

SCIENCE OF FORGETTING

Class Times: M 2:00-4:20pm in *Olin 309* | Office Hours: Tu 3:00-4:00pm/W 10:45-11:45am/by appointment

Instructor

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 (preferred contact)

Course Materials

Perusall



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Prerequisites

Moderated students who have completed at least one of the following: Cognitive Psychology (PSY 230), Learning & Memory (PSY 234), Neuroscience (PSY 231)—or with the instructor's permission

Assessment

- Perusall Annotations: **30%***
- U.R. Ebbinghaus: **10%**
- Article Review: **25%**
- Article Presentation: **10%**
- Policy Report: **25%**

**I'll drop your lowest 2 scores*



Course Overview

Forget something? Of course, we all have. From annoying tip-of-the-tongue moments to more embarrassing (or worse) memory lapses, forgetting is a regular—and sometimes even advantageous—occurrence. But we still have a lot to learn about exactly how and why these episodes occur. In this seminar, we will consider leading psychological and neuroscientific theories of forgetting, as well as the empirical evidence for them. Do memories simply decay over time or is interference to blame? Can memories be repressed only later to be recovered? How do drugs, alcohol, and traumatic head injuries affect memory consolidation? By the end of the course, you will have acquired the scientific background necessary to address these questions in relation to forgetting in your own life, as well as notorious cases of memory failures in the public sphere.

Joint Responsibilities

Achieving the broad aims of this course requires commitments from your faculty moderator/instructor and students alike. Below you will find an outline of some of those responsibilities. Did I leave



Learning Objectives

Coming out of this course, you should have:

- The ability to talk competently about the cognitive processes and neural underpinnings of forgetting, as it occurs in everyday life, in select patient populations, and following trauma.
 - Developed an appreciation for the primary research methods and theories used to understand forgetting, as well as their limitations.
 - Come to recognize the adaptive benefits of forgetting, along with the ways in which forgetting processes can be altered overnight and across the lifespan.
 - The capacity to critically evaluate evidence related to fundamental debates pertaining to forgetting in the public sphere.
- something out? Let me know—we can discuss additional responsibilities/group norms as a class.
- **Your faculty moderator/instructor agrees to...**
 - a) Make himself available outside of class during posted office hours (and by appointment, as necessary) 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, the instructor will acknowledge receipt of the email and provide the student with an estimated response time.
 - c) Facilitate a thoughtful, considerate, and engaging learning environment.
 - d) Provide adequate time to complete assignments, minimize changes to the published schedule/ assignments, and immediately notify students about any such changes.
 - e) 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.
 - f) 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 regularly, on time, and prepared. Please bring a printed or digital copy of your annotated readings to class meetings.
 - 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



Best Practices

To make the most of office hours, it is recommended that you:

- Avoid waiting until the last minute (before a due date) to attend. Seeking extra help or clarification well in advance of deadlines will leave plenty of time to act on advice.
- Email the faculty moderator in advance or bring with you a concise list of topics/questions you wish to discuss, if possible. Itemizing in this way helps ensure all your questions are addressed and saves you time in the long run. That said, *dropping by for a spontaneous, broader chat is also most welcome*. Tea and/or coffee will be available.

When emailing the faculty moderator, keep in mind that:

- Taking the time to draft a concise message with proper spelling/punctuation is expected and will be met with a similarly considered reply.

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

of course-related happenings.

- c) Keeping up with the assignments and readings. You should aim to complete the readings well in advance of class meetings, allowing yourself adequate time to wrestle with the content, coming at it from different perspectives. It may take multiple readings (and independent research online or in the library) to get a firm grasp on the material. If, after re-reading and applying your research skills (including being able to search the wider literature for answers), you still feel shaky on some of the reading material, that's OK! It's a seminar—we're here to discuss and grapple with these challenges together, so that we can further refine our skills. The key is that you apply yourself, give yourself the time to engage fully, and share your questions and answers with the rest of us.
- d) Substantively participating in class discussions. Again, it is critical that you speak up if there's anything in the readings you don't understand (chances are, others have the same question). These discussions help keep the seminar interesting. You should aim to *meaningfully contribute* each and every class meeting. 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' or your instructor's thoughts and conclusions, please do so in a fashion that is respectful. Challenge ideas, not the person raising them.
- e) Submitting assignments and annotations on time, digitally via Brightspace and Perusall, respectively. To promote equity and acknowledge life's challenging circumstances, I am granting everyone in the class an automatic **"S#it Happens" extension**



