PSY 3031 – Sensation and Perception
Fall Semester, 2014

Instructor: Stephen Engel; engel@umn.edu; Elliott Hall S249

Teaching Assistants: Liz Fast; fastx055@umn.edu; Elliott Hall N20
Kelly Whiteford; whit1945@umn.edu; Elliott Hall N625

We are happy to meet with you to answer questions related to course content. To schedule a one-on-one meeting, please see Prof. Engel or the TAs after class, or contact any of us by email. To go over exams, please contact TA Kelly Whiteford.

Course Description: This online and discussion-based course covers basic information about human sensation and perception. The course is worth 3 credits; there are no academic course prerequisites.

Required Text: Required Text: there are several good sensation and perception text books, and assigned readings can be completed in one of these two books:


Course Objectives: Students will learn 1) how the human body turns different physical stimuli into neural impulses (sensation), and 2) how the brain receives and interprets these impulses (perception). We will often focus on commonalities between different sensory modalities as a guide to understanding how the brain interprets data about the external world.

Logistics: Format is online lecture and in-class group work. Weekly written assignments (results of in-class exercises), quizzes over the readings, discussion fora, and lectures will be posted on the course website:

Each week, students will be responsible for the following:

- reading assigned sections of the book or supplemental readings posted online
- watching a set of 8-12 short lecture segments (90-100 minutes per week)
- completing an online quiz over the assigned readings and lecture modules before coming to a discussion/lab section
- attending a 50-minute discussion section in which they will complete short experiments and other demonstrations of the week’s lessons
- posting questions or answers to an online discussion forum
- entering online responses to in-class exercises
Disclaimer about visibility of internet ID: In this class, our use of technology will sometimes make students' names and U of M Internet IDs visible within the course website, but only to other students in the same class. Since we are using a secure, password-protected course website, this will not increase the risk of identity theft or spamming for anyone in the class. If you have concerns about the visibility of your Internet ID, please contact the instructor for further information.

Course Grade: In addition to weekly readings, quizzes over the readings and in-class assignments there will be multiple-choice examinations.

- Two equally weighted exams will compose **50%** of the grade (144 of 288 points)
  - The first exam will comprise 72 multiple-choice questions covering the first 4 weeks' lectures and readings.
  - The final (2\textsuperscript{nd}) exam will have 60 questions over the material from the last 4 weeks of class, and 12 questions integrating material from the whole semester.
  - No resources (books or notes) are to be used during exams.
  - Make-up exams will only be offered for medically excused absences.
  - Exams will be taken in a proctored computer lab. Students will sign up for one of the following time periods:
    - Exam 1: Friday, October 17: 10:00-11:30 AM or 3:00-4:30 PM
      Monday, October 20: 10:00-11:30 AM or 3:00-4:30 PM
    - Exam 2: Saturday, Dec. 13: 10:00-11:30 AM or 3:00-4:30 PM
      Monday, Dec 15: 10:00-11:30 AM or 12:00-1:30 PM

  **You must be able to make at least one slot for each exam.** There will be no additional testing times offered.

- **Online quizzes** will compose **17%** of the grade (48 of 288 points).
  - These will be 12 online quizzes over the reading and lecture material assigned for each week.
  - Each quiz will have 4 questions, targeting basic concepts or term definitions that should be gleaned readily from the textbook. Students have the opportunity to re-take each quiz twice (a total of 3 attempts).
  - The quizzes must be completed before Wednesday of that material's week at noon.
  - Once missed, a quiz cannot be made up

- Weekly **online written assignments** will compose **17%** of the grade (48 of 288 points).
  - During each discussion section, in-class exercises will be assigned. Exercises may involve either (self-organized) group or individual work.
  - After each lecture, students will submit multi-part entries on the course web site, providing answers to the questions stated in class.
- Online entries are also due Wednesdays at noon, but the Wednesday of the following week. E.g. Wednesday of week 3, the quiz on the week 3 material will be due as well as the written assignment on the week 2 material.

- Thoughtful and complete answers will receive 4 points; incomplete or careless answers will receive 2 points.

- **Attendance** will compose 8% of the grade (24 of 288 points).
  - A sign-up sheet will be available at each in-person meeting. It is the student’s responsibility to be sure s/he signs the sheet before leaving for the day.
  - Each signature counts 2 points. There are 14 course meeting dates and 24 attendance points. No extra credit will be given for perfect attendance, so students can miss up to two meeting times during the course of the semester without grade penalty.

