Learning & Memory
PSYC 215

Monday, Wednesday, Friday
9:15-10:20
Room 165, Walker Science Center

Who is my instructor?

Welcome to Learning and Memory! Before we get into what will be covered in this course, I want to introduce myself. I am Dr. Jessica LaPaglia (you can call me Dr. L). I am originally from Minnesota, and I went to a small liberal arts college (not unlike Morningside) for my bachelor's degree. I loved the small class sizes and the opportunity to get to know my professors, so I made it my goal to become a psychology professor at a small school. I later received my master's and Ph.D. in psychology from Iowa State University and I have been teaching at Morningside since 2013. I have a seven-year-old daughter (Alice) and a three-year-old son (Miles)! Don't be surprised if I show pictures of all my babies (I also have two cats named after Lord of the Rings characters) in class. I look forward to getting to know you this semester!

What is this course all about?

In this course we will examine human learning and memory processes at a theoretical, applied, and empirical level. In the first unit, we will examine simple forms of learning such as habituation and conditioning and ways to improve your learning in this class and beyond (a theme that will carry throughout the semester). Units 2 and 3 focus on types of memory, and unit 4 will be dedicated to memory failures. Unit 5 will focus on a team project. I hope you will enjoy learning about human learning and memory as much as I love teaching it!

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Individual assistance is available by appointment (appointment calendar: **tinyurl.com/lapagliaappt**). I look forward to seeing you during these hours.

How can I best communicate with my instructor?

Please do not hesitate to contact me if you are having problems with any aspect of the course. I am always willing to help. The easiest way to reach me is through e-mail. If you need to meet with me, it is often best to contact me a few days in advance to set up a meeting time. I will respond to email messages within 24 hours during weekdays and 48 hours on weekends. **Please include the course number in the subject line (PSYC 215)** of any class-related email so that I can give your email priority. To avoid missing any pertinent course information, please check your Morningside email daily at a minimum.

Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

Course Objectives

1 – Identify and describe principles and theories of human learning and memory.

2 – Apply learning and memory techniques to your life.

3 – Design and implement methodologically sound memory research.

Unit 1: Learning Objectives	Course Objectives	Assignments
1. Describe concepts and research related to human and animal learning.	1	Quizzes, Exam 1, Final Exam, Reading Questions
2. Apply learning and memory techniques to studying for exams.	2	Learning Reflection 1
Unit 2: Forms of Memory I Objectives	**Course Objectives**	**Assignments**
1. Describe concepts and research related to implicit, short-term, working, and prospective memory.	1	Quizzes, Exam 2, Reading Questions, and Final Exam
2. Apply learning and memory techniques to studying for exams.	2	Learning Reflection 2
Unit 3: Forms of Memory II Objective	**Course Objectives**	**Assignments**
1. Describe concepts and research related to explicit forms of memory.	1	Quizzes, Reading Questions, Exam 3, and Final Exam
2. Reflect on the use of learning-enhancing techniques involved in teaching.	2	Learning Reflection 3
Unit 4: Failures of Memory Objectives	**Course Objectives**	**Assignments**
1. Describe concepts and research related to amnesia, forgetting, and false memories.	1	Quizzes, Reading Questions, Exam 4, and Final Exam
2. Describe concepts related to research methods and statistics.	1, 3	Quizzes, Reading Questions, Exam 4, and Final Exam, Research Participation Assignments
Unit 5: Improving Memory Research Projects Objectives	**Course Objectives**	**Assignments**
1. Evaluate learning and memory techniques used in this class.	2	Learning Reflection 4 and 5
2. Describe peer-reviewed research testing memory-enhancing techniques.	1	Annotated Bibliography, Research Presentation
3. Design an experiment to examine ways of improving memory.	3	Research Presentation
4. Identify confounding variables and ways of addressing them.	3	Research Presentation
5. Apply learning and memory techniques to the group project.	1, 2	Research Presentation

Course Requirements

Exams (40%): There is one exam over each unit (4) and a final exam. Each exam includes multiple choice and short answer questions. For the unit exams, you have the option of taking the multiple choice portion a second time to improve your score. While you do have the full 65 minutes to complete each exam, students typically finish in 30-45 minutes. The final exam is cumulative and is made up of multiple-choice questions from previous quizzes and exams. Please contact me as soon as possible if you need to schedule a make-up exam.

