COGNITIVE PSYCHOLOGY

Class Times: Tu/Th 12:10pm-1:30pm in *Heg 102* | **Office Hours:** Tu 3:00-4:00pm/W 10:45-11:45am/by appointment

Instructor

Dr. Justin Hulbert
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phone: x4390
e-mail: jhulbert@bard.edu
(preferred contact)

Course Materials

Perusall

brightspace by D2L

bardcollege.brightspace.com

Additional materials will be on **Brightspace** and as an **e-book**

Prerequisites

An intro Psychology course or permission of the instructor

Assessment

- Exams (2x25%): **50%**
- Perusall Annotations: **20%***
- Article Review: **10%**
- Training Proposal: **10%**
- Graphing Practice: **5%**
- Final Reflection: **5%**

**I'll drop your lowest 2 scores*

Course Overview

Cognitive psychology is the scientific study of the mind: how we perceive the world, acquire new information and remember it later, make plans, reason, and use language. In this course we examine the empirical foundations that determine our understanding of these fundamental processes, including classic/contemporary research methodologies and neurocognitive changes over the lifespan.

Joint Responsibilities

Achieving the broad aims of this course requires commitments from instructor and students alike. 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.

- **Your 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,

Learning Objectives

Coming out of this course, you should have:

- The ability to talk competently about the cognitive processes and neural underpinnings involved in how humans perceive, represent, and communicate knowledge.
- Developed an appreciation for the primary research methods and theories used to investigate cognition.
- Practiced visually presenting quantitative information and systematically digesting empirical research articles using QALMRI.
- Identified the common bottlenecks in human information processing and how best to manage them in everyday life.
- The capacity to critically evaluate evidence related to fundamental debates pertaining to cognition (e.g., the basis of human consciousness and the value of cognitive-training programs).

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 or suggest meeting in person.

c) Facilitate a thoughtful, considerate, and engaging learning environment.

d) Make available on Brightspace a skeleton of lecture slides, suitable for downloading/printing prior to class. Note that these skeletons are intended to supplement note-taking (e.g., by providing important/complicated figures) but are not a replacement for attending class, as they will lack critical information presented only in class.

e) Provide adequate time to complete assignments, minimize changes to the published schedule/assignments, and immediately notify students about any such changes.

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…**

h) Showing up to class regularly, on time, and prepared. Your attendance is critical to your learning (and course grade), as the in-class demonstrations, activities, movie clips, and other outside materials won't necessarily be covered in your readings or the posted lecture slides. Formal attendance will not be taken; however, you are responsible for any and all material covered in classes missed. Note also that

Best Practices

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

- Avoid waiting until the last minute (before an exam/due date) to attend. Seeking help well in advance of deadlines will leave you plenty of time to act on advice discussed.
- Email the instructor 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 instructor, keep in mind that:

- Taking 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).

any and all material contained in the assigned readings would be considered fair game on exams (even if it had not been covered directly in class). Your outside readings are intended to provide a solid foundation for class discussions, activities, and advanced lectures. For that reason, it is critical you keep up with the readings and ask (your peers and/or your instructor) if something from the readings is unclear. Review guides will be offered before exams to help focus your studying.

i) Giving your participation, readings, and assignments the time and effort they deserve. 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.

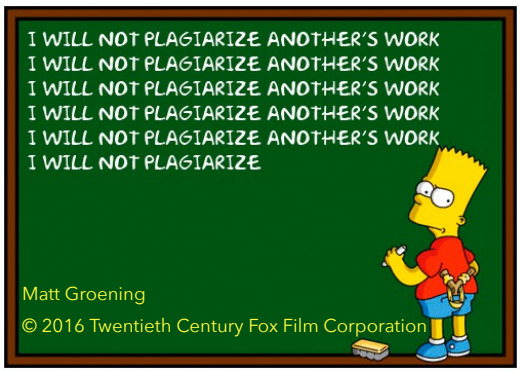
j) Checking your **Bard email** and **Brightspace** regularly for important announcements about the course. Adapting to the pandemic has made keeping in regular contact more important than ever. By clicking "Announcements" and then "Notifications" on the Brightspace landing page, you can request text and/or email alerts to be sent to you for a variety of course-related happenings.

k) Substantively participating in class discussions (in class and/or online via Brightspace). This could, for instance, involve asking/answering questions related to the offered course materials. 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.

l) Submitting assignments and annotations on time, digitally via Brightspace and Perusall. To promote equity and acknowledge life's challenging circumstances, I am granting everyone in the class an automatic **"S#!t 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. Make-up exams will be considered for documented cases of medical or family emergency. 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.

m) 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.