for one assignment (see below section on Extra Credit for more) and dropping your two lowest Perusall scores (see Perusall Annotations section below). Otherwise, any late assignment will immediately be subject to a 10% penalty, with an additional 10% penalty leveled against that assignment's score for every 24 hours it remains late. Students requiring alternative testing or course accommodations (e.g., due to disability) should contact the instructor privately as early as possible after the first class meeting.

- f) Maintaining connectivity. There are many benefits to taking handwritten notes (Mueller & Oppenheimer, 2014). However, some activities will require 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 tiny device. You will have to be diligent in avoiding potential distractions that these devices invite (e.g., surfing the web or checking social media) for yourself and those around you. Please only use devices in class for expressly course-related activities.
- 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 the faculty moderator 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

- **Perusall Annotations** (30% 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>)

- Aim to contribute a minimum of 7 questions/comments per Perusall assignment for credit—but keep in mind that the quality of the annotations is key (e.g., 100 annotations that do little to add to the conversation would be worth less than 7 that prompt critical engagement)
- 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 time together in class. Thus, it is important that you complete these annotated reading assignments by the deadline given (by Monday at 8:00am—i.e., *before* the associated class meeting time—this will give me time to go through your annotations). Annotations made after this point will not be accepted for grading, unless you use your S#!t Happens token (see Extra Credit section below). Also remember that I drop your lowest two Perusall scores (which could be ones for which you didn’t submit by the deadline). The

assigned readings and due dates can be found in the below schedule, as well as on Perusall/Brightspace.

- 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 to link your accounts.
 4. Because the accounts are now linked, *use the Perusall links provided 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. In addition to the main link to Perusall in the "Course Introduction" module of Brightspace, each of the individual Perusall reading assignments will have an "External Learning Tool" link on Brightspace that you can use to take you directly to the reading. These links can be found under the Brightspace module for the week the reading is due.
- 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 Perusall 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>
- **U.R. Ebbinghaus Data Collection Project** (10% of your final grade) first requires the class to develop a methodology and source materials for objectively tracking the rate of a particular type of forgetting over a span of 1 week, building on Hermann Ebbinghaus's (1885/1913; <http://psychclassics.yorku.ca/Ebbinghaus/index.htm>) seminal self-study. Unlike Ebbinghaus, though, you will be looking over a shorter time period and have the benefit of other thoughtful researchers and willing participants: your peers. In the early weeks of the semester, the class will brainstorm reliable and valid ways of operationalizing forgetting, together with a simple manipulation to explore (e.g., negative vs. neutral; words vs. pictures; English words vs. nonsense syllables; shorter vs. longer strings of letters). Once agreed upon, the final protocol will be followed by each student in the class (their student ID being used as numbers to better mask individual identities). Each student will then be tasked with writing up an APA-style method section (no introduction section is required), constructing a forgetting curve (or forgetting line graph) based on the class's pooled data using software of their choice (e.g., Excel, Numbers, Google Sheets, R, etc.), characterizing any differences in the curves across the manipulation (by visual comparison; if you are statistically inclined and want to attempt fitting curves to the data, however, see, e.g., Kahana & Adler, 2017; Loftus, 1985; Wixted & Carpenter, 2007; Wixted & Ebbesen, 1991), and comparing those results to existing data/theory in the published literature

in a brief (roughly 5 double-spaced pages total, including the method, results, and discussion of the findings as they relate to the existing literature) report to be submitted individually (via Brightspace) for grading.

