

LEARNING & MEMORY

Class Times: T/Th 12:10-1:30pm in *CAMPUS MPR* | Virtual Consultation Hours (booked via Calendly): M/W 12-1pm

Instructor

Dr. Justin Hulbert
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Book a Zoom Consultation:
calendly.com/just-hulbert

Course Materials

Perusall



brightspace
by D2L

bardcollege.brightspace.com

Prerequisites

Introduction to Psychological Science (PSY 141), Introduction to Neurobiology (BIO 162), or permission of the instructor

Assessment

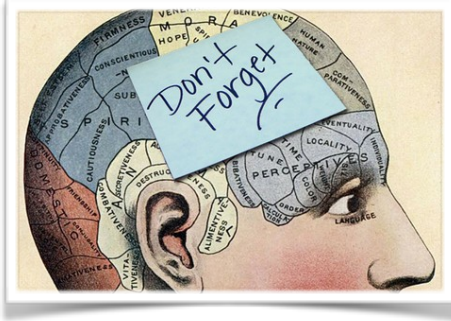
- Participation: **10%**
- Perusall annotations: **20%*‡**
- Make-your-own text: **30%**
- Controversy paper: **15%**
- Article poster: **15%**
- Final reflection: **10%**

*I'll drop your lowest 2 scores
‡Excluding chapter peer review



Course Overview

Memory is fundamental to all aspects of learning and behavior. It helps remind us to pick up dinner and where we left our keys; it acts as a repository for driving skills and the meaning of a stop sign; it also can incite flashbacks to an earlier car crash. How does the brain—in humans and non-humans alike—support mnemonic processes that give rise to such adaptive functions? How do these capacities develop across the lifespan, what problems arise, and what can we do to improve our memories? To begin to answer these questions, we will evaluate theories and evidence from behavioral experiments, brain-imaging methods, and studies of patients with memory disorders. Along the way, we will consider ongoing debates in the field, such as the role of memory suppression and the malleability of our memories.



Learning Objectives

Coming out of this course, you should have:

- Developed an appreciation for the central role memory plays in our lives, as well as the multiple forms memory can take.
- The ability to talk competently about the cognitive processes and neural underpinnings of memory development, encoding, retrieval, modification, and forgetting.
- The knowledge and skills necessary to develop an effective, comprehensive memory test of learning and a more adaptive memory system.
- Practice presenting research and applying core lessons from the field to real-world problems.
- The capacity to critically evaluate research methods, data, visual displays of quantitative information, and theories in order to reach sound scientific conclusions.

Joint Responsibilities

Achieving the broad aims of this course requires commitments from both me and you. Below you will find an outline of some of those responsibilities. Did I leave something out? Let me know—we can discuss additional responsibilities/group norms as a class.

- **I (Justin) agree to...**
 - a) Make myself available outside of class via email, Brightspace discussion boards, and during posted Zoom Consultation Hours (by appointment through calendly.com/just-hulbert) to answer questions, provide extra help, and discuss matters related to the course of study.
 - b) Respond in a timely fashion (typically by the end of the next school day) to email queries. In the event that more time is required to fully address the student query, I'll acknowledge receipt of the email and provide you with an estimated response time or suggest meeting in person.
 - c) Facilitate a thoughtful, considerate, and engaging learning environment.
 - d) Make available on Brightspace key materials forming the basis of synchronous activities for the purposes of review or catching up following absences.
 - e) Provide adequate time to complete assignments and notify students about any necessary changes to the course schedule/format as promptly as possible.
 - f) Provide comprehensive and fair assessments of materials presented or assigned. Assignments, with a level of feedback commensurate with the nature and aims of the task, will be returned to students in a timely fashion.
 - g) Create and welcome opportunities for students to provide feedback on the course/teaching throughout the semester.
- **You are responsible for...**
 - a) Showing up to class (in whatever form it takes) regularly, on time, and prepared while carefully following the relevant health and safety guidelines. I



Virtual Consultations

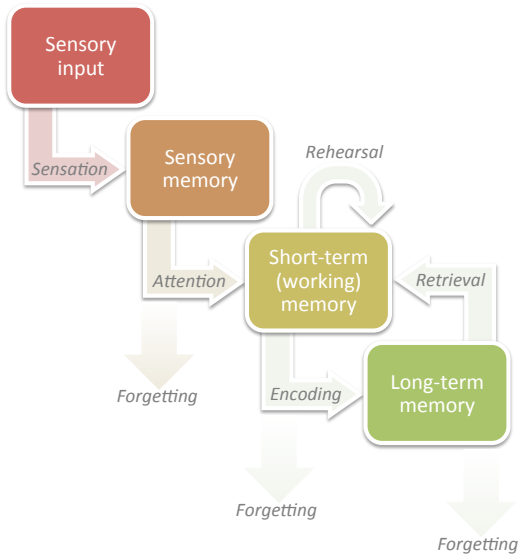
Staying connected during a time of social distancing can be challenging. But assistance is just a few clicks away.

- Other students probably share many of your questions/concerns. Posting questions on Brightspace will allow everyone to benefit from (and contribute to) the exchange.
- For more personalized issues (or if my Consultation Hours don't work), send me an email. But don't wait until the last minute before a deadline. Give yourself (and me) sufficient time to respond thoughtfully.
- It's easy to arrange a Virtual Consultation. Think of it like dropping by my office. We can chat about life, classes, careers, and (of course) course content.
 1. Simply go to calendly.com/just-hulbert
 2. Select a meeting time & let me know how I can best prepare
 3. You'll get a Zoom link (and reminder) emailed to you

Writing/other academic help is available through [Bard Learning Commons](#) (lc@bard.edu).

will take attendance when we are in person in order to facilitate contact tracing (and encourage students to use the same seat throughout the semester); however, you will *not* be penalized for absences owing to the pandemic. If you are sick or feel ill, please do *not* attend class. Your classmates and I will work to provide notes and answer questions to help you catch up again.