Quizzes (10%): There will be an open-note quiz over the material covered in class at the very end of many classes. You may use your notes of these quizzes. Taking a quiz outside of class without my permission is cheating. If you miss a quiz due to an excused absence, you may do an alternative make-up assignment. These quizzes are used as both an assessment and learning tool (see below under "testing"). Bummed because you didn't perform well on a quiz? No worries! **I will drop your two lowest scores.**

Team Project (19%): It is so much more fun (and challenging) to learn by *doing* rather than seeing or hearing. The purpose of this project is for you to see first-hand how psychological research is conducted. This project allows you to get creative and apply the course material to new situations. In groups of 4-5 students, you will design and conduct a memory study of your own. Here are all the components:

    Team Charter (10 points)
    Team Evaluation (5 points)
    Annotated Bibliography (20 points)
    Flyer (25 points)
    Presentation (100 points)

Learning Reflections (18%): I used to think self-reflection was a "fluffy" learning technique; however, after trying reflection out myself, I have learned more about myself and my experiences as a teacher. Since integrating reflection into my courses, I have noticed that students will often have these awesome "A-ha!" moments during written reflection (whether it be seeing something from a different perspective or applying information to their lives). Throughout the semester you will reflect on skills you've learned and how learning and memory concepts are used in this class and other classes to improve your learning. I use these reflections to assess your ability to apply the material so that I can receive feedback on the teaching techniques that I use in this course. There will be five reflections worth 30 points each.

Other Assignments (13%):

    Reading Questions. For each reading, there will be a couple of reading questions to complete to prepare for class.

    Research Participation. You will be required to participate in research and complete a short assignment.

The **Course Schedule** (which will be updated as needed) can be found here.

Exams: 340
Quizzes: 90
Research Project (all components): 160
Learning Reflections: 150
Other Assignments: 110
Total: 850 points

*You can earn up to 20 points of extra credit. A list of extra credit opportunities can be found on Moodle.

93-100% A	73-76.9% C
90-92.9% A-	70-72.9% C-
87-89.9% B+	67-69.9% D+
83-86.9% B	63-66.9% D
80-82.9% B-	60-62.9% D-
77-79.9% C+	0-59.9% F

Student assignments and coursework may be retained by me for the following uses:

1. as examples to guide future semesters' assignments
2. course evaluation
3. programmatic evaluation
4. educational research

Learning-Enhancing Techniques

In this class I use empirically supported techniques to improve your learning and memory of the material. Below I describe the techniques that I have built into the class to improve your learning and I have included real student comments about the effectiveness of these methods.

Testing

Decades of research has shown that testing/quizzing is a very powerful memory enhancer (when compared to re-study; Karpicke & Roediger, 2008). At the end of most class periods, there will be a 5-point quiz over the material covered that day. Notes can be used to help you through the quiz in case you are test anxious.

"The **quizzes** we took every day were a great reminder of the main things that we learned in that certain class period and gave me landmarks to study that day for that particular lesson."

Hand-written Notes

Believe it or not, handwriting (as opposed to typing) your notes can improve your understanding of the material (Mueller & Oppenheimer, 2014). Laptops are allowed, but handwritten notes are strongly encouraged. Refrain from writing what is on the board verbatim—try to put the material into your own words. This method, although more effortful, can really help you grasp the material. And if I am ever going too fast for you to take quality hand-written notes, let me know and I'll slow down!

"Without the distraction of the computer in front of me, I was also more attentive while **handwriting my notes**."

Self-correcting Exams

Ever complete an exam only to look over your notes later and exclaim, "I knew that!"? The multiple-choice portion of each exam will be taken once in class and again at home for a chance to improve your score. This self-correcting method has been shown to improve student learning because students spend more time reviewing the material during the second attempt (Gruhn & Cheng, 2014).

"The **self-correcting exams** made me realize the little mistakes I made […] it also made me realize the area of studies that I wasn't quite grasping."

Distributed Practice

At the beginning of each class period, I will review material from the class period before. Students have found this method to be most helpful in their learning in this class. Distributed practice helps connect the material and improves retention of information by creating multiple memory traces (Cepeda et al., 2006).