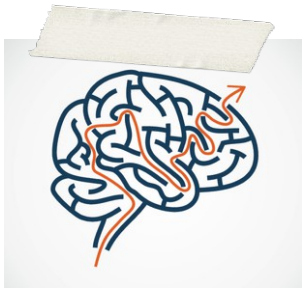
n) Upholding academic integrity. Plagiarism (e.g., copying other's words or ideas without proper citation) will not be tolerated. You are expected to work independently on each graded assignment, unless explicitly instructed otherwise. When in doubt as to what constitutes plagiarism within the confines

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 instructor 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

- **Exams** (*2 in-class exams, each worth 25%, together accounting for 50% of your final grade*) may involve a combination of multiple-choice, matching, fill-in-the-blank, and short-answer/essay questions. Not only will you be responsible for demonstrating your mastery of the core terminology and concepts introduced during class, experiment demonstrations, and in the assigned readings, you will be asked to apply this learning to draw sound conclusions from (and highlight limitations of) sample experiments/data using your understanding of relevant theories/models of human cognition. The assigned readings are considered foundational for the work we do during class meetings. As such, you will be responsible for (and tested on) the foundational material presented in the textbook, even if it was not explicitly covered in class. The learning objectives, key takeaways, self-check questions, and glossaries that accompany each chapter of the textbook provide a good guide as to what is considered "foundational." Study guides also will be posted on Brightspace in advance of each exam. The second exam will assess your handling of material introduced after the first exam. While the second/final exam is not cumulative in the traditional sense, the concepts introduced in the second half of the course necessarily build upon the foundational work from the first half. So don't forget what you've already learned.
- **Perusall Annotations** *(20% of your final 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
- 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 8:00am of the class day for which the reading is

due—this will give me time to go through your annotations before class begins). 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. You'll notice that some class meetings don't have an assigned reading due that day. This is intentional, so that you get extra time to work through the material and make thoughtful annotations. So, be strategic and make use of the time between due dates to make progress on the future reading assignments, rather than cramming in all the reading/annotations right before the due date. Cramming like that typically yields less retention and poorer Perusall scores.

- 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 *exceptionally* 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.

- 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 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 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.

5. In an effort to keep your out-of-pocket costs down for learning materials, I adopted a free, open-source textbook constructed by Mehgan Andrade for the College of the Canyons. While it doesn't have all the bells and whistles that some of costly commercial textbooks on the market offer, I still hope you'll still get a lot of value out of it. I have linked to other free resources below.

- 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.
- The two assigned chapters about memory (Everyday Memory and Memory Systems) are provided to you, for free, by the Oxford University Press as part of a pilot program. You should access these chapters from Chun & Most's ***Cognition*** using the link provided below (and on Brightspace), rather than through Perusall. Later in the semester, you'll be asked to complete a survey about the textbook experience created by the publisher.
    - Chapter link: https://oxforduniversitypress.cld.bz/Chun-Most-08-03-2021-6-7
    - Additional resources (interactive "Discovery Labs" and videos): https://learninglink.oup.com/access/chun-sandbox-student#all_resources

- **Article Review** *(10% 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 cognitive training (aka "brain training"). 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, select one of the readings in the Brightspace folder called "Empirical Cognitive Training Articles" (if you discover another article you wish to use instead, such as one of the referenced articles in a non-empirical review article, send it to the instructor for approval BEFORE beginning this assignment). 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 3-4 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 the "Course Introduction" module of our Brightspace site.

