

# Neuroscience of Consciousness

**Instructor:** Ryan Mears

**Class Meeting time:** 10:40-11:30 AM M,W,F (PSY4930-077D)

**Class Meeting location:** PSY 0130

**E-mail:** mears@ufl.edu **Office Hours:** M & F 11:30-Noon

## Course Description

Conscious awareness, a hallmark of human experience, is like the exposed tip-of-the-iceberg compared to the concealed, unconscious processes of the brain. In this class we will consider cutting edge research of brain mechanisms and neural signs as we discuss abnormal, disrupted, and non-human consciousness. Relevant topics to the neuroscience of consciousness will include anesthesia, coma, dreams, free-will, hallucinations, illusions, and imagination. As a result of this class, we will have a better understanding of the potential function of consciousness and be able to differentiate conscious from unconscious processes.

## Course Goals

- Understand phenomenology, theories, and potential functions of consciousness
- Learn to differentiate correlations versus causes of conscious processes
- Learn about cutting edge research on the neural underpinnings of conscious awareness

## Required Texts

Dehaene, S. (2014). *Consciousness and the Brain: Deciphering How the Brain Codes Our Thoughts*. Penguin Books, New York. (ISBN-10: 0143126261; ISBN-13: 978-0143126263).

Laureys, S., Gosseries, O., & Tononi, G. (Eds.). (2015). *The Neurology of Consciousness: Cognitive Neuroscience and Neuropathology*. Academic Press. (<http://ufl.summon.serialssolutions.com/>)

## Course Schedule

| Week      | Consciousness & the Brain         | Neurology of Consciousness         | Exams         |
|-----------|-----------------------------------|------------------------------------|---------------|
| 1 22-Aug  | 1 Consciousness enters the lab    |                                    |               |
| 2 29-Aug  | 2 Fathoming unconscious depths    |                                    |               |
| 3 5-Sep   | 3 What is consciousness good for? | 4 NCCs & 5 Attention               |               |
| 4 12-Sep  | 4 Signatures of conscious thought |                                    |               |
| 5 19-Sep  |                                   | 2 Neuroscience & 3 Oscillations    |               |
| 6 26-Sep  |                                   | 6 Intrinsic Activity               | <b>Exam 1</b> |
| 7 3-Oct   |                                   | 7 Sleep/Dreaming & 8 Sleep-walking |               |
| 8 10-Oct  | 5 Theorizing consciousness        |                                    |               |
| 9 17-Oct  |                                   | 9 Anesthesia                       |               |
| 10 24-Oct |                                   | 1 Neuroanatomy                     |               |
| 11 31-Oct |                                   | 18 Neurology                       | <b>Exam 2</b> |
| 12 7-Nov  |                                   | 25 Overview                        |               |
| 13 14-Nov | 6 The ultimate test               |                                    |               |
| 14 21-Nov | 7 The future of consciousness     |                                    |               |
| 15 28-Nov |                                   | 16 Epilepsy & 17 Split Brain       |               |
| 16 5-Dec  |                                   |                                    | <b>Exam 3</b> |

# Neuroscience of Consciousness

## Course Procedures

**EXAMS:** Throughout the semester there will be three exams. Each exam will consist of a combination of multiple-choice questions, true/false, fill in the blank, short answer and essay questions. Each exam will comprise 20% of the course grade.

Refer to UF undergraduate guidelines regarding final grades.  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**ASSIGNMENTS:** Five (5) class assignments will be given during the course of the semester. Assignments will altogether comprise 25% of the course grade. It is your responsibility to keep informed of the assignments and due dates. If you are absent the day an assignment is announced, please contact me AS SOON AS POSSIBLE. You will have several days to complete each assignment. The assignments will be designed to help you apply material from lectures and course texts. Late assignments will be given a lower grade.

**DISCUSSION & PARTICIPATION:** Discussion and participation will account for 15% of the final grade. Attendance will be tracked as part of overall classroom participation. Excused absences are consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation.

**UF HONESTY POLICY:** UF students are bound by The Honor Pledge, which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

**CLASS EVALUATIONS:** Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

**STUDENTS REQUIRING ACCOMMODATIONS:** Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter, which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**COUNSELING AND WELLNESS CENTER:** Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

| Grade | Percentage Range |
|-------|------------------|
| A+    | 100% — 96.5%     |
| A     | 96% — 93%        |
| A-    | 92.5% — 90%      |
| B+    | 89.5% — 86.5%    |
| B     | 86% — 83%        |
| B-    | 82.5% — 80%      |
| C+    | 79.5% — 76.5%    |
| C     | 76% — 73%        |
| C-    | 72.5% — 70%      |
| D+    | 69.5% — 66.5%    |
| D     | 66% — 63%        |
| D-    | 62.5% — 60%      |
| F+    | 59.5% — 56.5%    |
| F     | 56% — 53%        |
| F-    | 52.5% — 0%       |