- Example undertakings to replicate Ebbinghaus's work:
 - Murre & Dros (2015)
 - Article: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0120644>
 - Materials and analysis files (Mathematica): <https://osf.io/6kfrp/>
 - Wixted & Ebbesen (1991)
 - <https://www.jstor.org/stable/pdf/40062717.pdf>
- **Article Review** (25% of your final grade) offers you an opportunity to demonstrate your ability to interpret and evaluate empirical research in the field on the topic of forgetting. For this short paper assignment, you will assume the role of a journal reviewer (pretend that the article has not yet been published and you are providing a summary and evaluation of the work to the journal's editor). To do so, identify an article (through a literature search or from the reference list of a paper assigned for the class) and submit it (the full .pdf, demonstrating you have access to it) to the instructor via Brightspace for approval BEFORE beginning to write). While you may consider aspects of forgetting related to philosophy, law, public policy, and the likes, it is important that the article you choose for this assignment is: 1) an empirical, peer-reviewed, published article concerning forgetting in a psychological, psychiatric, or neuroscientific journal; 2) not already assigned for this course; 3) not yet claimed by any other student in the class (first come, first served...don't wait). After reading (and re-reading, as necessary) the article, summarize it in your own words; do not simply copy the published abstract! Your summary should include brief descriptions of the study's rationale and method, the main results, and conclusions. Following your summary (~1-2 double-spaced pages), you should critically evaluate the merits and limitations of the article. While you may consider limitations explicitly raised by the authors in the published article, you must identify at least TWO of your own, unique critiques/concerns and discuss ways in which the study could be improved. You are welcome to cite outside sources, though this is not required. The whole assignment should take roughly 5-6 double-spaced pages. Your name should be on the paper, as well as the APA-style citation of the article you are reviewing; however, no separate title page is necessary. Resources to support your role as a reviewer have been made available in the "Course Introduction" section of our Brightspace site.
- **Article Presentation** (10% of course grade) affords you an excellent opportunity to practice effectively summarizing and critiquing published experimental work. To this end, you will prepare a ~5-minute PowerPoint/Keynote/Google Slides presentation about the article you reviewed in the above assignment. This overview should include a brief summary of the relevant background and aims of the research, a concise description of the methods, the main findings, and the important conclusions. You should plan on explaining at least one main figure/table

thoroughly. Importantly, you must also provide your own critical evaluation of the research. As this is a lot to pack into a short time, it is imperative that you refine and rehearse your talk prior to the class presentation. We will go over tips for short presentations in class (additional materials are provided in the “Course Introduction” module on Brightspace). Note that adequate preparation for your presentation may mean identifying and reading an additional article or two, so as to ensure that you have the relevant conceptual grounding. After your formal presentation, you are expected to take questions from your audience for a few minutes. Audience members could (and should) ask you anything from questions of clarification to deep conceptual ones.

- Presenters should upload their presentations to Brightspace (in PowerPoint, Keynote, or .pdf form—convert to one of these formats if you created your presentation using GoogleSlides) by 8am of on the presentation day (i.e., before class; see schedule below).
- **Policy Paper** (25% of course grade) provides you with an opportunity to apply lessons learned from the science of forgetting to an important policy debate: whether the United States should adopt the “right to be forgotten online.” Imagine you are being asked by lawmakers to provide your expert opinion as a memory researcher whether or not there is such a fundamental right and how it should be framed/implemented in practice. You may bring to the fore arguments from neuroethics, philosophy, law, the news, personal experience, and the likes, but your primary role is to summarize what the psychological/neuroscientific/psychiatric literature has to say about forgetting. In the roughly 6 double-spaced pages that comprise your written testimony to the congressional committee, you should:
 - Summarize the basic issue, explaining the concern, why it matters in the real world, and how scientific research on this topic can be used to inform this question.
 - Some background for you to consider:
 - Prompt for a 2015 intelligence² debate (<https://www.intelligencesquaredus.org/debates/us-should-adopt-right-be-forgotten-online>): *“In 2014, the European Union’s Court of Justice determined that individuals have a right to be forgotten, “the right—under certain conditions—to ask search engines to remove links with personal information about them.” It is not absolute, but meant to be balanced against other fundamental rights, like freedom of expression. In a half year following the Court’s decision, Google received over 180,000 removal requests. Of those reviewed and processed, 40.5% were granted. Largely seen as a victory in Europe, in the U.S., the reaction has been overwhelmingly negative. Was this ruling a blow to free speech and public information, or a win for privacy and human dignity?”*