- **Training Proposal** (*10% of your final grade*) builds off of lessons you learned while completing the Article Review assignment (see above). Specifically, you will be asked to identify a specific cognitive skill for which you would like to propose an experimental protocol to train (and, critically) test the effectiveness of over a period of time. The target skill may be the one you read about for your Article Review, but it need not be. You could also draw from the concepts and tasks listed in the Cognitive Atlas (http://www.cognitiveatlas.org) to help identify appropriate processes and tasks.
    - Given that you will not actually conduct the training protocol/experiment, you are not constrained by budget or access to the relevant resources/populations. Your focus should be on designing a rigorous experiment. To do so, you should gain a solid understanding of what is already known and what has been tried by conducting a literature search (e.g., using Google Scholar (scholar.google.com) or one of the Bard Library's Psychology databases (https://www.bard.edu/library/databases.php?searchtype=sub&subject=psyc). Some useful keywords for your search are "cognitive training," "brain training," "cognitive enhancement," and "transfer effects," in addition to ones specific to your own targeted skill.
        - It is important to consider the critical arguments that have been leveled against previous claims of training benefits in the literature so that your proposed experiment does not suffer from the same/related issues. One good way to get a sense of the potential problems that limited previous attempts, is to thoughtfully consider the arguments made in review articles and replication attempts. You're building your proposal off of previous successes and failures—it's all part of the scientific method! As a starting point, I'd suggest reading one or more of these recent reviews, which are filled with useful cautions, tips, and potential references for your own work:
            - https://journals.sagepub.com/doi/full/10.1177/0963721420951599
            - https://journals.sagepub.com/doi/abs/10.1177/1529100616661983
            - https://link.springer.com/content/pdf/10.1007/s41465-018-0115-y.pdf
            - More reviews, meta-analyses, and popular press articles on the topic can be found on Brightspace's "Non-Empirical Training Articles" submodule inside the "Course Introduction" module.
    - Be sure to explicitly identify your constructs and how you plan to operationalize them as your independent and dependent variables. Your protocol should include an expected

timeline and be as free from major confounds as the constraints of the project allow. Do be sure to consider appropriate controls.

- Your submitted written proposal (roughly 5-8 double-spaced pages with a 11- or 12-point font and reasonable margins, excluding title page and references) should include the relevant background information about the targeted cognitive skill (including at least THREE relevant, APA-styled citations from the peer-reviewed, published psychological literature—they may include empirical articles or ones that review the current literature; one of these articles may be—but doesn't need to be—the article you reviewed in the above assignment), a logical basis for your explicit hypotheses, the relevant methodological details (including a description of your intended participants, and training and testing materials/procedures), predicted results, a discussion of benefits and limitations of your chosen protocol, and references (in APA style). You should include a title page, though an abstract is optional. If you are developing your own testing materials (or are able to get access to an existing one you propose to use), you should include them as an appendix.
    - 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" submodule of the "Course Introduction" module on Brightspace.
    - While the work and words must be your own, you can model the structure of your proposal on one or more of the published cognitive training articles found in the "Empirical Cognitive Training Articles" under Brightspace's "Course Introduction".
    - Additionally, this online resource provides a tidy outline of what should be contained in each section of a standard research paper for Psychology: https://psychology.ucsd.edu/undergraduate-program/undergraduate-resources/academic-writing-resources/writing-research-papers/research-paper-structure.html.
    - Be sure to carefully check your paper for proper spelling and grammar before submitting.
- **Graphing** *(5% of your final grade)* and being able to interpret visual displays of quantitative information effectively are important skills. Practicing them is also a required as part of the "Cluster C" requirement for Psychology majors at Bard. As such, you will be assigned one or more graphing exercises during the course of the semester. To complete one of these exercises, you may use whichever electronic graphing program you prefer—Excel, Google Sheets, R, Jamovi, SPSS, etc., though you are required to generate it on a computer, rather than drawing it by hand. We'll discuss different strategies in class (and you are most welcome to seek additional support during office hours).
- **Final Reflection** *(5% of your final 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. Your reflection is due (via Brightspace) by 12/16 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**
    - Over the course of the semester, there will be a number of **psychology-sponsored colloquia** (see http://psychology.bard.edu, the monthly Psychology Newsletter, and postings around campus for dates and locations). Attending these talks is a great way to hear from interesting people in the field of psychology (and mingle over some snacks afterwards, health restrictions permitting). It is also a way of earning up to *4 extra percentage points to be added to your final exam score*. To receive credit, attend a talk and submit one original question you would have for the speaker (it can't be a question someone else in the audience asked) to Brightspace *within 48 hours of the talk* (see the "Extra Credit Submissions" link at the top of our Brightspace site). Attendance at any one talk and question submission will earn you a total of 2 extra percentage points added to your final exam score for each talk up to the maximum. You may *not* receive extra credit in two different courses for attending the same talk.
    - 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 final exam 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 (the token may *NOT* be used for exams), 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 resources for your Group Project), 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 "Course Introduction" module on Brightspace). 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 found under Brightspace's "Course Introduction" module
    - 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) Cognitive Psychology textbook (currently $17.49 rental on Amazon):
    - Reisberg (2019). *Cognition: Exploring the Science of the Mind* (7th ed.). New York, NY: W.W. Norton. ISBN-10: 0393665070
- Free textbooks & related resources:
    - Cognitive Psychology:
        - College of the Canyons *(we'll be annotating a version of this text on Perusall)*: https://www.canyons.edu/_resources/documents/academics/onlineeducation/Psych126TextbookFinalV1_2.pdf
        - Cognitive Foundations (Pilegard): https://drive.google.com/file/d/16wQz6JBsX8oAMk5r1zc00tguGMl-UqXn/view
        - Cognition Laboratory Experiments (Krantz): https://psych.hanover.edu/JavaTest/CLE/Cognition/Cognition.html
        - WikiBooks: https://en.wikibooks.org/wiki/Cognitive_Psychology_and_Cognitive_Neuroscience