- b) Checking your **Bard email** and **Brightspace** regularly for important announcements about the course. Adapting to the pandemic has made keeping in regular contact more important than ever. By clicking "Announcements" and then "Notifications" on the Brightspace landing page, you can request text and/or email alerts to be sent to you for a variety of course-related happenings.
- c) Keeping up with the assignments and readings. As the required text is now completely digital, you can access the material on your computer or smart device from anywhere. But keep in mind that there is no substitute for a deep and focused consideration of the material, spaced out over time and viewed interactively through multiple lenses.
- d) Substantively participating in course discussions (in class and/or online). Note that a top-notch level of participation *does not necessitate responding to every question* raised in class or online; active or passive efforts to welcome contributions from everyone in the class are also looked upon favorably. Though you are welcome to challenge your fellow students' and my thoughts/conclusions, please do so in a fashion that is respectful. Challenge ideas, not the person raising them.
- e) Maintaining connectivity. There are many benefits to taking handwritten notes. However, the need for social distancing and masks, along with the need to host more activities online, requires access to an internet-connected device during and between class



meetings. As such, it is strongly recommended that you bring a fully charged laptop or tablet with you to class. Smartphones are another option, though some features may be limited on such a device.

- f) Submitting assignments digitally via Brightspace (unless prior arrangements have been made with me). If circumstances (e.g., illness) are likely to prevent you from turning in an assignment on time, please be proactive and inform me privately (over email or Zoom Consultation) as soon as possible. Students requiring alternative course accommodations (including extended time/flexibility on assignments due to disability) should contact me privately as early as possible after the first class meeting.
- g) Upholding academic integrity. Plagiarism (e.g., copying other’s words or ideas without proper citation) will not be tolerated. You are expected to work independently on each graded assignment, unless explicitly instructed otherwise. When in doubt as to what constitutes plagiarism within the confines of this course, you are encouraged both to consult the student handbook (<http://www.bard.edu/dosa/handbook/index.php?aid=1201&sid=705>) and to contact me for further guidance. There is absolutely no penalty for asking for clarification; however, failing to abide by Bard’s standards for academic integrity can result in failing the course.



Assessment Details

- **Participation (10% of course grade)**
 - As detailed below, class this semester will be divided into synchronous and asynchronous (completed online) components. Your participation grade will be determined jointly by your active participation in synchronous discussions, as well as your performance on asynchronous activities that you will be asked to complete each week (often via Brightspace). Asynchronous activities for a given week will be released on Brightspace by the end of the day on Monday of the relevant week. While it is expected that the bulk of these activities will be completed during the scheduled

asynchronous class time on Tuesday/Thursday, they will not be due until that Sunday at 11:55pm. But don't wait to get started until the last minute, as they (along with your learning) will benefit from time and focus.

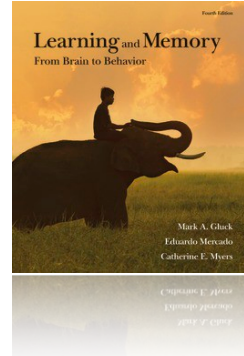
- **Perusall Annotations** (20% of course grade)
 - I've heard a shocking rumor: Many college students regularly don't read the assigned materials or give them more than a quick skim! The reasons for this are likely manifold. The materials may be too costly, too dry, too plentiful, too heavy to lug around in the form of a physical textbook. As an instructor, I attempt to balance these legitimate criticisms with the imperative to expose students to the necessary background material to spark insight and discussion. To this end, I have decided to adopt Perusall. Throughout the semester, you will be required to read and annotate certain course materials using this collaborative e-reader with sophisticated data analytics.
 - Perusall helps you learn faster by collaboratively annotating the readings and communicating with your classmates. Collaboration gets you help whenever you need it, makes learning more fun, enables you to help others (which research shows is also a great way for you to learn), and helps me make class better by emphasizing information that you need. Perusall also can read the assigned materials aloud and allow you to take notes (just for yourself—though you can easily share them with other students)!
 - If you have a question or information to share about a passage in the readings, highlight the text and type in a comment as an annotation. You can also respond to a classmate's annotation in threads in real time or upvote questions you find helpful. Simply click the question mark to indicate "I have the same question" or the green checkmark to indicate "this answer helped my understanding." Good annotations contribute to the class by stimulating discussion, explaining your thought processes, helping others, and drawing attention to good points. If a particular classmate's point is relevant, you can explicitly "mention" them and they will be immediately notified, even if not presently signed on. I'd encourage everyone to check in on the Perusall discussion again after doing a first pass on a reading and respond to comments and questions or possibly add new commentary based on newfound understanding. Remember that annotations will be visible to other students, as well as to me (though I will not annotate directly—it is your space).
 - Research shows that the following behaviors on Perusall predict higher end-of-semester grades and long term mastery of the subject. Accordingly, I will consider these factors in calculating your Perusall score:
 - Contributing thoughtful questions and comments to the class discussion, spread throughout the entire reading (some examples: <https://perusall.com/downloads/scoring-examples.pdf>)
 - Starting the reading early

- Breaking the reading into chunks (instead of trying to do it all at once)
- Reading all the way to the end of the assigned reading
- Posing thoughtful questions and comments that elicit responses from classmates
- Answering questions from others
- Upvoting thoughtful questions and helpful answers
- Based on the overall body of your annotations, you will receive a score for each assignment that generally follows the benchmarks listed in the rubric below.

Score	Characteristics
3	Your contributions demonstrate <i>exceptionally</i> thoughtful and thorough reading of the assignment; you provided exceedingly helpful answers and/or insightful commentary. It is likely that this high score will be rarely given.
2	Your contributions meet expectations by demonstrating thoughtful and thorough reading of the assignment. You asked good questions, provided helpful answers, and/or otherwise interacted with your fellow students in a helpful way. You should aim for at least this score. Learn from your past scores to improve the quality of your future annotations.
1	Your contributions fell below expectations, demonstrating only superficial reading or limited coverage.
0	You did not make the required contributions by the deadline or they demonstrated reading of only part of the assignment that was merely superficial.