- Overview of the European Union's right: <https://gdpr.eu/right-to-be-forgotten/> (note that your recommendation need not follow the EU's rulings on the matter).
 - Bublitz and Dresler's chapter ("A Duty to Remember, a Right to Forget? Memory Manipulations and the Law") from the Levy & Clausen's (2015) *Handbook of Neuroethics* has been made available on Brightspace, under "Course Introduction/Policy Paper Readings"
- Argue your informed perspective, based on the available evidence drawing from *at least three empirical articles* (which you need to cite using APA style). What would you recommend the government body/agency should do? While you want to make a strong case, it is important to acknowledge what remains to be determined, pointing to future steps that may further clarify the situation. While review/perspective/theory articles may be used to supplement these sources (provided you cite them) and/or point you to relevant empirical papers as you conduct your research, they do NOT count toward the three required empirical articles (original, peer-reviewed research articles based on observation/data, rather than logic) that need to be cited in your paper.
- Compose and proofread your work carefully. But as written testimony to the committee, it does not need to follow the APA style of a research report, save for the citations and references. Just be sure to sign your testimony (so I know who submitted it). Please, please, please, don't include full list of authors and the title in your main text ("In 2016, Hulbert, Mandy, and Jerri wrote a paper entitled, "Cat Psychology in the New Age" that reported data from..."); instead, provide APA-style parenthetical citations. APA style generally emphasizes the data, rather than the authors.
- A **rough draft** of your Policy Paper is due before your final submission (see schedule below). 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.
- The paper will be scored based in part on the following criteria: clarity and coherence of your argument and writing, use of evidence from existing research (including proper citations), and considered recognition of unanswered questions.
- **Extra credit**
 - 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 *an extra 5 percentage points added to your Policy Paper 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

#!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 interwebs—much of it can be accessed for free. If you find yourself struggling to understand a concept (or are looking for additional resources), 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 a discussion forum found under the "General Course Info" folder in Top Hat). Below are some resources I have identified:

- APA formatting and general reference:
 - 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" submodule inside of the "Course Introduction" of Brightspace.
 - Middlebury Library: <https://middlebury.libguides.com/citation/apa7>
 - ECU Library: <https://libguides.ecu.edu/c.php?g=982594&p=7463742>
 - Video Tutorials: <https://apastyle.apa.org/instructional-aids/tutorials-webinars>
 - APA Dictionary of Psychology: <https://dictionary.apa.org>
- Searchable article databases (and tutorials):
 - Library: <https://www.bard.edu/library/databases.php?searchtype=sub&subject=psyc>
 - APA Database Tutorials: <https://www.apa.org/pubs/databases/training/tutorials>
 - Google Scholar: <https://scholar.google.com>
- Optional (recommended) textbook:
 - Baddeley, Eysenck & Anderson's *Memory* (3rd Edition)
 - 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>
- Free textbooks & related resources:
 - Research Methods:
 - Crump et al.: <https://crumplab.github.io/ResearchMethods/index.html>
 - Cuttler et al.: <https://open.umn.edu/opentextbooks/textbooks/75>
 - Saylor: <https://legacy.saylor.org/psych202a/Intro/>
 - University of Minnesota: <https://open.lib.umn.edu/psychologyresearchmethods/>
 - Bhattacharjee: https://scholarcommons.usf.edu/oa_textbooks/3/
 - Statistics:
 - De Anza: <https://openstax.org/details/introductory-statistics>
 - Saylor: <https://open.bccampus.ca/browse-our-collection/find-open-textbooks/?uuid=929d4a8d-30b2-4ced-8b50-c39447dc0b74>
 - Brown University Statistics Visualizations: <https://seeing-theory.brown.edu>
 - VassarStats: <http://vassarstats.net>
 - Effect Size Calculator: https://katherinemwood.shinyapps.io/lakens_effect_sizes/
 - Jamovi Open Stats: <https://www.jamovi.org>
 - Power analysis guide using G*Power: <http://www.mormonsandscience.com/gpower-guide.html>
 - Effect size calculator: https://katherinemwood.shinyapps.io/lakens_effect_sizes/
 - Help choosing an appropriate statistical test:
 - <http://www.statsflowchart.co.uk>
 - <https://stats.idre.ucla.edu/other/mult-pkg/whatstat/>
 - <https://www.statstutor.ac.uk/resources/uploaded/tutorsquickguidetostatistics.pdf>
 - http://abacus.bates.edu/~ganderso/biology/resources/stats_flow_chart_v2014.pdf
 - General reference (this could be useful for your other courses, too):
 - 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
 - Neuroscience Online: <https://nba.uth.tmc.edu/neuroscience/toc.htm>
 - Neuroscience Open Text: <http://neuroscience.openetext.utoronto.ca>
 - Computational Cog Neuro: <https://github.com/CompCogNeuro/ed4>