"[**Distributed practice**] helped to connect the material together so that I had a better understanding of how the two topics are associated. It also helped with improving retention of information by providing another opportunity to review and learn the information."

Elaborative Processing

Relating the information learned in class and from the readings to your own life can improve learning (Craik & Tulving, 1975). We will discuss concepts in many different formats (e.g., video, activities, lecture, group projects, and discussion) to help students with varying learning preferences. Reflections, in-class activities, experiments, and the group project reinforce a deeper understanding of concepts in the readings and lecture.

"**Elaborative processing** is one of the best techniques when it comes to my personal learning. If I am relating information to something that I have personally experienced, I tend to remember the information much better."

Collaborative Review

Incorporating both testing and elaborative processing during review sessions increases student understanding of the material by providing an initial retrieval opportunity followed by immediate feedback from peers (Maxwell et al., 2015). In the collaborative review sessions, you will attempt to retrieve information on a practice test and discuss the answers with your peers.

"[**Collaborative review**] is beneficial for me since I learn very well when I teach information to my peers."

Readings

All readings will be provided to you on Moodle for free. A full list is provided below.

Bouton, M. E. (2023). Conditioning and learning. In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology.* Champaign, IL: DEF publishers. Retrieved from http://noba.to/ajxhcqdr

Burmester, A. (2017). Working memory: How you keep things "in mind" over the short term. *Scientific American.* Retrieved from https://www.scientificamerican.com/article/working-memory-how-you-keep-things-ldquo-in-mind-rdquo-over-the-short-term/

Chance, B. & Rossman, A. (2023). Statistical thinking. In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology.* Champaign, IL: DEF publishers. Retrieved from http://noba.to/ruaz6wjs

Dudukovic, N. & Kuhl, B. (2023). Forgetting and amnesia. In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology.* Champaign, IL: DEF publishers. Retrieved from http://noba.to/m38qbftg

Mueller, P. A., & Oppenheimer, D. M. (2014). The pen is mightier than the keyboard: advantages of longhand over laptop note taking. *Psychological Science*, *25*(6), 1159–1168.

Pappas, S. (2011). Do you really remember where you were on 9/11? *LiveScience.* Retrieved from https://www.livescience.com/15914-flashbulb-memory-september-11.html

Scollon, C. N. (2023). Research designs. In R. Biswas-Diener & E. Diener (Eds), *Noba textbook series: Psychology.* Champaign, IL: DEF publishers. Retrieved from http://noba.to/acxb2thy

Additional readings will be assigned depending on your topic for the team project. These are in the Moodle folder called "Topic Articles".

Software

Download jamovi before class begins. This is a free and user-friendly statistical program. We will use this software to analyze data collected for your project. https://www.jamovi.org/

How can I succeed in this course?

1) In order for you to receive feedback and build on previous knowledge and skills learned throughout the semester, it is important that you **turn in assignments in a timely manner**. There is a penalty of 10% for each day that an assignment is late. I do not accept assignments that are more than two days late. I understand that the unexpected can happen, so please talk to me if something comes up that inhibits your ability to complete an assignment on time. You must do this prior to the submission deadline.

2) **Don't be afraid to ask for help.** I understand that it can be difficult (and even intimidating) to interact with peers and/or professors. Know that I welcome your questions and will do what I can to clarify instructions, assignments, and key terms. Please use my appointment calendar to set an appointment with me if you are experiencing trouble. And please raise your hand in class if you need clarification!

3) It should go without saying, but I'll say it anyway: **cheating and plagiarism** are bad. Any form of cheating or plagiarism will be directly confronted and handled on an individual basis. The social sciences department assumes that all work submitted by students will be generated by the students themselves, working individually or in groups (depending on the assignment). Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and using artificial intelligence (AI) tools like ChatGPT. Using another person or entity to complete an assignment is academic dishonesty. The Academic Honesty Policy can be found in the university catalog.

4) You have access to academic support services such as **tutoring, disability services, writing center, and library resources**.
If you need extra time on an exam or to take the exam in a distraction-free environment, contact disability services. Quizzes tend to take about 2 minutes to complete, and I will always leave at least 5 minutes at the end of class for you to complete them. However, if you find that either you do not have enough time or the classroom environment is too distracting, come talk to me and I would be happy to make appropriate accommodation for you.

