PSY 3061: Introduction to Biological Psychology

Syllabus

Term: Fall ‘14
Location: Blegen Hall 5
Section: 001
Time: MW, 11:15 – 12:30

INSTRUCTOR
Scott Burwell
Office: N523 Elliott Hall (north elevators from lobby to 5th floor, located in NW corner)
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WEBSITE
The course website can be accessed from the following URL, http://www.moodle.umn.edu (under the “My courses” option), or from your MyU home page. The website will contain the following types of documents: class schedule, including any updates; list of supplemental readings; grades; course announcements.

COURSE DESCRIPTION
A biological framework for understanding complex behaviors and mental processes such as perception, motor control, learning, memory, and emotion is increasingly becoming useful for development of psychological theories and biomedical applications. This course first introduces the student to the machinery (cells and structures) that makes up the nervous system as well as its basic functions (physiology). Later, such systems will be discussed within the context of sensation and perception, memory, sexual development, emotion, and addiction.

COURSE OBJECTIVE
Students will gain a detailed understanding of the divisions, structures, and functions of the central and peripheral nervous systems. Additionally, students will learn to appreciate how approaching psychology from a biological perspective has given invaluable insight into several questions that have puzzled philosophers and theorists for centuries. How does one perceive his or her environment? Where and how are memories stored? Why do we fear (or crave) certain things? By the end of the course, students should have a good core set of knowledge and skills on how to begin answering these questions.
READINGS ARE DUE ON THE DATE WHICH THEY ARE LISTED IN THE SCHEDULE
Note: this book is available on its own or with a copy of MyPsychLab, which includes
electronic access to supplemental material. Use of MyPsychLab is not a requirement of the
course.

In addition to assigned chapters in the textbook, a small number of supplemental journal
articles may be assigned during the course. These articles will be posted via Moodle and will
be discussed in class.

SCHEDULE OF LECTURE TOPICS
A provisional course schedule is included in this handout. Any changes to this schedule will
be posted in the course website. It is your responsibility to check the website regularly for
any changes to the course schedule.

LECTURE STYLE
Classes are lecture-based, combined with small group discussions and activities. Although
some lecture content will draw from examples in the assigned textbook, much will come
from primary research articles and other resources; therefore, lecture attendance is strongly.encouraged, and fully expected, throughout the course.

RECOMMENDATION TO THE STUDENT
Much of the material covered in this course will require the student to memorize structures
and functions of the nervous system. This kind of content is often new to the typical liberal
arts undergraduate and not readily learned after only one or two exposures. In addition to
keeping up with assigned readings and lectures, I strongly urge you to make and use
flashcards throughout the semester, draw simple diagrams of relevant systems or processes
and fill in the blanks; if you’re not a good drawer, TRACE and COPY! Some of the greatest
scientific thinkers (e.g., Isaac Newton, Richard Feynman) ever known learned the basics by
simply imitating those before them.

EXAMS
There will be 4 exams. Exams will consist of multiple-choice questions that draw from
material covered in class and in readings. Exam questions are designed to test your
understanding of basic terminology and concepts, and your ability to apply these concepts.
Exam grades will be posted on the Moodle website.

Exams must be taken at the designated time. Students with disabilities and others who may
require special scheduling should contact the instructor or TA by the end of the first week of
classes to make any necessary arrangements.

Prior semesters’ exams will not be available as study material and you will not be allowed to
keep your exam after it has been graded. You will, however, be able to attend the
instructor’s or TAs’ office hours to ask test preparation questions or would like to view an
already-graded exam of yours. If coming to office hours to see an already-graded exam,
please email us in advance so that we can be sure to have your exam on hand.
MAKE-UP EXAMS
Make-up exams will be given after the exam date only under a limited number of circumstances (see CLA policy for detailed policy). If you have a **FORESEEABLE ABSENCE**: in order to make up an exam you must obtain permission from the instructor at least 48 hours before the scheduled exam. If you have an **UNFORESEEABLE ABSENCE**, you must notify the instructor no later than 48 hours after the absence occurred. Before making up an exam, you must also provide written documentation corroborating your reason for missing the exam (e.g. physician’s note written on official stationary with a phone number, the documented death of a family member, etc.). Absences due to weather/commute difficulties are unacceptable.

