

**American University of Beirut
Faculty of Arts and Sciences
Department of Psychology**

PSYC 229: Cognitive Neuroscience

(3 credits)

Instructor: Julien Besle

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Office: Jesup Hall 103 E

Office hours: Wednesdays 10:00 am-12:00 pm and Thursdays 10:45-11:45 am or by appointment.

Class times: Tuesday/Thursday 2:00 – 3:15 am

1) Catalogue course description

An advanced course on the underlying neural mechanisms of higher mental function. Topics include brain systems implementing memory, language, decision-making, control of action, social cognition, emotions, creativity, cultural evolution, consciousness, cognitive control and brain-computer interface. *Prerequisite: PSYC 201. Annually.*

2) Course description and learning outcomes

This course is designed to give students more in-depth exposure to the various developments, theories and research methods in cognitive neuroscience. The emphasis of the course is on the systems level. Each week, students are to examine the neural underpinnings of a broad class of mental processes and put them into the larger context of the psychological sciences.

Student learning outcomes: At the end of this course, students should be able to:

- 1- Appreciate the complexity and capacity of the human brain (*PLOs 2a,b,c, 4c*).
- 2- Be proficient in neuroanatomy (*PLOs 4c,d*).
- 3- Understand the limits and perils of modern neuroscience tools (*PLOs 1a,b,c, 3c*).
- 4- Understand the brain mechanisms underlying selected cognitive processes (*PLOs 2a, 4c,d*).
- 5- Think critically about the moral and ethical issues facing a science of the mind (*PLO 2a,b, 3d, 4c,d*).
- 6- Demonstrate acquired skills in writing (*PLOs 5a,b*).

3) Resources Available to Students

Core text: PSYC229 mostly relies on one *required* core text:

Title: *Cognitive Neuroscience. The biology of the mind, 4th edition (2014)*

Authors: Michael S. Gazzaniga, Richard B. Ivry and

Publisher: W. W. Norton

Available at the bookstore

4) Tentative Schedule

Week		Chapter and Topic	Grading
1	Sep 4 th	Introduction + Cellular mechanisms (Ch1-2)	
2	Sept 11 th	Overview of the nervous system (Ch2)	
3	Sep 18 th	Overview of the nervous system (Ch2)	(Tuesday Sept 11 th is a holiday)
4	Sep 25 th	Methods of cognitive neuroscience (Ch3)	(Tuesday Sept 13 th is a holiday)
5	Oct 2 nd	Methods of cognitive neuroscience (Ch3)	
6	Oct 9 th	Sensation and perception (Ch5)	
7	Oct 16 th	Sensation and perception + Object recognition (Ch6)	
8	Oct 23 rd	Object recognition (Ch6)	Mid-term Exam 1
9	Oct 30 st	Object recognition + Attention (Ch7)	
10	Nov 6 th	Attention (Ch7)	
11	Nov 13 th	Action (Ch8)	
12	Nov 20 th	Memory (Ch9)	Mid-term Exam 2
13	Nov 27 th	Emotions (Ch10)	
14	Dec 4 th	Language (Ch11)	
15	TBA	Final exam	

5) Grading Criteria

Your final grade in this course will be calculated as follows:

Exam	Type	Weighting
Two mid-term exams held on Saturdays	Multiple choice and/or open questions	30% × 2 = 60%
Final exam	Multiple choice and/or open questions	30%
Five drop quizzes	Multiple choice and/or open questions on either the current book chapter or the previous lecture.	10%

Grading will be criterion-based. The exact criteria for each grade will be provided in due course, as will the content and format of the exams and quizzes. For drop quizzes, a random subset of questions might be graded.

There *may* be additional optional credits for research participation.

6) Course Policy

I reserve the right to change the dates and the format of assignments or exams during the course if necessary but will provide advance notice.

During class, **cell phones are not to be seen or heard, or they may be confiscated for an indefinite period.** The use of laptops is not allowed during class. Notes are to be taken by hand. If you wish to leave the class for any reason, you must take permission first.

Communication: Do not hesitate to contact me during office hours or by appointment with any question about the course or assignments and to clarify any material that you haven't grasped.

Emails and Moodle are core elements in our communication. Consequently, regular access to your AUB email account and familiarity with the internet are crucial if you are to keep up with the developments of this course. In addition, some instructions and announcements might be given only during class and it is your responsibility to make sure you are aware of those if you miss a session.

Attendance: I expect students to be present and on time for all classes. Attendance records will be taken. Students are to be in class at the latest 1 minute prior to class time. **Students who arrive late** (i.e. after class started) **will not be allowed in class and will be considered absent.** Attendance will count towards the final grade: beyond three absences without valid excuse, **each additional absence will result in 1% being deducted from the final grade**, up to a maximum of 20% of the total grade. Students who miss more than 1/5 of the total number of classes without valid excuse in the first ten weeks of the semester may be asked to drop the course. Students are responsible for keeping track of their own attendance. Warnings may or may not be given.

Drop quizzes and exams: There will be no make-up mid-term exams. If the excuse for missing the exam is valid, the grades at the remaining exams will be re-weighted to make up for the missing grade. Missing the final exam will lead to a make-up exam **only** if the excuse is valid.

There will be no make-up drop-quizzes. Missed drop-quizzes will be given a grade of 0, unless a valid excuse is given, in which case the weight of the missed quiz will be transferred to that of other quizzes.

Valid reasons for absences, missed exams or quizzes are limited to illnesses (medical or psychological). They will have to be documented by a note from the University Health Services or the Counseling Centre. Excuses that are not health-related might be acceptable for absences (but not exams), provided they are discussed with me beforehand and documented.

7) University Policies

Disability: AUB strives to make learning experiences as accessible as possible. If you anticipate or experience academic barriers due to a visible or invisible disability (including mental health, chronic or temporary medical conditions), please inform me immediately so that we can privately discuss options. In order to help establish reasonable accommodations and facilitate a smooth accommodations process, contact the Accessible Education Office (AEO), preferentially in the first few weeks of the semester: accessibility@aub.edu.lb; +961-1-350000, Ext. 3246; West Hall, 314. In most cases, I will expect to see an official AUB letter of accommodations from the AEO.

Additional information:

<https://www.aub.edu.lb/sao/Documents/Process%20Map%20for%20Students.pdf>

https://www.aub.edu.lb/sao/accessible_education/Pages/home.aspx

Academic integrity: Cheating at exams, plagiarism, presenting work you did not do, violating rules of proper academic conduct and other related matters will not be tolerated and will be dealt with

according to strict AUB policies. Although you may consult and seek advice from each other on assignments, you are expected to present your own original work for grading (i.e. you are supposed to do the required work on *R* and report it yourself independently). Failure to present your own original work will result in disciplinary measures. Please refer to AUB Student Code of Conduct: <http://www.aub.edu.lb/pnp/generaluniversitypolicies/Documents/StudentCodeConduct/StudentCodeConduct.pdf>, in particular section 1.1.

Non-Discrimination: AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at www.aub.edu.lb/titleix . To report an incident, contact the University's Title IX Coordinator Trudi Hodges at 01-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via EthicsPoint at www.aub.ethicspoint.com.