- In some cases, we will use Perusall during our class time together. Other annotated reading assignments will be done outside of our synchronous meetings. Students' reactions to the course readings prior to class will be used to guide the use of our synchronous class time. Thus, it is important that you complete these annotated reading assignments by the deadline given (typically by Sunday at 11:55pm *before* the associated classes on Tuesday/Thursday). The regular deadlines can be found in the below schedule, as well as on Perusall. That will give me the necessary time to prepare accordingly in time for our next synchronous class together.
- To get started with Perusall:
 1. Log on to [Brightspace](#) and navigate to this course.
 2. Navigate to the "Course Introduction" module.
 3. Click "Perusall, External Learning Tool" at the top of the page.
 4. Because the accounts are now linked, *use the Perusall link in Brightspace whenever you want to use Perusall for this course* (e.g., to complete an assignment) rather than trying to sign in to Perusall's website directly.

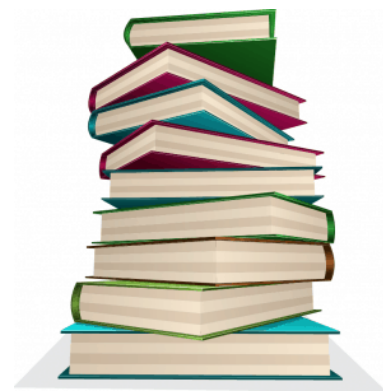
5. You will have to purchase the book through Perusall to access the reading assignments. Do *not* attempt to purchase the book in some other manner (e.g., a printed copy or some other edition), as you won't be prepared to do the assignments. Instead, wait until the first time you click on the book or a reading assignment from the textbook in Perusall. At that point, you will be prompted to purchase the required textbook. (Note: our first activity will involve annotating the syllabus in Perusall; you will not have to purchase the textbook for this activity, should you still be deciding whether you want to remain in the course.)



- A 180-day Perusall e-rental for our textbook “Learning and Memory: From Brain to Behavior” by Gluck, Mercado, and Myers (4th edition) is currently is priced at \$61.99 through Perusall.
- I will *drop your your two lowest Perusall assignment scores*. This way, if you happen to miss one (or two) assignments or were still trying to grasp what makes for high-quality annotations, your grade won't suffer.
- The help feature in Perusall can be quite, well, helpful in answering your questions. You can also find a Perusall FAQ here or submit a support request here: <https://support.perusall.com/hc/en-us/categories/360002173133-Students>.
- **Make-Your-Own-Textbook Chapter** (30% of your final course grade, determined by the number of project points out of 200 you receive on the various project components described below)
 - Have you ever complained about the required text for a course? Maybe even this course? Well, now is your opportunity to make something of those critiques! This semester, you will work with a group of 1-2 other students from your assigned team/section to author a chapter of a psychology “textbook” that (ideally) reflects one of your interests in the field. What you produce need not (and should not) be a standard textbook chapter, however. It should be more informative, accessible, relevant, engaging, interactive, and multimedia rich than what we have come to expect from textbooks. You could present it as a wiki, a collaborative Google doc, a website, or even a smartphone app, for instance. To bring this project to fruition, you can expect to workshop various aspects of its development during synchronous and asynchronous class meetings. Along the way, you will receive feedback from your peers in the class, people outside of the class (e.g., upper-level psychology students or maybe even experts in the field), as well as from me. You'll even have a role in deciding how the assignment will be graded. Perhaps the most exciting thing about this project, though, is that your creation may become a part of the assigned materials for students in my future classes. In building your expertise in psychology, you could be improving the way in

which future generations of students learn about the topic! Here are some major milestones for the project:

1. As a class, discuss the strengths and weaknesses of existing textbooks.
2. Identify one content area in which you will work to gain expertise and produce the equivalent of a textbook "chapter." To do so, you will be asked to rank the following topics according to your level of interest. While I cannot promise that you will be assigned your top choice, I will do my best to match chapter assignments to interests.
 - Non-associative learning
 - Classical conditioning
 - Operant conditioning
 - Skill memory
 - Perceptual memory
 - Working memory
 - Episodic memory
 - Eyewitness memory
 - False memories
 - Prospective memory
 - Semantic memory
 - Consolidation & reconsolidation
 - Memory across development
 - Memory inhibition
 - Transactive memory
 - Memory disorders
3. Pitch the idea for your chapter to me and your peers in a brief format. What makes your chapter better than previously published ones? What topics do you hope to cover? What features will be included? This proposal can be presented in written form or submitted as a audio/video file. Only one submission per group is required (*25 project points*).
4. Work together as a class to agree upon a rubric according to which your final project submission will be graded. What features make for a good textbook chapter?
 - For example, we might want to consider aspects like: depth and breadth of coverage, currency (are the references and examples relevant to what we know today?), clarity, accessibility, engagement, creativity, formatting and style, responsiveness to feedback, etc. You should also consider how well the chapter supplements allow readers/professors to self/ assess learning progress (e.g., with chapter quizzes or tests). Remember,



I am going to use these agreed-upon criteria to grade your work. So you want to be both comprehensive and specific when creating this rubric.

5. As a group, decide how you are going to gain expertise in your assigned topic area. You could divvy up the subsections or double up and then merge your efforts. To this end, you'll likely want to conduct literature searches, explore library holdings (feel free to contact the Bard research librarians for assistance), read some of the foundational primary source articles (theoretical and empirical), consult existing textbooks and trusted psychology websites, search for useful videos online, etc. I have provided some "Additional Resources" below to get you started. But you should explore beyond these starting points.
 - During asynchronous and synchronous meetings throughout the semester, we'll spend some time workshopping relevant skills, like how to efficiently digest empirical articles, interpret figures, summarize/paraphrase scientific text, reference in APA style, construct an online survey, write a cover letter, etc.
6. Generate a proposed table of contents for your chapter (what topics will you cover and how will they be organized), along with a glossary, and a set of clear learning objectives. Designate one person in your group to submit these materials to Brightspace for a single group grade (*25 project points*).
7. Work as a group to draft your chapter, including supplementary materials (e.g., interim summaries, student activities, discussion questions, review quizzes, slideshows, videos, etc.). Your chapter *must include some form of reader assessment* (e.g., a final chapter test and/or interim "check-your-knowledge" quizzes). Exactly how these assessments are presented is up to you. Consult printed and digital textbooks/courses for ideas. Regardless, these assessments should effectively tap what your group believes to be the most important concepts from the chapter and include some way of evaluating reader understanding (e.g., an answer key/suggested answer/rubric).
8. Get your peers in the class to annotate your chapter draft using Perusall. Each student should aim to annotate the draft of at least two other groups *and* respond to annotations left by others in their own draft. This annotation process will contribute to your project grade and should help improve everyone's final product (*25 project points—this is separate from the Perusall grade you receive for non-project related reading assignments*). So it is worth investing the necessary time and effort.
9. As a group, construct an online survey to administer to individuals outside of the class and get their feedback about your chapter. Consider the best ways to

obtain useful quantitative and qualitative feedback using methods we workshop in class (25 project points).