5) Participation. I have implemented several strategies to get you in the best group for you and ensure that each person sticks to their responsibilities. Participation will have a large impact on the group components of your grade. Consider you have 10 points for each member of your team (if your team has 4 members, you have 40 points to assign). You will assign each member points based on their relative contributions (including yourself). If all has gone well (or well enough), then this is very easy - everyone gets 10 points. If, however, you feel there needs to be some redistribution of credit, then assign points accordingly, but remember to always add to the total points. For example, if someone gets only 5 points, then there are 5 extra points to be distributed to others. You MUST make notes of your reasons if you are assigning a member MORE than 11 points or LESS than 9 points. In the end, I will take everyone's reports and find the average. However, if you give someone more than an 11 or less than a 9 without an adequate explanation, I reserve the right to not include your rating in the final average.
I will then turn the average into a percentage (e.g., "7.5" points will be 75%) and use it to weight/adjust each person's points for the team components of the project. If you are between 90 and 110%, your grade will not change. This is because outside circumstances (like how work is delegated) necessitate a bit of fluctuation in the contributions of each group member. NOTE: the highest percentage I will use for any one student is 125%, so don't bother assigning yourself 40 out of 40 points! This will lead to an adjusted research paper and presentation grade. If you do not contribute to the group work, don't be surprised when your grade changes to a zero!

Common Student Emails and My Responses:

Q: "I will miss class on [insert date] because [insert reason]. Can you tell me what I will miss?"

A: Thank you for notifying me that you will be missing class. Please check Moodle for the topic, assignments due, and please get notes from a classmate.

Q: "I saw that my grade is lower than expected. What assignments did I miss? Is there a way I can make up the points?"

A: Please check the Moodle gradebook to see what you missed. Extra credit opportunities are listed on Moodle.

Q: "When is [assignment] due?" "Is there class?" "How many points is this worth?" "What should I study for the exam?'

A: Please see the syllabus and Moodle page for the answer to your question.

Q: "Can I set up a meeting with you?"

A: Of course! Use my appointment calendar to set up a meeting with me. www.tinyurl.com/lapagliaappt

Q: "I have a disability and need certain accommodations. What should I do?"

A: Contact disability services (https://my.morningside.edu/offices/disability-services). They will send me an email outlining the accommodation you need.

Q: "When will this assignment/exam be graded?"

A: All exams will be graded within one week and all assignments will be graded within two weeks of the due date.

Q: "How can I communicate with other students in the class?"

A: On the Moodle page under "Course Information" there is an open class forum. You can use this forum to contact other students to ask questions, put together a study group, etc. When you begin the team project, you will share emails and phone numbers with your teammates in the team contract.

Q: "What criteria are we graded on for the team project?"

A: The rubric for the presentation and all other related assignments can be found on Moodle.

References

Cepeda, N. J., Pashler, H., Vul, E., Wixted, J. T., & Rohrer, D. (2006). Distributed practice in verbal recall tasks: a review and quantitative synthesis. *Psychological Bulletin, 132(3),* 354–80.

Craik, F. I. M., & Tulving, E. (1975). Depth of processing and the retention of words in episodic memory. *Journal of Experimental Psychology: General, 104*(3), 268–294. https://doi.org/10.1037/0096-3445.104.3.268

Gruhn, D., & Cheng, Y. (2014). A self-correcting approach to multiple-choice exams improves student learning. *Teaching of Psychology, 41,* 335-339.

Karpicke, J. D., & Roediger, H. L. (2008). The critical importance of retrieval for learning. *Science*, *319*(5865), 966–8. https://doi.org/10.1126/science.1152408

Maxwell, E., McDonnell, L., & Wieman, C. (2015). An improved design for in-class review. *Journal of College Science Teaching, 44*(5), 48-52. Retrieved from www.jstor.org/stable/43631848

Mueller, P. A., & Oppenheimer, D. M. (2014). The pen is mightier than the keyboard: advantages of longhand over laptop note taking. *Psychological Science*, *25*(6), 1159–1168.