1. SUBJECT DESCRIPTION

Cognitive psychology is the scientific study of mental processes - how the mind works and fails to work. In general, it includes topics that are fundamental for understanding how we think (e.g., remembering, forgetting, communicating, reasoning). Most students find these topics intrinsically interesting particularly when applied to real-life, such as using cognitive psychology to think about how to be a better student (e.g., in order to get the best grade on my presentation tomorrow, should I go first or last?), how to improve the marketing of a product (e.g., why does having too much choice reduces sales), or how to make normal day-to-day decisions (e.g., how bad is it to drive while talking on a hands-free unit?).

Attention, Perception, and Memory is a course designed to examine the vast complexity of the lower-level cognitive skills that humans possess. In this class, we will tackle questions such as, “Why do we see?”, “How does attention work?”, and “How do we remember?” We’ll examine how the mind transforms sensory information into perceptual understanding, how attention can unintentionally be manipulated, what happens to information we learn, how and where it gets stored in the brain, and why and when we misremember. We will also examine the neurological underpinnings of these mental activities and how certain mental-like processes might be carried out in computers. Throughout the course we will discuss how cognitive psychologists build theories (or models) of mental processes, and how these models are used to understand and predict behavior.

2. OBJECTIVES AND SKILLS

The goal of this design is to provide broad coverage of the setting for contemporary issues and topics in the field of cognitive psychology by providing an overview of past and current theory and research related to the processes of the human mind. You will gain expert knowledge about cognition and experience in cognitive research methodology by reading about and by participating in a number of classic research studies. You will also enhance your ability to think critically and scientifically about everyday cognitive problems (e.g., “How can I make better decisions?” or “How can I study more effectively?”) so that you can try to generate effective solutions for optimizing your own productivity.
By the end of the year, you should:

- Know the basic theories (past and present) of cognition and more specifically, the structures and functions of the mind and the processes that constitute ‘thought’.
- Understand the research dialectic and apply this logic to how you think about psychology as a science.
- Be able to apply your learning to real-world problems at both an individual, group and system level.

3. METHODOLOGY AND WEIGHTING

<table>
<thead>
<tr>
<th>Teaching Methodology</th>
<th>Weighting</th>
<th>Estimated time a student should dedicate to prepare for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures/Presentations</td>
<td>40%</td>
<td>60 hours</td>
</tr>
<tr>
<td>Discussions</td>
<td>20%</td>
<td>30 hours</td>
</tr>
<tr>
<td>Individual Exercises</td>
<td>20%</td>
<td>30 hours</td>
</tr>
<tr>
<td>Group work</td>
<td>20%</td>
<td>30 hours</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>150 hours</strong> are required for a 6 ECTs course (30 sessions)**</td>
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</tbody>
</table>

*Please, note that this table shows how time is class is going to be handed out and is not equivalent to the evaluation section.

4. COURSE CONTENT

PERCEPTION & PATTERN RECOGNITION

- Visual Perception
  - The Visual System
- Pattern Recognition
  - Theories & Models

ATTENTION

- Definition
- Controlled Attention
  - Selective Attention Models
  - Divided Attention
- Automatic Attention

MEMORY

- Working Memory
  - Capacity
  - Structure
  - Mechanisms
  - Neuropsychology
- Learning and Remembering
  - Methods
- Memory Architecture
  - Explicit vs. Implicit
• Episodic Memory  
  o Rehearsal  
  o Depth of Processing  
  o Organization  
  o Retrieval  
  o Failure to Retrieve  

• Semantic Memory  
  o Models  
  o Priming  
  o Scripts  
  o Concepts and Categories  
  o Structure  
  o Connectionism  

• Memory and the Real World  
  o 7 Sins of Memory  
  o Meta-memory  
  o False memories  
  o Amnesia  
  o Biographical memories  

COURSE TIMELINE (subject to change if needed):  
SESSION 1 & 2  
Intro, history, methodology.  

SESSION 3 & 4  
Perception.  

SESSION 5 & 6  
Visual system.  
*Exposition I + discussion.*  

SESSION 7 & 8  
Pattern recognition I.  

