group. See:
http://www.umt.edu/facultysenate/ASCRCx/Adocuments/GE_Criteria5-1-08.htm

1. Courses explore a discipline in the natural sciences and demonstrate how the scientific method is used within the discipline to draw scientific conclusions.

   The basic focus of this course is exploring brain-behavior relationships. As such, examples from research in the basic neurosciences and neuropsychology are used to support the material throughout the course. Working through these examples always includes a discussion of the methodology (i.e., scientific method) used in these experiments - including how flawed methodology may lead to erroneous conclusions.

2. Courses address the concept of analytic uncertainty and the rigorous process required to take an idea to a hypothesis and then to a validated scientific theory.

   Much of the research in the biological bases of behavior address specific questions but leave much of the puzzle unsolved and yet to be determined. This is discussed throughout the course. Examples that have led to clear cut results, moving from hypothesis to validated theory are provided, as well as some that have not yet met these criteria. As an example, functional imaging studies of the brain are providing scientists with a wealth of new information, yet the precise meaning of this information is often unclear. Also, see #1 above.
V. Student Learning Goals: Briefly explain how this course will meet the applicable learning goals. See: http://www.umt.edu/facultysenate/ASCRCx/Adocuments/GE_Criteria5-1-08.htm

<table>
<thead>
<tr>
<th>Goal</th>
<th>Description</th>
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<tbody>
<tr>
<td>1. understand the general principles associated with the discipline studied</td>
<td>Students will learn how individual cells function in the central nervous system, how they form functional systems (e.g., movement), as well as the neural correlates of complex behaviors such as emotional states, memory and sleep.</td>
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<tr>
<td>2. understand the methodology and activities scientists use to gather, validate, and interpret data related to natural processes</td>
<td>Students will examine research in biological psychology from both the animal and human literature that illustrates how data is collected and used in this discipline.</td>
</tr>
<tr>
<td>3. understand how scientific laws and theories are verified by quantitative measurement, scientific observation, and logical/critical reasoning</td>
<td>Students will examine how both laboratory research and behavioral data are measured and quantified and will engage in critical examination of the conclusions obtained.</td>
</tr>
<tr>
<td>4. understand the means by which analytic uncertainty is quantified and expressed in the natural sciences</td>
<td>Students will be exposed to the wealth of information that we have gathered on brain-behavior relationships, the difficulty inherent in arriving at a complete understanding of the workings of the central nervous system, and the limitations this imposes.</td>
</tr>
</tbody>
</table>

VII. Syllabus: Paste syllabus below or attach and send digital copy with form. The syllabus should clearly describe how the above criteria are satisfied. For assistance on syllabus preparation see: http://teaching.berkeley.edu/bgd/syllabus.html

*Please note: As an instructor of a general education course, you will be expected to provide sample assessment items and corresponding responses to the Assessment Advisory Committee.
PSYC 270 - FUNDAMENTALS OF BIOLOGICAL PSYCHOLOGY

Instructor: Stuart Hall, Ph.D.
Meeting Times: TR 11:10-12:30; UH 210
Office Hours: TR 12:30-2 and by appointment; Skaggs 207
Important Dates:
- October 6: last day to drop, add, or change grading option without a petition.
- November 27 - Thanksgiving Holiday.
- Other important information will be announced in class.

Web resources:
- [www.thomsonedu.com/psychology/kalat](http://www.thomsonedu.com/psychology/kalat)
- "click on "Companion Site" for this text to find study materials for each chapter. I recommend the chapter summaries and flashcards, but all the resources may be helpful.

General Information
This class will be conducted according to University policies (e.g., incompletes, disability accommodations) and the Student Conduct Code.

Goals & Objectives
- Learn the different cells that compose the central nervous system (CNS).
- Understand how electrical and chemical events cause neurons to influence the activity of one another.
- Learn the basic anatomy of the CNS
- Gain familiarity with some techniques to study the CNS.
- Learn the anatomy and physiology of the sensory and motor systems.
- Gain familiarity with the anatomy and physiology of complex behaviors such as sleep, anxiety, reinforcement, memory, and language.

Tests/Grades
Grades will be based on the 3 best test scores (equally weighted). Each test will be worth 50 points; therefore, the final grade will be based on a possible total of 150 points (150-135 points=A, 134-120 points=B, 119-105 points=C, 104-90 points=D, 89 points and below=F).
Test 1 covers section 1 lectures and chapters 2, 3 & 4. Test 2 covers section 2 lectures and chapters 6, 7, & 8. Test 3 covers section 3 lectures and chapters 9, 12, 13, & 14. Test 4 is an optional comprehensive final exam. The format for all tests will be 50 multiple-choice questions. A plus/minus grading system will not be used.

Makeup Policy
The final exam is optional; grades are based on the 3 best scores. If you have to miss a scheduled exam, the final will serve as the make-up for the missed test. The final can also be used to substitute for a score on an earlier exam.

Lectures and Reading Assignments
You will be responsible for all information from the lectures as well as the text—including material in the reading assignments not covered in class. Regular attendance is critical. Please be sure to keep up with your reading and attend lectures. Important announcements will be made throughout classes.
PSYC 270
FALL 2008 CLASS SCHEDULE

Section 1
Reading: Chapters 2, 3 (skip section on Hormones, pp. 65-66), & 4
Topics: Neurons & Glia, Resting Potential, Action Potential, Synaptic Transmission, Drugs, Neuroanatomy, Research Methods
TEST 1 September 30

Section 2
Reading: Chapters 6 (modules 6.1 & 6.2; pp. 151-183), 7 (modules 7.1 and 7.2; pp. 195-214) & 8
Topics: Visual System, Auditory System, Somatosensory System, Movement
TEST 2 October 28

Section 3
Reading: Chapters 9, 12 (Emotions: pp. 356-360 & Anxiety: pp. 366-375), 13 & 14
Topics: Sleep, Reinforcement, Anxiety & Aggression, Learning & Memory, Lateralization of Function, Language
TEST 3 December 4

FINAL EXAM: December 12 10:10-12:10