Course Description: This course combines lectures and practical lab experience aimed at explaining the basics of perception, attention, and the relation between the two. Perception refers to the mental processing of the information that we gain from our senses. Attention is a broad term that includes such things as the influence of our expectations and how we allocate our limited mental resources. However, these two aspects of mental processing are inter-dependent. For example, perception can influence attention, such as when we turn our heads towards a loud noise, and attention can affect perception, such as when we search for a familiar face among a crowd of people. The lectures and reading will cover a broad range of topics, while in the lab sections students will design, run, analyze and report several core experiments in the field.

Lecture: M,W - 9:00 - 12:10, 200B

Lab: T,Th - 9:00 - 12:10, 200B

Instructors: Dr. Brian C. Rakitin, Anja Soldan
312 Schermerhorn Hall
phone: 305-7476 (Dr. Rakitin), 342-1088 (Dr. Soldan)
email: br130@columbia.edu, as1578@columbia.edu
Office hours: TBA


Evaluation: There will be two exams, each worth thirty percent of the grade. Exams will cover material from lectures, labs, and assigned readings, from either the first or second half of the course. Exams will consist primarily of multiple choice and short answer questions (sentence or short paragraph). Lab assignments will constitute the remaining forty percent of the grade. This will include written project reports, attendance, and evaluations of your contributions in the lab sessions.

Absence & Make-up Exams:
An unexcused absence from any of the exams will result in a grade of F on that exam. To be excused from an exam you must personally notify one of the instructors before the exam and must present some evidence certifying the legitimacy of your absence (e.g., doctor’s note). Makeup exams will typically, but not necessarily involve longer, integrative essay questions. Late lab reports
will be assigned a penalty of 5 points (out of 100) for every day the report is handed in past the due date, unless you present a legitimate excuse to one of the instructors before the report is due.

### Class Schedule and Required Readings

#### Week 1

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Instructor</th>
<th>Reading</th>
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</thead>
<tbody>
<tr>
<td>May 22</td>
<td>Lecture 1: Introduction, Definitions, &amp; Discussion</td>
<td>Brian Rakitin</td>
<td>Chapter 1 Coran, et al.,</td>
</tr>
<tr>
<td>May 23</td>
<td>Lab 1: Elementary Statistics</td>
<td>Anja Soldan</td>
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<tr>
<td>May 25</td>
<td>Lab 2: Elementary Statistics (Cont.) &amp; Scientific Writing</td>
<td>Brian Rakitin</td>
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#### Week 2

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Instructor</th>
<th>Reading</th>
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<tbody>
<tr>
<td>May 29</td>
<td>Memorial Day (class rescheduled to June 2)</td>
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<td></td>
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<tr>
<td>May 30</td>
<td>Lab 3: Magnitude Estimation 1</td>
<td>Brian Rakitin</td>
<td></td>
</tr>
<tr>
<td>May 31</td>
<td>Lecture 3: Basic Visual Perception</td>
<td>Anja Soldan</td>
<td>Coren, et al., Chapters 3 &amp; 4</td>
</tr>
<tr>
<td>June 1</td>
<td>Lab 4: Magnitude Estimation 2 &amp; Analysis</td>
<td>Brian Rakitin</td>
<td></td>
</tr>
<tr>
<td>June 2</td>
<td>Lecture 4: Other Perceptual Modalities</td>
<td>Brian Rakitin</td>
<td>Coren, et al., Chapters 5, 6, 7</td>
</tr>
</tbody>
</table>

#### Week 3

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Instructor</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 5</td>
<td>Lecture 5: Objects &amp; Scenes</td>
<td>Anja Soldan</td>
<td>Coren, et al., Chapter 10</td>
</tr>
<tr>
<td>June 6</td>
<td>Lab 5: Experimental Design 1</td>
<td>Brian Rakitin</td>
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<tr>
<td>June 7</td>
<td>Lecture 6: Space &amp; Time</td>
<td>Brian Rakitin</td>
<td>Coren, et al., Chapters 9 &amp; 11</td>
</tr>
<tr>
<td>June 8</td>
<td><strong>Exam 1</strong></td>
<td>Brian Rakitin</td>
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**Deadline: Magnitude Estimation Lab Report Due**
Week 4

June 12  Lecture 7: Introduction to Attention
         Instructor: Brian Rakitin
         Reading: Coren, et al., Chapter 13

June 13  Lab 6: Mental Rotation 1
         Instructor: Anja Soldan

June 14  Lecture 8: Attention - TBA
         Instructor: Anja Soldan
         Reading: TBA

June 15  Lab 7: Mental Rotation 2 – Data Analysis
         Instructor: Anja Soldan

Week 5

June 19  Lecture 9: Attention - TBA
         Instructor: Brian Rakitin
         Reading: TBA
         **Deadline: Mental Rotation Lab Report Due**

June 20  Lab 8: Visual Search 1
         Instructor: Anja Soldan

June 21  Lecture 10: Neuroanatomy & Neuropsychology of Perception
         Instructor: Anja Soldan
         Reading: TBA

June 22  Lab 9: Visual Search 2: Data Analysis
         Instructor: Anja Soldan

Week 6

June 26  Lecture 11: Neuropsychology of Attention & Consciousness
         Instructor: Anja Soldan
         Reading: Coren, et al., Chapter 13
         **Deadline: Visual Search Lab Report Due**

June 27  Lab 10: Experimental Design 2 & Hypothesis Testing
         Instructor: Brian Rakitin

June 28  Lecture 12: Development of Perception
         Instructor: Brian Rakitin
         Reading: Coren et al., Chapter 15

June 29  **Exam 2**