SESSION 9 & 10  
Pattern recognition II. *Exposition II + discussion.* Readings:  
Group presentations.  

SESSION 11 & 12  
Attention I.  

SESSION 13 & 14  
Attention II. *Exposition III + discussion.* 
Group presentations.  

SESSION 15 & 16  
*Midterm Exam.*  

SESSION 17 & 18  
Working Memory
SESSION 19 & 20
Learning and remembering.
Memory architecture.

SESSION 21 & 22
Episodic Memory.
Exposition IV + discussion.

SESSION 23 & 24
Semantic Memory.
Coursepack.

SESSION 25 & 26
Memory and real world I.
Exposition V + discussion.
Coursepack.

SESSION 27 & 28
Memory and real world II.
Coursepack.
Group presentations.

SESSION 29 & 30
Final Exam

5. EVALUATION SYSTEM

At the close of the semester, you will be assigned a grade based on demonstration of your knowledge on weekly quizzes, exams, projects, and participation. Class content includes power point presentations, videos, compulsory readings and assigned articles. Please see your class schedule for all due dates.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class activities + participation.</td>
<td>10%</td>
</tr>
<tr>
<td>3 Blog Entries</td>
<td>10%</td>
</tr>
<tr>
<td>2 Individual assignments.</td>
<td>20%</td>
</tr>
<tr>
<td>1 Exposition/statement.</td>
<td>20%</td>
</tr>
<tr>
<td>1 Midterm Exam</td>
<td>20%</td>
</tr>
<tr>
<td>1 Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

3 Blog Entries: One of the goals of this course is to encourage student to apply the psychological concepts and ideas from cognitive psychology to your life. The weekly blogs will be an opportunity for students to reflect on what they’ve learned and write-about the possible implications for application of the cognitive concepts. Students will be required to submit a blog targeting during every contents block (perception, attention and memory). Each blog should be a minimum of 150 words. Students are required to submit a total of 3 blogs over the term. No late assignments will be accepted.

2 individual assignments based on class contents: To be explained at the beginning of the course.
1 Exposition/presentation: Students will be asked to work in pairs in order to prepare and display an exposition about different articles and studies connected with class concepts.

Exams: Two in-class exams (a midterm and a final) will be given including multiple-choice and short answer questions designed to reflect analytical and critical thinking skills. Exams are based on class lectures, videos presented by the instructor, discussions, textbook content, and assigned readings. Once you have passed the midterm exam, the final one will cover the remaining course content.

Late/Missing Assignments: Late assignments (blogs or labs) will NOT be accepted under any circumstances and missed quizzes cannot be made-up. The midterm and the final are the only assessments that can be rescheduled but ONLY in cases of emergency or illness. ALL such arrangements are the full responsibility of the student and must be made PRIOR to the due date.

Decisions about grades are made carefully, and are final at the end of the semester. I do not give “extra credit” or makeup assignments at the end of the semester. Also, please note that any disputes about grades from earlier in the course must be resolved before the final exam. Once we arrive in the final exam period, your grade from earlier in the semester is set.

6. RETAKE POLICY

Each student has 4 chances to pass any given course distributed in two consecutive academic years (regular period and July period).

Students who do not comply with the 70% attendance rule will lose their 1st and 2nd chance, and go directly to the 3rd one (they will need to enrol again in this course next academic year).

Students in their third chance must comply with a 50% attendance. In case that the subject has the same schedule as others so that the student cannot attend classes regularly the evaluation system will be discussed and agreed with the instructor.

Grading for retakes will be subject to the following rules:

- Students failing the course in the first regular period will have to do a retake in July (except those not complying with the attendance rules, which are banned from this possibility)
- Dates and location of the July retakes will be posted in advance and will not be changed. Please take this into consideration when planning your summer
- The retake will consist on two parts exam: multiple-choice and short answer questions, covering the whole subject.
- Students in their third attempt and are not attending classes HAVE TO take the midterm and the final exam with the rest of the class.
- The maximum grade that a student may obtain in the retake will be 8 out of 10.

7. USE OF ELECTRONIC DEVICES IN CLASS

It is highly recommend the use of a laptop in class, no Wi-Fi connection needed.