- Participation in the **discussion fora** (forums) for the class counts for the remaining 8% of the grade (24 of 288 points).
  - Each discussion forum post, whether a question or an answer or suggestion of an additional resource, will be worth 4 points and will be graded for thoughtfulness and clarity. To receive full credit at least two of the six required posts should be completed before Exam 1.

The course is graded on an A-F basis (A: 93 – 100%, A-: 90 – 92, B+: 88 – 89, B: 83 – 87, B-: 80-82, C+: 78 – 79, C: 73 – 77,C-: 70 – 72; minimum passing is 60%; students taking the course pass/fail will receive an S (satisfactory) for grades higher than D).

**Plagiarism**: In all written assignments, including posts to discussion fora, be scrupulous about avoiding plagiarism. Definitions and examples of plagiarism can be found at http://plagiarism.org. If you copy text or ideas from a source, particularly a website you are referencing, cite the source.

**Policy for make-up work**: For legitimate absences (as defined in http://www.policy.umn.edu/Policies/Education/Education/makeupwork.html), late material will be graded for full credit if (1) arranged before the due date (or as soon as possible, in the case of illness) and (2) completed within a week of the original due date.

**Student Conduct**: Instructors are responsible for maintaining order and a positive learning environment in the classroom. Therefore, students whose behavior is disruptive or disrespectful either to the instructor or to other students will be asked to leave. Students whose behavior suggests the need for counseling or other assistance may be referred to their college office or University Counseling Services. Students whose behavior may violate the University Student Conduct Code may be referred to the Director of the University Counseling Office.

**Expected Student Behavior**: Be on time. • Turn off your cell phones and pagers during class. • Be polite. • Do not interrupt others. • Do not use vulgar language. • Do not read materials unrelated to the course during lectures or in-class activities.

**Sexual Harassment**: University policy prohibits sexual harassment as defined in the
Student Academic Integrity and Scholastic Dishonesty. All students enrolled in University courses are expected to complete coursework responsibilities with fairness and honesty. Failure to do so by seeking unfair advantage over others or misrepresenting someone else’s work as your own can result in disciplinary action. The University Student Conduct Code defines scholastic dishonesty as follows: 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. A student responsible for scholastic dishonesty can be assigned a penalty up to and including an "F" for the course and a report to the Office for Student Academic Integrity.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Class exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Psychophysics and neuroscience (8 lecture modules)</td>
<td>Just noticeable difference of M&amp;Ms</td>
</tr>
<tr>
<td>2</td>
<td>Somatosensation (11)</td>
<td>Two-point discrimination; braille cards</td>
</tr>
<tr>
<td>3</td>
<td>Phantom and prosthetic limbs, balance (12)</td>
<td>Phantom finger boxes; rubber hand; balance?</td>
</tr>
<tr>
<td>4</td>
<td>Olfaction and taste (15)</td>
<td>Odor discrimination; super-taster test; taste without smell</td>
</tr>
<tr>
<td>5</td>
<td>Sound and auditory mechanics (8)</td>
<td>Tuning forks; perceived loudness; cochlea model; auditory thresholds</td>
</tr>
<tr>
<td>6</td>
<td>Auditory sensation and hearing loss (12)</td>
<td>Hearing loss demos; auditory masking</td>
</tr>
<tr>
<td>7</td>
<td>Exam 1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Auditory perception (12)</td>
<td>McGurk effect; virtual barbershop; categorical perception</td>
</tr>
<tr>
<td>9</td>
<td>Light, eye, and retina (17)</td>
<td>Receptive field mapping; spot detection; blind spot</td>
</tr>
<tr>
<td>10</td>
<td>Low vision, and primary visual cortex (25)</td>
<td>Acuity tests; Low vision demo</td>
</tr>
<tr>
<td>11</td>
<td>Color, size, and depth</td>
<td>Illusions</td>
</tr>
<tr>
<td>12</td>
<td>Object recognition and visual system development</td>
<td>Mental rotation; prosopagnosia and face illusions</td>
</tr>
<tr>
<td>13</td>
<td>Attention, motion, navigation, and action</td>
<td>Spot detection II; snakes illusion; prism glasses</td>
</tr>
<tr>
<td>14</td>
<td>Exam 2</td>
<td></td>
</tr>
</tbody>
</table>