10. Using the aforementioned online survey, solicit feedback from at least five different people (per group/chapter). Respondents should *not* be fellow students in this class; however, I otherwise will leave it up to you and your group to decide whom to ask to complete the survey—be thoughtful here. Who would be willing and able to give you the most valuable feedback? I don't expect this sample of respondents to be large or representative enough to draw particularly firm conclusions. Instead, I am primarily interested in giving you the opportunity to get a feel for the basics of survey development and administration. Think of it as a mini focus group, whose feedback you take with a grain of salt.
 11. As a group, revise your draft chapter based on the feedback you received in the form of Perusall annotations and survey responses (feel free to divide up the labor—but do this fairly amongst your group members). You are not obligated to abide by every suggestion offered. However, you will be required to write a cover letter (see below) explaining how you addressed concerns or why you did not believe they needed to be addressed.
 12. As a group, have a designated member submit your group's final chapter to Brightspace with a consensus cover letter that:
 - Explains your group's goals for the chapter (imagine you're trying to sell it to a publisher)
 - Summarizes how your group responded (or why you didn't) to feedback from the peer review and online survey
 13. I will group grade your submission using the rubric we established (100 project points).
- **Controversy Paper** (15% of course grade) provide you with an opportunity to weigh in on a topical controversy in the field of learning and memory. There is no need to wait until the last minute to submit this paper. Plan in advance, taking into consideration your other obligations for this and other classes (and whatever else it is you may be doing outside of class). To get started, you first need to choose a controversy from a menu of options and then write a paper (4-5 double-spaced pages, excluding title page and references) that:
 - Summarizes the basic controversy, providing background information that is generally accepted by both sides of the debate, using appropriate citations. This should be motivated with a consideration of why the issue is relevant to basic research and/or real-world, applied issues.
 - Presents a fair summary of both sides of the controversy, using results/conclusions drawn from *at least three empirical articles on each side*. While review/perspective/



theory articles may be used to supplement these summaries (provided you cite them) and/or point you to relevant sources, they do NOT count toward the three required empirical articles (original, peer-reviewed research articles based on observation/data, rather than logic). If you need help tracking down articles or have any question as to what "counts" or not, please email your instructor early, leaving yourself enough time to obtain and digest the articles.

- Argues your perspective, based on the available evidence. Which side seems to have the most support? Or, perhaps the controversy is ill-framed. If so, you could suggest another way of viewing the issue, entirely. In any case, it is important to acknowledge what remains to be determined, pointing to future steps that may further clarify the situation.
- Follows APA style, complete with a title page, reference section, and page numbers, uses a 10- or 12-point font with reasonable margins, and is carefully checked for proper spelling and grammar. If you don't have an APA Style manual, you can find a lot of useful tips online, such as from the Purdue Online Writing Lab (OWL): https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html. I posted some additional reference materials inside the "APA Style/ Scientific Paper Writing Tips" folder in the "Course Introduction" module on Brightspace.
- I have also posted a chapter from Scott Slotnick's Controversies in Cognitive Neuroscience to that introductory Brightspace module on the topic of long-term memory and the medial temporal lobe. While this chapter is longer and contains far more citations/details than would be expected in your much shorter assignment, it does provide a general model for you to follow in structuring your paper.
- You may choose from the following controversies (or get *written approval* for another controversy not listed here by emailing me well in advance of the submission deadline):
 - **Recovered memory debate**
 - Is it possible to completely repress a traumatic memory for years, only to recover it, in full, later?
 - Some keywords to help get your literature search started:
 - Memory wars
 - Recovered memories
 - Inhibition, repression, and suppression
 - **Proscribed or prescribed forgetting**
 - Is it possible/appropriate to provide a drug (or other intervention) to help individuals forget after experiencing a trauma?
 - Some keywords to help get your literature search started:
 - Propranolol
 - Neuroethics

- Reconsolidation
- Behavioral vaccines
- Post-traumatic stress disorder
- **The promise of brain-training**
 - Is it possible to train working memory such that it leads to generalizable real-world improvements?
 - Some keywords to help get your literature search started:
 - Brain-training, cognitive training
 - Near- and far-transfer
 - Neuroplasticity
- **Cannibalizing memories**
 - Does cannabis use lead to lasting impairments in memory?
- **Multiple trace theory of memory vs. standard model of consolidation**
 - Is the hippocampus necessarily involved in the storage and retrieval of episodic information, even if the memories are very old/well established?
 - Some keywords to help get your literature search started:
 - Hippocampus
 - Memory consolidation
 - Multiple memory trace (MMT)
 - Retrograde amnesia
 - Temporal gradient
- A rough draft of your controversy paper is due by 10/25 at 11:55pm. While the rough draft won't receive a separate grade, it is your opportunity to get valuable feedback that will improve the quality of your final submission. Failure to turn in a rough draft will, however, negatively impact the grade on your final paper (due by 12/6 at 11:55pm).
- **Article Poster (15% of course grade)** provides a way to practice consolidating the information from a many-paged, text-heavy empirical article and transforming it into an eye-catching, efficient, and informative visual display of its main background, method, results, discussion, and future directions. You have, no doubt, seen some examples of research posters as you traveled through the halls of RKC and Preston. Throughout the course, you will have the opportunity to design a poster of your own, based on an empirical peer-reviewed journal article of your choosing. Of course, it should be related to the topic of learning and memory.
 - Identify a peer-reviewed, empirical journal article that is related to a topic of interest related to the course. Feel free to use the articles cited in your assigned readings, the textbook chapter you are constructing, or your controversy paper. You're also welcome to run your own literature search using Google Scholar or PsycInfo through the Library's website to identify a good article. Feel free to ask me if you have any questions about

the requirements for the article's selection. In any case, you must submit the *full* article you would like to use (as a .pdf) by 9/27 at 11:55pm, so that I may check that you have access to the full article and that it is suitable for this assignment. While you should have read the article before nominating it, you should hold off on beginning the construction of your poster until after I have approved it.