        - Cognitive Technologies (Crump et al.): https://www.crumplab.com/cognitivetechnologies/book/
    - 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/
        - Bhattacherjee: 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/d95jpvm7
        - Simply Psychology: https://www.simplypsychology.org
        - Project Gutenberg: 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.youtube.com/playlist?list=PLbKSbFnKYVY12bUrpa3aclz-fTlkeVRhv
    - 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/
- Cognitive neuroscience methods:
    - Functional Neuroimaging: https://imaging.mrc-cbu.cam.ac.uk/imaging/CbuImaging
    - Event-Related Potentials: https://erpinfo.org
- 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.psytoolkit.org (this is free, including for online data collection)
    - Programming for Psychologists (Crump reference book): https://www.crumplab.com/programmingforpsych/
- Survey platforms:
    - Qualtrics: https://www.qualtrics.com (the Psychology Program has a license for this, so that you may collect data online at no additional cost to you…ask me about it)
    - 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
- Participate in online experiments (or get ideas for what is possible, with suggested resources):
    - Bard Psychology: https://bardresearch.sona-systems.com
    - Social Psychology: https://www.socialpsychology.org/expts.htm

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 textbook, as well as other assigned readings, have been selected to highlight not only critical topics 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 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 and scheduled exam dates 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)	#	Topic for Class | Assignments
8/31 *(tu)*	1	**Welcome!** ▸ In class: Getting-to-Know-You Survey https://forms.gle/KP9upF3RoyspmdxBA • *Optional Resource: Kornell & Bjork (2007)* • Homework (Perusall "PS" annotations): - Syllabus (does not count toward your PS grade) - Putnam, Sungkhasettee, & Roediger (2016)
9/2 *(th)*	2	**History of Psychology** • Have read & annotated (PS) by 8am before class: - Syllabus - Putnam, Sungkhasettee, & Roediger (2016)
9/7 *(tu)*	3	**The Cognitive Revolution** • Have read & annotated (PS) by 8am before class: - Chapter 1: History of Cognitive Psychology - Chapter 3: Methods of Research *(it's really short, don't worry)*
9/9 *(th)*	4	**Basic Neuroanatomy**
9/14 *(tu)*	5	**Cognitive Neuroscience** • Have read & annotated (PS) by 8am before class: - Chapter 2: The Brain
9/16 *(th)*	6	**Sensation & Perception** (part 1)
9/21 *(tu)*	7	**Sensation & Perception** (part 2) • Have read & annotated (PS) by 8am before class: - Chapter 10: Perception
9/23 *(th)*	8	**Attention (part 1)** ✓*Study Guide for Exam #1 released by the end of the week (Brightspace, "BS")*
9/28 *(tu)*	9	**Attention (part 2)** • Have read & annotated (PS) by 8am before class: - Chapter 11: Attention
9/30 *(th)*	10	**Multitasking** • Have read & annotated (PS) by 8am before class: - Conway et al. (2001) ▸ In class: Reading an empirical article (Conway et al.) using the QALMRI framework
10/5 *(tu)*	11	**Exam #1 Review**
10/7 *(th)*	12	**Exam #1**
10/12 *(tu)*	--	**No class (Fall Break)**
10/14 *(th)*	13	**Visual Display of Quantitative Information**