Questions on how an exam was graded should be submitted by email. It should be noted that once the grading is reevaluated, scores can move in a downward, as well as an upward direction!

EXTRA-CREDIT POP QUIZZES
Throughout the semester, several brief unannounced quizzes will take place in various formats (e.g., multiple choice, fill in the blank) during the lecture period. Although each student will need to submit his or her own answer for each quiz, students may work in small groups (up to 4 people). Quizzes often tap the student’s knowledge on subject matter for the current lecture-day and usually contain information relevant for the next exam. Each quiz is worth two points and counts towards extra-credit; a maximum of 20 quiz points will be available for the whole semester (a possible 10% of the course total!). **Because quizzes often involve group-work and are extra-credit (i.e. missing a quiz will not count against your total marks, per se), under no circumstances will make-ups be allowed for quizzes.** A typical semester consists of more than ten quizzes, so in the event that a student accrues more than 20 points, his or her best ten quizzes will go towards the final grade.

***** IMPORTANT! *****
Extra-credit quizzes will be in electronic format and implemented via Google Forms, therefore, it is crucial that you bring a device to lectures that is email/internet compatible (e.g., laptop, tablet, smartphone). Quizzes will require you be logged in to your x500 account and on University Wi-Fi. Although some quizzes will allow more than one submission, only the most recent will be considered for your grade. Additionally, quiz content will only be revealed during lecture and the open- and close-window for quiz-submissions will take place during lecture; thus, **attending lecture is necessary for obtaining any score on a given quiz.**

GRADING
Final grades will be based entirely on the 4 exams and extra-credit quizzes. The final grades will be determined as follows:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Points</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>50</td>
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<tr>
<td>Exam 2</td>
<td>50</td>
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<tr>
<td>Exam 3</td>
<td>50</td>
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<tr>
<td>Exam 4</td>
<td>50</td>
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</tbody>
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Max. allowed = 200 pts
Extra credit = 20 pts
Approximate grading cutoffs from past semesters (not guaranteed this semester):
185 = A, 180 = A-, 175 = B+, 165 = B, 160 = B-, 155 = C+, 145 = C, 140 = C-

USE OF PERSONAL ELECTRONIC DEVICES IN TIMES OTHER THAN DURING QUIZ-SUBMISSION:
Using personal electronic devices in the classroom setting during lecture can hinder
instruction and learning, not only for the student using the device but also for other students
in the class. Cellular phones should be turned-off (vibrating phones are still a distraction!)
during lectures. Laptops/tablets will be allowed for students to take electronic notes during
lectures. However, if a given student demonstrates that he or she is using his or her laptop
for business not directly relevant to lecture content, that student will lose laptop privileges.
Under no circumstances are personal electronic devices allowed during exams. For more
details, please see:

STUDENT CONDUCT CODE
The University seeks an environment that promotes academic achievement and integrity,
that is protective of free inquiry, and that serves the educational mission of the University.
Similarly, the University seeks a community that is free from violence, threats, and
intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty,
staff, and guests of the University; and that does not threaten the physical or mental health
or safety of members of the University community.
As a student at the University you are expected adhere to Board of Regents Policy: Student
Conduct Code. To review the Student Conduct Code, please see:
Note that the conduct code specifically addresses disruptive classroom conduct, which
means "engaging in behavior that substantially or repeatedly interrupts either the
instructor's ability to teach or student learning. The classroom extends to any setting where
a student is engaged in work toward academic credit or satisfaction of program-based
requirements or related activities."