- Videos:
 - Khan Academy: <https://www.khanacademy.org/test-prep/mcat/behavior/learning-slug/v/long-term-potential-and-synaptic-plasticity>
 - JoVE Peer-Reviewed Scientific Videos: <https://www.jove.com>
- Stimuli/stimulus selection for experiments:
 - Tarr Lab: <https://www.cmu.edu/dietrich/psychology/tarrlab/stimuli/index.html>
 - Kahana Lab: http://memory.psych.upenn.edu/Word_Pools
 - Latent Semantic Analysis (LSA): <http://lsa.colorado.edu>
 - MRC Psycholinguistic Database: https://websites.psychology.uwa.edu.au/school/mrcdatabase/uwa_mrc.htm
 - University of South Florida free association norms: <http://w3.usf.edu/FreeAssociation/>
- Experiment software/code:
 - PsychoPy: <https://www.psychopy.org> (while this is free, in order to run a web-based experiment, you would need to host it somewhere, which does come at a cost)
 - PsyToolkit: <https://www.pytoolkit.org> (this is free, including for online data collection)
- Participate in online experiments (or get ideas for what is possible, with suggested resources):
 - Social Psychology: <https://www.socialpsychology.org/expts.htm>
- Survey platforms:
 - Qualtrics: <https://www.qualtrics.com>
 - Google Forms: <https://forms.google.com>
- Experiment design tools:
 - Balanced Latin square generator: https://cs.uwaterloo.ca/~dmasson/tools/latin_square/
 - Randomizer: <https://www.randomizer.org>
- Open Science:
 - Center for Open Science: <https://www.cos.io/services/research>
 - Open Science Framework (OSF): <https://osf.io>
- Use as an entry point for further research (with caution):
 - Wikipedia: <https://www.wikipedia.org>
 - Youtube: <https://www.youtube.com>
- Cognitive neuroscience methods:
 - Functional Neuroimaging: <https://imaging.mrc-cbu.cam.ac.uk/imaging/Cbulmaging>
 - Event-Related Potentials: <https://erpinf.org>

Diversity and Access

Students at Bard 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; and (3) 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.

You may notice that the readings have been selected to highlight not only critical topics and methods in the field but also the important work of historically underrepresented and marginalized scholars in the field.

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 meeting 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 or through their website: <https://www.bard.edu/accessibility/students/>. The Director of Disability Resources and Accessibility, Erin Braselmann, will confidentially discuss the process to establish reasonable accommodations. Please note that accommodations are not retroactive and require advance notice to implement.