Date (day)	#	Topic for Class | Assignments
10/19 *(tu)*	**14**	**Creativity** • Have read & annotated (PS) by 8am before class: - Gino & Wiltermuth (2014) • Graphing Exercise due today (by 11:55pm via BS) • *Optional reading: Chapter 7 (does not count toward your PS grade)* ▸ In class: - Course survey (online, anonymous) - Stimulus selection for a RAT study
10/21 *(th)*	**15**	**Everyday Memory** (part 1) ◉Online Discovery Labs completed before class: (https://learninglink.oup.com/access/chun-sandbox-student#tag_all-labs) - Sperling Partial Report Paradigm - False Memory
10/26 *(tu)*	**16**	**Everyday Memory** (part 2) • Have read (publisher e-book, *not* on PS): • Chun & Most Chapter 6: Everyday Memory (https://oxforduniversitypress.cld.bz/Chun-Most-08-03-2021-6-7) ▸ In class: - Article Review assignment introduced
10/28 *(th)*	**17**	**Everyday Memory** (part 3) ◉Online Discovery Lab completed before class: (https://learninglink.oup.com/access/chun-sandbox-student#tag_all-labs) - Memory Schemas
11/2 *(tu)*	**18**	**Memory Systems** (part 1) ◉Online Discovery Lab completed before class: (https://learninglink.oup.com/access/chun-sandbox-student#tag_all-labs) - Serial Position
11/4 *(th)*	**19**	**Memory Systems** (part 2) • Have read (publisher e-book, *not* on PS): • Chun & Most Chapter 7: Memory Systems (https://oxforduniversitypress.cld.bz/Chun-Most-08-03-2021-6-7/35/)
11/9 *(tu)*	**20**	**Memory Systems** (part 3) • Article Review due today (by 11:55pm via BS) ▸ In class: - Training Proposal assignment introduced
11/11 *(th)*	**21**	**Pattern Recognition** (part 1) ▸ In class: Chun & Most textbook survey (https://oup.az1.qualtrics.com/jfe/form/SV_9AW8VFMu6)

Date (day)	#	Topic for Class | Assignments
11/16 *(tu)*	**22**	**Pattern Recognition** (part 2) • Have read & annotated (PS) by 8am before class: - Chapter 12: Classification & Categorization / Pattern Recognition
11/18 *(th)*	**23**	**Problem-Solving** • Have read & annotated (PS) by 8am before class: - Inzlicht & Ben-Zeev (2000) • *Optional reading: Chapter 6 (does not count toward your PS grade)* ✓*Study Guide for Exam #2 released by the end of the week (BS)*
11/23 *(tu)*	**24**	**Decision-Making**
11/25 *(th)*	**--**	**No class (Thanksgiving)**
11/30 *(tu)*	**25**	**Consciousness** • Have read & annotated (PS) by 8am before class: - Chapter 9: Decision Making ▸ In class: Free will debate
12/2 *(th)*	**26**	**Exam #2 Review**
12/7 *(tu)*	**27**	**Exam #2**
12/9 *(th)*	**--**	**No class (Advising Day)**
12/14 *(tu)*	**28**	**No class (Completion Days)** • Training Proposal due **today** (by 11:55pm via BS)
12/16 *(th)*	**--**	**No class (Completion Days)** • Final Reflection due ***Friday*** **12/17** (by 11:55pm via BS)

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.