

Cognitive Neuroscience

PSYC 244 - Fall 2022

Instructor: Darcy Burgund (dburgund@macalester.edu)

Class meetings: MWF 9:40 - 10:40 am, R 9:40 - 11:10 am; OLRI 352

Introduction

Welcome to Cognitive Neuroscience! The field of cognitive neuroscience combines cognitive science and cognitive psychology with biology and neuroscience to investigate how the brain enables the mind. During this course, we will explore basic and contemporary concepts in cognitive neuroscience through lectures, activities, readings, and a research project. Students will learn to read and interpret primary source material, design and implement cognitive neuroscience studies, and present research in verbal and written forms. Through this, students will gain an appreciation for the amazing intricacy of the brain-mind relationship, as well as a sense of how this relationship may be understood using cognitive neuroscience techniques.

Instructor

That's me!—Darcy Burgund. Please call me “Darcy”. If you prefer to be more formal, you may also call me “Dr. Burgund” or “Professor Burgund”. My preferred pronouns are she, her, hers.

Email

I love receiving and responding to email messages (dburgund@macalester.edu). This is the best way to contact me at any time for any reason. Please do! I will also send email messages to you, and you should check your email at least once per weekday to make sure that you receive any communications from me in a timely manner.

Appointments

I also love appointments, and I would love to have one with you at any time for any reason. Please [sign-up for an appointment here](#), or, if none of the available times work for you, email me (!!) to let me know days/times that would be better. Unless we decide something else, appointments will be in my office, OLRI 330.

Class Meetings and Attendance

Class will meet in OLRI 352 on Mondays, Wednesdays, and Fridays from 9:40 - 10:40 am, and on Thursdays from 9:40 - 11:10 am. I hope you will attend as often as possible! You will be responsible for knowing the material discussed during class, and class attendance is a component of the bigger and smaller assignments that you will complete. Nonetheless, class attendance is not a general requirement of the course and there may be days that you are unable to come. Indeed, if you are feeling sick, I encourage you to stay home and heal.

Flexibility tokens (see below) may be used to accommodate these occasions if they affect bigger or smaller assignments. In addition, materials from each class meeting (e.g., lecture slides, audio-recording of meeting) will be posted on Moodle for students to access at their convenience.

Recording Notification

As noted above, in order to accommodate students who must miss class, I plan to audio-record our class sessions and post the recordings on Moodle. In accordance with [Macalester's classroom recording policy](#), I will not make these recordings available to anyone outside of our class. Similarly, you may not share, replicate, or publish any class recording, in whole or in part, or use any of the recordings for any purpose besides knowing what happened during the class period.

Scored Components

Grades in the course will be derived from scores on 4 types of components: (1) smaller assignments, (2) bigger assignments, (3) tests, and (4) a presentation. I will track your scores on a Google Sheet that I will share with you individually and you may check any time. Brief descriptions of the components are provided below. Details about them will be provided during class and on Moodle.

Smaller Assignments (14%)

Students will complete 7 smaller assignments distributed across the semester (see schedule below). Smaller assignments include class attendance and are due by email to me before 9:40 am on the day they are scheduled. Smaller assignments are worth 2% each and will be scored using a three-level scale: student attends class and completes assignment with obvious effort = 2%; assignment completed but without obvious effort = 1%; assignment not completed = 0%.

Bigger Assignments (30%)

Students will complete 6 bigger assignments distributed across the semester (see schedule below). Bigger assignments require more effort to complete than smaller assignments and are worth 5% each. As with smaller assignments, bigger assignments include class attendance and are due by email to me before 9:40 am on the day they are scheduled. Bigger assignments will be scored using a five-level scale: student attends class and assignment is excellent = 5%; student attends class and assignment is very good = 4%; assignment is satisfactory = 3%; assignment is incomplete = 1%; assignment is not completed = 0%.

Tests (45%)

Three tests will be given in class on the days indicated in the schedule. Tests will be cumulative, addressing all the material covered in class until that point, and emphasizing the material covered since the previous test. Accordingly, tests will be differentially weighted with Test 1 = 10%, Test 2 = 15%, and Test 3 = 20%. Tests will consist of multiple choice, short answer, and longer answer questions. Students who have a known conflict with the scheduled test day should contact me at least 1 week prior to the test to make alternative

arrangements. Tests must be taken within 1 week of their scheduled date.

Presentation (11%)

Students will work in pairs or triplets to design and implement an experiment using a divided visual-field (DVF) paradigm, and then create a slideshow presentation describing their work that they present to the rest of the class on 11/10/22 or 11/11/22.

Lateness, Skipping, and Flexibility Tokens

Completing the above components when they are scheduled is important for keeping up with our material. Late components will be accepted for one week following their due date, however they will be penalized 25% of their score. After one week, late components will no longer be accepted and will be considered skipped.

Although I sincerely hope that you will be able to complete the course requirements when they are due, I realize that other aspects of your life may sometimes interfere with your ability to do this. To accommodate this reality, I offer 4 flexibility tokens to be used at your discretion in order to balance the demands on your time. Flexibility tokens may be used as follows:

- Class attendance excluded from assignment score = 1 token
- Late smaller assignment (up to one week) = 1 token
- Late bigger assignment (up to one week) = 2 tokens
- Skipped smaller assignment (or lowest smaller-assignment score excluded from final score) = 2 tokens
- Late test (up to one week) = 3 tokens

Once your tokens are gone, extensions will only be granted in extreme circumstances with appropriate documentation (e.g., illness/medical emergency with a doctor's note).