The Bard College Accessibility Converter (<https://www.sensusaccess.com/web3/bard/>) can be used to easily convert documents to a more accessible format. While not all assignments will be equally conducive to non-written submission formats, certain accommodations can be made for audio/video submissions as necessary. Simply contact me with a concrete plan for how the novel format still captures the assignment's learning objectives.

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

Community responsibility will continue to be especially critical to 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. Please heed federal, state, local, College, and classroom health and safety policies, realizing that they may change during the semester based on new evidence/circumstances.

The pandemic has further exposed and exacerbated existing inequalities. 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.

Land Acknowledgment

In the spirit of truth and equity, it is with gratitude and humility that we acknowledge that we are gathered on the sacred homelands of the Munsee and Muhheaconneok people, who are the original stewards of this land. Today, due to forced removal, the community resides in Northeast Wisconsin and is known as the Stockbridge-Munsee Community. We honor and pay respect to their ancestors past and present, as well as to Future generations and we recognize their continuing presence in their homelands. We understand that our acknowledgement requires those of us who are settlers to recognize our own place in and responsibilities towards addressing inequity, and that this ongoing and challenging work requires that we commit to real engagement with the Munsee and Mohican communities to build an inclusive and equitable space for all.

Course Planning

Prospective memory involves remembering to carry out some intended action in the future. You know, like turning in an assignment, taking an online quiz, or preparing for an exam. There's no reason you can't take steps now to improve your ability to carry out the appropriate actions on time, even before we cover the topic. So please, please, please take the time to review all the deadlines below. Transfer them to your personal calendar immediately. Doing so will help you avoid scheduling conflicts (e.g., around Fall and Thanksgiving Breaks and other travel) and allow you to carve out the necessary time to perform your best. Please email me (or meet me for office hours) 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).



Tentative Course Schedule

Date (day)	#	Topics for Class Assignments
8/30 (m)	1	<p>LOOKING AHEAD, LOOKING BACK</p> <ul style="list-style-type: none"> ▶ Course overview <ul style="list-style-type: none"> - Questions about forgetting: <i>Myths, Perils, & Compensations</i> (Draaisma, 2015) ▶ Icebreakers & getting-to-know-you survey https://forms.gle/KP9upF3RoyspmdxBA ▶ Tips & tricks for the semester: <ul style="list-style-type: none"> - Types of articles: https://libguides.ucmerced.edu/wri101_downey/articles - Reading empirical articles: https://libguides.marist.edu/readingempiricalarticles - QALMRI (resources found inside "Course Introduction" on Brightspace) - Critiquing research: Coughlan, Cronin, & Ryan (2007) - Effective note-taking: Friedman (2014) ▶ In class: Roediger (1985)
9/6 (m)	2	<p>HOW DO WE MEASURE FORGETTING?</p> <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Syllabus (does not count toward your PS grade) - Small's (2021) Prologue-Chapter 1 - Murre & Dros (2015) ▶ In class: Brainstorming methodology (continue individually for homework)
9/13 (m)	3	<p>WHAT IS FORGETTING? A PSYCHOLOGICAL PERSPECTIVE</p> <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Wixted (2004) - Davis, Loftus, Rubin, & Wixted (2007) • Be prepared to describe your U.R. Ebbinghaus proposal to the rest of the class ▶ In class: <ul style="list-style-type: none"> - Divide & conquer (group research & mini-presentations based on bjorklab.psych.ucla.edu/research/) - Finalize class methodology for U.R. Ebbinghaus project & implement it (finalize for homework)
9/20 (m)	4	<p>WHAT IS FORGETTING? A BIOLOGICAL PERSPECTIVE</p> <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Richards & Frankland (2017) - Davis & Zhong (2017) ▶ In-class: Practice explaining LTP & LTD to different audiences ◆ Outside of class: Individual data collection for U.R. Ebbinghaus project (9/20-9/26) ▶ Submit chosen article (.pdf) for later Review by Friday 9/24 (by 8am via Brightspace)