- This course, part of the "Cluster C" requirement for Psychology majors at Bard, emphasizes the effective display of quantitative information (amongst other things). As such, you must *recreate* (from scratch) at least one of the graphs from the original article. You may use whichever electronic graphing program you prefer—Excel, R, etc., though you are required to generate it on a computer, rather than drawing it by hand. If the original article used a table, then you could make it into a graph (should that serve the purpose of effective data display), for instance. Or you could take an existing graph and recreate it in a way that somehow improves upon it (e.g., getting rid of "chart junk," more clearly emphasizing the relevant comparisons, etc.).
- Need some inspiration or further guidance? Check out the "*Tips for Making Posters*" section in the "Course Introduction" module of Brightspace. Remember that research posters represent a concentrated version of a larger project. Details from the original article that are not critical to understanding the "big picture" should not be included in the poster. Figuring out just what should/should not be included takes practice. That's precisely why we're practicing it!
- You will submit a rough version of your poster to Brightspace by 10/18 at 11:55pm. While the rough draft won't receive a separate grade, it is your opportunity to get valuable feedback that will improve the quality of your final submission. Failure to turn in a rough draft will, however, negatively impact the grade on your final poster (due by 11/15 at 11:55pm).
- **Final Reflection** (10% of course grade) provides a thoughtful account of what you learned in this course. Your reflection should be organized, go beyond simply parroting back course material verbatim, and include how some of the big lessons from this course could be applied to your education, personal life, and/or career going forward. While your submission should be a polished product, having been fine-turned through careful editing, you are welcome to adopt a format that reflects your own preferred style. You could, of course, format this as a standard written term paper, but you could instead produce a video, animation, comic book, podcast, website, or interpretive dance... OK, maybe not an interpretive dance. But you do have pretty wide latitude here. If you're unsure as to whether your plan is appropriate, check with me. To give you a general guideline, your submission should be roughly equivalent to a 3-to-4-page

(double-spaced, 11-or 12-point font) paper with reasonable margins. This reflection will take the place of a standard final exam (and will be graded as such). So take it seriously and commit the necessary time to producing it. Your reflection is due (via Brightspace) by 12/15 at 11:55pm. It is OK to submit a link to your reflection (if, e.g., you posted a video to Youtube or created a website); however, you should not continue to edit the material after the deadline (at least until I've had a chance to grade it).

- **Extra Credit**

- **Attend a virtual lecture** (2 percentage points added to your Final Reflection grade) presented by [Valeria Gershkovich](#), associate professor of cognitive psychology at the Bard-affiliated Smolny College in St. Petersburg. This virtual lecture on memory will take place at a to-be-determined date/time this semester (likely outside of our scheduled class time, to accommodate the time difference). The lecture will be recorded for those who cannot attend. After watching the lecture (synchronously or asynchronously), you are invited to write two paragraphs (one summarizing the lecture and the second linking it to material from our class/your life) for extra credit. Submit this short writing to Brightspace by 12/13 at 11:55pm. If you prefer, you may substitute the writing for an equivalent audio/visual submission.
 - Also of note, Prof. Gershkovich and I plan on inaugurating a virtual journal club this semester, in which we will meet semi-regularly to discuss memory-related research and develop a student-driven online experiment. Stay tuned for more information about how to get involved.
- Not giving a s#!t about the class is a recipe for falling behind. But **not using your "S#!t Happens" token** this semester will be met with *10 bonus points, counting toward your Make-Your-Own-Textbook score*. Look, I get it. Life sometimes gets in the way of deadlines. Pets do sometimes eat homework. Emergencies happen (pandemic related or otherwise). And, as much as we try to avoid it, we occasionally might plain forget a deadline. In an effort to be flexible and fair to all students, I am offering everyone one "S#!T Happens" token. Think of it like a "get-out-of-a-deadline" free card. Just email me saying that you would like to use your S#!T Happens token on a particular class assignment, and I will grant what together we determine to be a reasonable extension, *no questions asked*. You don't have to explain why you are using the token. Just tell me that you are using it, so that we can set an extension (without any late penalty). While it is completely reasonable to use your token during the semester and there should be absolutely no shame in doing so, if you happen to be lucky enough not to need to use it, I will grant extra credit points. Of course, if you realize that something may prevent you from completing your contribution to a pending group assignment, please give your group members (and me) as much advanced warning as possible so that everyone can adjust accordingly.

Additional Resources

There are treasure troves of information about psychology sprinkled around the internet—much of it can be accessed for free. If you find yourself struggling to understand a concept (or are looking for resources to help build out the Make-Your-Own-Textbook), I'd encourage you to search around, carefully evaluate the quality of the sources, and share useful finds with the rest of the class (email it or, even better, post it to Brightspace—there's a discussion forum for this). Below are some resources I have identified:

- **Baddeley, Eysenck & Anderson's Memory (3rd Edition)**
 - I highly recommend this text as a supplemental reading. Even if you don't get a hold of a copy, the publishers offer some really useful, free online resources. They include:
 - Practice questions, web links/videos, and biographies: <https://routledgetextbooks.com/textbooks/9781138326095/student.php>
 - Simulations of memory experiments: <https://routledgetextbooks.com/textbooks/9781138326095/simulation-experiments.php>
 - Glossary of memory terms: <https://routledgetextbooks.com/textbooks/9781138326095/glossary.php>
- Reference materials:
 - **APA Dictionary of Psychology:** <https://dictionary.apa.org>
 - **The Human Memory:** <https://human-memory.net>
- Searchable databases:
 - **Library:** <https://www.bard.edu/library/databases.php?searchtype=sub&subject=psyc>
 - **Google Scholar:** <https://scholar.google.com>
- Free textbooks & related resources:
 - **Neuroscience Online:** <https://nba.uth.tmc.edu/neuroscience/toc.htm>
 - **Brain Facts:** <https://www.brainfacts.org/the-brain-facts-book>
 - **Neuroscience Open Text:** <http://neuroscience.opentext.utoronto.ca>
 - **Computational Cognitive Neuroscience:** <https://github.com/CompCogNeuro/ed4>
 - **Open Textbook Library:** <https://libguides.humboldt.edu/openedu/psyc>
 - **NOBA Project:** <http://noba.to/d95jpv7>
 - **Simply Psychology:** <https://www.simplypsychology.org>
 - **Project Gutenberg:** [https://www.gutenberg.org/wiki/Psychology_\(Bookshelf\)](https://www.gutenberg.org/wiki/Psychology_(Bookshelf))
 - **MERLOT Project:** <https://www.merlot.org/merlot/Psychology.htm> (or to search more widely <https://www.merlot.org/merlot/searchMaterials.htm>)
 - **DevPsy Directory:** http://www.devpsy.org/links/open_source_textbooks
- Memory/neuroscience activities (some designed for younger audiences):
 - **Society for Neuroscience:** <https://www.sfn.org/sitecore/content/home/brainfacts2/for-educators>
 - **APA High School:** <https://www.apa.org/ed/precollege/topss/lessons/memory.pdf>

- **Neuroscience for Kids:** <https://faculty.washington.edu/chudler/chmemory.html>
- Videos:
 - **Khan Academy:** <https://www.khanacademy.org/test-prep/mcat/behavior#concept-intro>
- Techniques:
 - **Functional Neuroimaging:** <https://imaging.mrc-cbu.cam.ac.uk/imaging/Cbulmaging>
- Stimuli and experiment software/code:
 - **Kahana Lab:** http://memory.psych.upenn.edu/Word_Pools
 - **Tarr Lab:** <https://www.cmu.edu/dietrich/psychology/tarrlab/stimuli/index.html>
 - **PsychoPy:** <https://www.psychopy.org>
- Use as an entry point (with caution):
 - **Wikipedia:** <https://www.wikipedia.org>
 - **Youtube:** <https://www.youtube.com>

Diversity and Access

Students in our courses come from a variety of backgrounds and viewpoints. It is very exciting to be able to benefit from these differences, and I anticipate a learning environment in which all approaches and backgrounds are respected and challenged in a way that promotes personal growth. To this end, I expect all members of the class to foster a climate of intellectual curiosity and enthusiasm by: (1) actively engaging in our activities and discussions; (2) being prepared to recognize the impact of bias, privilege, and histories of inequity; (3) and voicing opinions in a way that respects others. As a rule of thumb to encourage more voices to be heard, after you've contributed to a conversation in class, wait for three other people to speak before sharing more. You may notice that I pause between asking a question and accepting responses from the class. This is for a similar purpose.

Bard College is committed to providing equal access to all students. If you anticipate issues related to the format or requirements of this course, please schedule a consultation with me, as I would like us to discuss ways to ensure your full participation in the course. Together, we can plan how best to support your learning and coordinate your accommodations. Students who have already been approved to receive academic accommodations through Disability Services should share their accommodation letter and make arrangements to meet as soon as possible (within the first two weeks of the semester, if at all possible).

Have a learning difference or disability—including mental health, medical, or physical impairment—and are not yet registered? Please contact Disability Support Services at disabilityservices@bard.edu. The Director of Disability Resources and Accessibility, Erika van der Velden (evandervelden@bard.edu), will confidentially discuss the process to establish reasonable accommodations. Please note that accommodations are not retroactive and require advance notice to implement.

Whether course material brings up challenging issues or you are facing another type of challenge, the Bard Counseling Service may be able to help. For more information, see : <https://www.bard.edu/counseling/>.

COVID-19 Adaptations

In this unusual semester, as we all work as students, faculty, staff in a time of COVID, community responsibility will become an even bigger part of our daily lives. We all have a role to play in helping to keep others as safe as possible. Of course, no choices are risk free, but we can make choices that reduce risk for ourselves and others. To this end, there are a few additional rules and behaviors that we will all need to abide by:



- You must complete the daily check in, on the Involvio app in order to receive your daily green pass.
- We will all need to “foam in” as we enter the space, and wipe down tables and chairs. We will do the same (wipe and “foam out”) when we are leaving the classroom.
- In class we will remain physically distant (>6 feet) and wear masks at all times. If you forget a mask, please get one at the nearest mask dispenser before you enter the building.
- We can’t eat or drink in class, due to masking.
- Across campus, distancing and masking should happen at all times, even in dorms, Kline or campus paths. The more we all adhere to these safety measures, the safer we will be.

The College has established the “Bard Cares Team” to address instances where students or employees are having difficulty abiding by the community norms of behavior regarding the College’s established COVID-19 protocol. The Team has developed a clear set of steps based in restorative practices to ensure compliance with health and safety measures on campus. If you see something that you are not comfortable addressing in the moment, you can send an email to cares@bard.edu.

Please do not attend class if you are sick, feel ill, know you may have been exposed to the novel coronavirus, or have any of the symptoms listed on the Involvio app. You are expected to complete the daily health screening using the app *before* showing up to class in a mask and having “foamed in.” Short outdoor mask respites will be offered throughout the semester, weather permitting. Again, you will *not* be penalized for absences due to illness or quarantine. This course and the community we build around it will accommodate the realities of the pandemic with the flexibility they demand.

Given the above, we should expect, and plan for, occasional absences throughout the semester. We’ll implement a system of note-taking, stay in close touch with each other, and utilize tools on the Brightspace course site to manage these disruptions. Please email me (or schedule a consultation) should you envision a significant disruption to your ability to meet the course requirements/deadlines. I will do my best to work with you (and other resources to which you have access at Bard) to support you. And, remember, you may also use your “S#!T Happens” token, no questions asked, for one deadline extension (details can be found

under "Extra Credit," above). It is important that we minimize unnecessary disruptions in the face of the pandemic. As such, please take the time now to review the course schedule below and transfer deadlines to your personal calendar. Doing so will help you avoid scheduling conflicts and allow you to carve out the necessary time to perform your best.