Letter Grades

The total number of percentage points from the scored components will be converted into final letter grades as follows:

100 -	95 points = A	94 - 90 points = A-
89 - 87 points = B+	86 - 83 points = B	82 - 80 points = B-
79 - 77 points = C+	76 - 73 points = C	72 - 70 points = C-
69 - 67 points = D+	66 - 63 points = D	62 - 60 points = D-
59 -		0 points = NC

Accommodations

Reasonable accommodations will be made for students with documented disabilities. If you have a disability that will impact your work in this class, please contact [Disability Services](#) to discuss your needs. The office will contact me and we will work together to arrange the appropriate accommodations.

Health and Well-being

Maintaining your health and well-being will help you engage in your academic experience as fully as possible. As I noted above, you are encouraged to stay home if you are feeling sick. More generally, I encourage you to make your health and well-being a priority when balancing the many demands that you have on your time. Sleeping, moving your body, and connecting with others are critical for health and well-being and can increase your resilience when facing different stressors in your life. Macalester's [Laurie Hamre Center for Health and Wellness](#) offers many resources designed to improve health and well-being. Please reach out to them if you are having difficulty maintaining this fundamental dimension of your life.

Academic Integrity

Academic integrity is a serious issue, and Macalester College has established [guidelines for defining and reporting cases of cheating and plagiarism](#). Cases of suspected academic dishonesty will be reported to the Director of Academic Programs immediately.

Incompletes

Macalester College strongly discourages assignment of incomplete grades, and incomplete grades will not be given except under dire circumstances and after consultation with the Dean of Academic Programs.

Schedule

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8/29/22	8/30/22	8/31/22 <i>Introduction and History</i>	9/1/22 <i>No class</i>	9/2/22 <i>Neuroanatomy 1</i>
9/5/22	9/6/22	9/7/22 <i>Neuroanatomy 2</i>	9/8/22 <i>Reading JCN Articles</i> • Small assignment	9/9/22 <i>Neuroanatomy 3</i>
9/12/22 <i>Methods 1</i>	9/13/22	9/14/22 <i>Methods 2</i>	9/15/22 <i>JCN Blitz 1</i> • Bigger assignment	9/16/22 <i>Methods 3</i>
9/19/22 <i>Hemispheric Specialization 1</i>	9/20/22	9/21/22 <i>Hemispheric Specialization 2</i>	9/22/22 <i>Implementing DVF Paradigm</i>	9/23/22 <i>Test 1</i>
9/26/22 <i>Visual Perception 1</i>	9/27/22	9/28/22 <i>Visual Perception 2</i>	9/29/22 <i>Hemisphere Asymmetry Blitz</i> • Bigger assignment	9/30/22 <i>Object Recognition 1</i>
10/3/22 <i>Object Recognition 2</i>	10/4/22	10/5/22 <i>Object Recognition 3</i>	10/6/22 <i>DVF Project Discussion</i> • Bigger assignment	10/7/22 <i>Object Recognition 4</i>
10/10/22 <i>DVF Materials Discussion</i> • Small assignment	10/11/22	10/12/22 <i>Test 2</i>	10/13/22 <i>DVF Experiment Setup</i> • Small assignment	10/14/22 <i>DVF Data Collection 1</i>
10/17/22 <i>DVF Data Collection 2</i>	10/18/22 <i>DVF Data Analysis 1</i>	10/19/22 <i>DVF Data Analysis 2</i> • Small assignment	10/20/22 <i>Fall Break</i>	
10/24/22 <i>Memory 1</i>	10/25/22	10/26/22 <i>Memory 2</i> • Small assignment	10/27/22 <i>DVF Data Discussion</i> • Bigger assignment	10/28/22 <i>Memory 3</i>

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
10/31/22 <i>Memory 4</i>	11/1/22	11/2/22 <i>Memory 5</i>	11/3/22 <i>"Memento"</i>	11/4/22 <i>"Memento"</i>
11/7/22 <i>DVF Presentation Peer Review</i> • Bigger assignment	11/8/22	11/9/22 <i>Memory 6</i>	11/10/22 <i>DVF Presentations</i>	11/11/22 <i>DVF Presentations</i>
11/14/22 <i>Memory Experiments 1</i>	11/15/22	11/16/22 <i>Memory Experiments 2</i>	11/17/22 <i>Emotion 1</i>	11/18/22 <i>Emotion 2</i> • Small assignment
11/21/22 <i>No class</i>	11/22/22	11/23/22	11/24/22 <i>Thanksgiving Break</i>	11/25/22
11/28/22 <i>Language 1</i> • Small assignment	11/29/22	11/30/22 <i>Language 2</i>	12/1/22 <i>JCN Blitz 2</i> • Bigger assignment	12/2/22 <i>Attention and Consciousness 1</i>
12/5/22 <i>Attention and Consciousness 2</i>	12/6/22	12/7/22 <i>No class</i>	12/8/22 <i>No class</i>	12/9/22 <i>Test 3</i>