Date (day)	#	Topics for Class Assignments
9/27 (m)	5	IS FORGETTING ALL BAD? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Fawcett & Hulbert (2020) - Abel & Bäuml (2015) • Submit U.R. Ebbinghaus data (with Bard student ID #) via Brightspace by 8am today • Optional reading: <ul style="list-style-type: none"> - Stone et al. (2012) ▶ In-class: Compiling class U.R. Ebbinghaus data ◆ Outside of class: Get to work on your Ebbinghaus final report (due 10/8)
10/4 (m)	6	WHAT HAPPENS TO SUPPRESSED MEMORIES? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Anderson & Green (2001) - Anderson et al. (2004) ▶ U.R. Ebbinghaus final report due Friday 10/8 (by 8am via Brightspace) ◆ Outside of class: Get to work on your Article Review (due 10/29)
10/11 (m)	--	NO CLASS - FALL BREAK
10/18 (m)	7	DO INSTRUCTIONS TO FORGET WORK? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Sahakyan & Smith (2014) - Vlasceanu & Morais (2019) - Wang, Placek, & Lewis-Peacock (2019) ◆ Outside of class: Keep working on your Article Review (due 10/29)
10/25 (m)	8	TIP-OF-THE-TONGUE AND FORGETTING (BENNETT SCHWARTZ GUEST LECTURE) <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Brown & McNeill (1966) - Cleary (2019) - Schwartz & Pournaghdali (2020) • More about Prof. Schwartz (Florida International University): <ul style="list-style-type: none"> - www.bennettschwartz.com ▶ Article Review due Friday 10/29 (by 8am via Brightspace)
11/1 (m)	9	HOW DOES DEVELOPMENT AFFECT FORGETTING? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Scott et al. (2021) - Healey, Ngo, & Hasher (2014) • Optional readings: <ul style="list-style-type: none"> - Frankland, Köhler, & Josselyn (2013) - Mather & Carstensen (2005) ▶ In-class: <ul style="list-style-type: none"> - Short presentation tips (resources inside "Course Introduction" on Brightspace) - Course feedback survey (online, anonymous)

Date (day)	#	Topics for Class Assignments
11/8 (m)	10	ARTICLE PRESENTATIONS <ul style="list-style-type: none"> • Submit your Article Presentation slides via Brightspace by 8am today ▶ In-class: 5-minute presentations + Q&A ◆ Outside of class: Start the rough draft of your Policy Paper (due 11/22)
11/15 (m)	11	CAN TRAUMATIC MEMORIES BE FORGOTTEN? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - James et al. (2015) - Schiller et al. (2009) • Optional reading: <ul style="list-style-type: none"> - Brennen et al. (2021) - Klucken et al. (2016) - Wang, Zhu, Hu, Schiller, & Li (2021) ◆ Outside of class: Keep working on the rough draft of your Policy Paper (due 11/22)
11/22 (m)	12	DOES SLEEP PREVENT OR PROMOTE FORGETTING? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Jenkins & Dallenbach (1924) - Hu et al. (2015) ▶ Policy Paper rough draft due via Brightspace by 8am today • Optional readings: <ul style="list-style-type: none"> - Feld & Born (2017) - Humiston & Wamsley (2019)
11/29 (m)	13	HOW ARE FORGETTING AND CREATIVITY RELATED? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Storm & Patel (2014) - Angello, Storm, & Smith (2015) • Optional reading: <ul style="list-style-type: none"> - Ditta & Storm (2018) - Gonsalves et al. (2004)
12/6 (m)	14	WHAT IS IT LIKE TO BE AMNESIC? <ul style="list-style-type: none"> • Have read & annotated (PS) by 8am before class to be prepared to discuss: <ul style="list-style-type: none"> - Ryan et al. (2000) - Hulbert, Henson, & Anderson (2016) • Optional readings: <ul style="list-style-type: none"> - Kopelman (2002) - Kikuchi et al. (2010)
12/13 (m)	--	NO CLASS - COMPLETION WEEK <ul style="list-style-type: none"> ▶ Final Policy Paper due Wednesday 12/15 (by 8am via Brightspace)

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.