In an effort to restrict the number of individuals with whom we come into regular contact and to maximize the strength of the (distanced) interpersonal connections we build, enrolled students will be divided into two "teams." While I've designated the teams as either **Red** or **Green**, you'll be able to select your own team name. So, if you happen to have red-green colorblindness, don't worry. Anyway, with limited exceptions (e.g., during the first week's orientation), only one team will physically congregate in the classroom at a time. The other team will use that time to work asynchronously. Asynchronous activities for a given week will be released on Brightspace by the end of the day on the Monday of that week. While the course structure, content, and I will all serve as connecting fibers across teams, it is expected that the two teams will chart somewhat different trajectories based on their developing interests. Think of this as an additional way in which your experience this semester will be personalized.

Remember that the College-wide policy for grading this semester is that any student can request to take any class P/D/F at any point, even after they have received a final letter grade, all the way up to the start of the spring 2021 semester.

Occasionally (even when we meet in the classroom, face-to-face), we will make use of Zoom (so we can work collaboratively from a safe distance). Rather than sending everyone countless Zoom links, we will be making use of the Zoom integration in Brightspace. In Brightspace's "Course Introduction" module, you will find our permanent Zoom link. Simply click "Zoom Integration" to get started at the appointed time.

The pandemic has further exposed and exacerbated existing inequalities, including differing levels of access to technology (e.g., high-speed internet and personal computing devices) and other resources (e.g., quiet workspaces, as well as funds for textbooks and supplementary course materials) that facilitate learning at a distance. So, while this course will make heavy use of Zoom videoconferencing (in and out of the classroom), classroom activities that require internet-connected devices (smartphones, tablets, and/or tablets), and online subscription services (e.g., for digital access), I am committed to working collaboratively to facilitate access. Should you not have access to a portable, internet-connected device in class, please contact the Dean of Inclusive Excellence, Kahan Sablo (ksablo@bard.edu) or let me know so that we can strategize. The Scale Project is a student-led organization committed to increasing equity and access for lower-income students at Bard. They have produced a document entitled, "[Being Not-Rich at Bard College](#)" that provides additional tips for navigating some of these challenges. The Scale Project and I both welcome additional suggestions and other feedback

When the class meets remotely via Zoom, we all have to work a bit harder to stay engaged and focused. I recommend removing as many distractions as possible, even if it means something as simple as closing other open windows on your device or moving some unnecessary books off your desk. Of course, I understand that we don't have the ability to control every aspect of our environments. So, while I encourage everyone to have the camera turned on while we are together on Zoom, I recognize and respect that this may not always be possible for a variety of reasons.

Tentative Course Schedule

Week	Date (day)	Red Team Team Name: _____	Green Team Team Name: _____
1	9/1 (t)	GETTING TO KNOW YOU <ul style="list-style-type: none"> ▶ "Getting to Know You" survey (Brightspace, abbreviated "BS") ▶ Schedule short (10 min) meet-and-greet meeting w/ me over the next few weeks (https://calendly.com/just-hulbert/10-minute-meeting) ▶ Course overview (assign scribes for 9/1 & 9/3; see note-taking reading on BS) ▶ "Rank Your Interests" survey (BS) ▶ "Personal Bio" assignment (submit via BS)—during respite—due 9/3 ▶ Establish teams, team names (Zoom), group/topic assignments, & scribes ▶ Annotate the syllabus (Perusall, abbreviated "PS") ▶ Homework (before next class meeting on 9/3): <ul style="list-style-type: none"> - "Set a Major Goal" activity (on BS) - Chapter 1 (PS) - Finish annotation of the syllabus (PS) & your "Personal Bio" (submit via BS) Class scribe: _____ (submit notes to BS after class)	
1	9/3 (th)	THEMES & VARIATIONS IN HUMAN MEMORY <ul style="list-style-type: none"> ▶ Annotate Putnam, Sungkhasettee, & Roediger (2016, PS) ▶ Activity: What makes a good/bad textbook? How can we assess this? Class scribe: _____	
2	9/6 (su)	★ Due (by 11:55pm Sunday): <ul style="list-style-type: none"> - Chapter 2 (PS) - Finish Putnam et al. annotation (PS) 	
2	9/8 (t)	NEUROSCIENCE OF L&M (async) <ul style="list-style-type: none"> ▶ Check "Week 2 Async" (on BS) 	LONG-TERM POTENTIATION (sync) Class scribe: _____
2	9/10 (th)	LONG-TERM POTENTIATION (sync) Class scribe: _____	NEUROSCIENCE OF L&M (async) <ul style="list-style-type: none"> ▶ Check "Week 2 Async" (on BS)
3	9/13 (su)	★ Due (by 11:55pm Sunday): <ul style="list-style-type: none"> - Chapter 3 (PS) - Any outstanding asynchronous activities from the past week - Chapter Pitches (single group submission via BS) 	
3	9/15 (t)	NON-ASSOCIATIVE LEARNING (async) <ul style="list-style-type: none"> ▶ Check "Week 3 Async" (on BS) ▶ Class/group check-in survey (BS) 	REVIEW PITCHES/DEVISE RUBRIC (sync) Class scribe: _____
3	9/17 (th)	REVIEW PITCHES/DEVISE RUBRIC (sync) Class scribe: _____	NON-ASSOCIATIVE LEARNING (async) <ul style="list-style-type: none"> ▶ Check "Week 3 Async" (on BS) ▶ Class/group check-in survey (BS)