SCHOLASTIC DISHONESTY
You are expected to do your own academic work and cite sources as necessary. Failing to do
so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on
assignments or examinations; engaging in unauthorized collaboration on academic work;
taking, acquiring, or using test materials without faculty permission; submitting false or
incomplete records of academic achievement; acting alone or in cooperation with another to
falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement;
altering, forging, or misusing a University academic record; or fabricating or falsifying data,
research procedures, or data analysis. (Student Conduct Code:
http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf) If it
is determined that a student has cheated, he or she may be given an "F" or an "N" for the
course, and may face additional sanctions from the University. For additional information,
please see:
http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html.
The Office for Student Conduct and Academic Integrity has compiled a useful list of
Frequently Asked Questions pertaining to scholastic
dishonesty: http://www1.umn.edu/oscai/integrity/student/index.html. If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

SEXUAL HARASSMENT
"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf
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<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>ASSIGNED READING</th>
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<tbody>
<tr>
<td>9/3</td>
<td>Introduction: syllabus overview</td>
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<tr>
<td>9/8</td>
<td>Introduction: course overview</td>
<td>Pinel (Ch. 1.1-1.2, 1.4-1.7)</td>
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<tr>
<td>9/10</td>
<td>Evolution, inheritance, &amp; gene expression</td>
<td>Pinel (Ch. 2)</td>
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<td>9/15</td>
<td>Neuroanatomy: a roadmap to the nervous system</td>
<td>Pinel (Ch. 3)</td>
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<td>9/17</td>
<td>Neurophysiology I – neural conduction</td>
<td>Pinel (Ch. 4)</td>
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<td>9/22</td>
<td>Neurophysiology II – synaptic transmission</td>
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<td>9/24</td>
<td>Neuroanatomy &amp; neurophysiology, catch-up</td>
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<tr>
<td>9/29</td>
<td>EXAM I</td>
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<tr>
<td>10/1</td>
<td>Research methods I</td>
<td>Pinel (Ch. 1.3, 5)</td>
</tr>
<tr>
<td>10/6</td>
<td>Research methods II</td>
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<td>10/8</td>
<td>The exteroceptive senses</td>
<td>Pinel (Ch. 6 &amp; 7)</td>
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<tr>
<td>10/13</td>
<td>Sensation &amp; perception (cont.)</td>
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<tr>
<td>10/15</td>
<td>Sensation &amp; perception (cont.)</td>
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<td>10/20</td>
<td>Movement &amp; the sensorimotor system I</td>
<td>Pinel (Ch. 8)</td>
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<tr>
<td>10/22</td>
<td>Movement &amp; the sensorimotor system II</td>
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<tr>
<td>10/27</td>
<td>EXAM II</td>
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<tr>
<td>10/29</td>
<td>Neurodevelopment</td>
<td>Pinel (Ch. 9)</td>
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<td>11/3</td>
<td>Brain damage</td>
<td>Pinel (Ch. 10)</td>
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<td>11/5</td>
<td>Neuroplasticity</td>
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<td>11/10</td>
<td>Learning &amp; memory I</td>
<td>Pinel (Ch. 11)</td>
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<td>11/12</td>
<td>Learning &amp; memory II</td>
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<tr>
<td>11/17</td>
<td>Hormones &amp; sex</td>
<td>Pinel (Ch. 13)</td>
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<tr>
<td>11/19</td>
<td>Hormones &amp; sex, catch-up</td>
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<tr>
<td>11/24</td>
<td>EXAM III</td>
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<tr>
<td>11/26</td>
<td>Sleep rhythms</td>
<td>Pinel (Ch. 14)</td>
</tr>
<tr>
<td>11/27-29</td>
<td>ENJOY YOUR THANKSGIVING BREAK!</td>
<td></td>
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<tr>
<td>12/1</td>
<td>Emotion</td>
<td>Pinel (Ch. 17.1-17.3)</td>
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<tr>
<td>12/3</td>
<td>Fear, anxiety, &amp; depression</td>
<td>Pinel (Ch. 18.2, 18.3)</td>
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<td>12/8</td>
<td>Substance use &amp; addiction I</td>
<td>Pinel (Ch. 15)</td>
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<tr>
<td>12/10</td>
<td>Substance use &amp; addiction II</td>
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<tr>
<td>THUR</td>
<td>EXAM IV</td>
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<tr>
<td>12/18</td>
<td>1:30 – 3:30pm</td>
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