Week	Date (day)	Red Team Team Name: _____	Green Team Team Name: _____
4	9/20 (su)	★ Due (by 11:55pm Sunday): - Chapter 4 (PS) - Any outstanding asynchronous activities from the past week	
4	9/22 (t)	CLASSICAL CONDITIONING (async) ▶ Check "Week 4 Async" (on BS)	CLASSICAL CONDITIONING (sync) Class scribe: _____
4	9/24 (th)	CLASSICAL CONDITIONING (sync) Class scribe: _____	CLASSICAL CONDITIONING (async) ▶ Check "Week 4 Async" (on BS)
5	9/27 (su)	★ Due (by 11:55pm Sunday): - Chapter 5 (PS) - Any outstanding asynchronous activities from the past week - Nominate empirical article for your Poster (submit a .pdf of chosen article to BS)	
5	9/29 (t)	OPERANT CONDITIONING (async) ▶ Check "Week 5 Async" (on BS)	OPERANT CONDITIONING (sync) Class scribe: _____
5	10/1 (th)	OPERANT CONDITIONING (sync) Class scribe: _____	OPERANT CONDITIONING (async) ▶ Check "Week 5 Async" (on BS)
6	10/4 (su)	★ Due (by 11:55pm Sunday): - Chapter 8 (PS) - Any outstanding asynchronous activities from the past week - Table of Contents, Glossary, Learning Objectives (group submission via BS)	
6	10/6 (t)	SKILL LEARNING + GRAPHING (async) ▶ Check "Week 6 Async" (on BS)	CASE CONFERENCE + QALMRI (sync) Class scribe: _____
6	10/8 (th)	CASE CONFERENCE + QALMRI (sync) Class scribe: _____	SKILL LEARNING + GRAPHING (async) ▶ Check "Week 6 Async" (on BS)
7	10/11 (su)	★ Due (by 11:55pm Sunday): - Chapter 9 (PS) - Annotate Vogel, McCollough & Machizawa (2005, PS) - Any outstanding asynchronous activities from the past week	
7	10/13 (t)	WORKING MEMORY (async) ▶ Check "Week 7 Async" (on BS)	WORKING MEMORY (sync) Class scribe: _____
7	10/15 (th)	WORKING MEMORY (sync) Class scribe: _____	WORKING MEMORY (async) ▶ Check "Week 7 Async" (on BS)
8	10/18 (su)	★ Due (by 11:55pm Sunday): - Chapter 7 (PS) - Any outstanding asynchronous activities from the past week - Rough draft of Poster due (individual submission via BS)	

Week	Date (day)	Red Team Team Name: _____	Green Team Team Name: _____
8	10/20 (t)	SEMANTIC & EPISODIC (<i>async</i>) ▶ Check "Week 8 Async" (on BS) ▶ Class/group check-in survey (BS)	CHAPTER WORKSHOP (<i>sync</i>) Class scribe: _____
8	10/22 (th)	CHAPTER WORKSHOP (<i>sync</i>) Class scribe: _____	SEMANTIC & EPISODIC (<i>async</i>) ▶ Check "Week 8 Async" (on BS) ▶ Class/group check-in survey (BS)
9	10/25 (su)	★ Due (by 11:55pm Sunday): - Annotate Fawcett & Hulbert (2020, PS) - Any outstanding asynchronous activities from the past week - Rough draft of Controversy Paper due (individual submission via BS)	
9	10/27 (t)	FORGETTING (<i>async</i>) ▶ Check "Week 9 Async" (on BS)	FORGETTING (<i>sync</i>) Class scribe: _____
9	10/29 (th)	FORGETTING (<i>sync</i>) Class scribe: _____	FORGETTING (<i>async</i>) ▶ Check "Week 9 Async" (on BS)
10	11/1 (su)	★ Due (by 11:55pm Sunday): - Chapter 12 (PS) - Any outstanding asynchronous activities from the past week	
10	11/3 (t)	DEVELOPMENT (<i>async</i>) ▶ Check "Week 10 Async" (on BS)	DEVELOPMENT (<i>sync</i>) Class scribe: _____
10	11/5 (th)	DEVELOPMENT (<i>sync</i>) Class scribe: _____	DEVELOPMENT (<i>async</i>) ▶ Check "Week 10 Async" (on BS)
11	11/8 (su)	★ Due (by 11:55pm Sunday): - Any outstanding asynchronous activities from the past week - Rough draft of Textbook Chapter (single group submission via BS)	
11	11/10 (t)	PEER REVIEW (<i>async</i>) ▶ Annotate other chapters (PS)	SURVEY DESIGN (<i>sync</i>) Class scribe: _____
11	11/12 (th)	SURVEY DESIGN (<i>sync</i>) Class scribe: _____	PEER REVIEW (<i>async</i>) ▶ Annotate other chapters (PS)
12	11/15 (su)	★ Due (by 11:55pm Sunday): - Survey Design (single group submission via BS; wait for approval to administer) - Finish Peer Review (annotations for at least two other groups' chapters, PS) - Final Poster submission (individual submission via BS)	
12	11/17 (t)	POSTER PRESENTATIONS (<i>async</i>)	SOCIAL LEARNING (<i>sync</i>) Class scribe: _____

Week	Date (day)	Red Team Team Name: _____	Green Team Team Name: _____
12	11/19 (th)	SOCIAL LEARNING (synch) Class scribe: _____	POSTER PRESENTATIONS (async)
13	11/24 (t)	NO CLASS - THANKSGIVING RECESS	
13	11/26 (th)	NO CLASS - THANKSGIVING RECESS <i>(all class meetings after Thanksgiving Recess will be entirely virtual)</i>	
14	12/1 (t)	EYEWITNESS MEMORY (async) ▶ Check "Week 14 Async" (on BS)	EYEWITNESS MEMORY (sync) Class scribe: _____
14	12/3 (th)	EYEWITNESS MEMORY (synch) Class scribe: _____	EYEWITNESS MEMORY (async) ▶ Check "Week 14 Async" (on BS)
15	12/6 (su)	★ Due (by 11:55pm Sunday): - Any outstanding asynchronous activities from the past week - Final Controversy Paper due (individual submission via BS)	
15	12/8 (t)	TEXTBOOK PROOFREADING (async)	VIRTUAL PRE-RELEASE PARTY (sync) Class scribe: _____
15	12/10 (th)	VIRTUAL PRE-RELEASE PARTY (sync) Class scribe: _____	TEXTBOOK PROOFREADING (async)
16	12/13 (su)	★ Due (by 11:55pm Sunday): - Final Textbook Chapter w/ Cover Letter (single group submission via BS) - Extra Credit Summary (individual submission via BS)	
16	12/15 (t)	NO CLASS - COMPLETION WEEK ★ Due (by 11:55pm Tuesday): - Final Reflection (individual submission via BS)	
16	12/17 (th)	NO CLASS - COMPLETION WEEK	

Schedule is subject to change to improve pacing and/or accommodate unforeseen events (e.g., severe weather, pandemic, alien abduction). Check announcements on Brightspace/over email.