



PSYC 341

COGNITIVE PSYCHOLOGY

Convener: Angel Muñoz Gómez Andrade, Ph.D. | **Office:** LBC 308 | **e-mail:** munozan@earlham.edu
Office Phone: (765) 983-1855 | **Office Hours:** munozangel.youcanbook.me | **Website:** angel-munoz.com
Class Meets: Monday and Thursday 2:30 – 3:50pm. | **Class Location:** LBC 214

COURSE DESCRIPTION

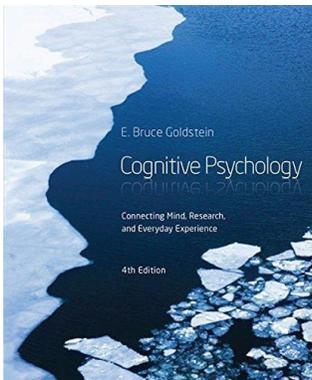
Cognitive psychology is the scientific study of mental processes such as attention, memory, language, decision-making, and intelligence. Students examine major discipline-related concepts, theories and theoretical trends, and have opportunities to reflect and apply their knowledge of human cognition in their own lives. Evidence-based learning strategies are emphasized throughout this course.

*This class is worth 3 credits and PSYC 115 (or 116) is a prerequisite.

MATERIALS

Textbook

Title: **Cognitive Psychology: Connecting Mind, Research, and Everyday Experience**



Author: E. Bruce Goldstein

Publisher: Cengage Learning

Year: 2015

Edition: Fourth*

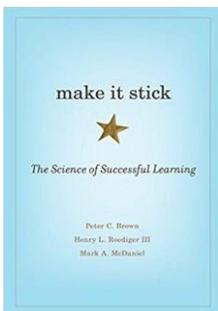
Formats available: Paperback, hardback, and electronic**

*Make sure you have the correct edition of this book. Earlier or later editions will not necessarily work with this course

**You can purchase whichever format you would like

Mandatory Supplemental Book

Title: **Make it Stick: The Science of Successful Learning**



Authors: Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel

Publisher: The Belknap Press of Harvard University Press

Year: 2014

Edition: First and only edition

Formats available: Paperback, hardback, and electronic*

*You can purchase whichever format you would like. **Earlham libraries provide complimentary electronic access to this title.**

Canonical and other important readings in cognition (optional readings!)

- Colflesh, G. J. H. & Conway, A. R. A. (2007). Individual differences in working memory capacity and divided attention in dichotic listening. *Psychonomic Bulletin & Review*, *14*, 699-703
- Collins, A. M., & Loftus, E. F. (1975). A spreading-activation theory of semantic processing. *Psychological Review*, *82*, 407-428.
- Cowan, N. (2000). The magical number 4 in short-term memory: A reconsideration of mental storage capacity. *Behavioral and Brain Sciences*, *24*, 87-185.
- Firestone, C., & Scholl B. J. (2016). Cognition does not affect perception: Evaluating the evidence for “top-down” effects. *Behavioral and Brain Sciences*, *39*, 1-77.
- Goldfarf, L., & Triesman, A. (2010). Are some features easier to bind than others? The congruency effect. *Psychological Science*, *21*, 676-681.
- Graf, P. (2012). Prospective memory: Faulty brain, flaky person. *Canadian Psychology*, *53*, 7-13.
- Jay, T. (2009). The utility and ubiquity of taboo words. *Perspectives on Psychological Science*, *4*, 153-161.
- Maeda, Y., & Yoon, S. Y. (2012). A meta-analysis on gender differences in mental rotation ability measured by the Purdue spatial visualization tests: Visualization of rotations (PSVT:R). *Educational Psychology Review*, *25*, 69-94.
- McClelland, J. L. (1994). The organization of memory: A parallel distributed perspective. *Rev. Neurol.*, *150*, 570-579.
- Miller, G. A. (1955). The magical number seven, plus or minus two: some limits on our capacity for processing information. *Psychological Review*, *101*, 342-352.
- Miller, G. A. (2003). The cognitive revolution: A historical perspective. *Trends in cognitive sciences*, *7*, 141-144.
- Morsanyi, K., & Holyoak, K. J. (2010). Analogical reasoning ability in autistic and typically developing children. *Developmental Science*, *13*, 578-587.
- Pashler, H., McDaniel, M. A., Rohrer, D., & Bjork, R. (2008). Learning styles: *Concepts and evidence*. *Psychological Science*, *9*, 105-119.
- Roediger, H. L., & Karpicke, J. D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention. *Psychological Science*, *17*, 249-255.
- Shaw, R. (2002). Theoretical hubris and the willingness to be radical: An open letter to James J. Gibson. *Ecological Psychology*, *14*, 235-247.
- Simmons, D. J. (2000). Attentional capture and inattention blindness. *Trends in Cognitive Sciences*, *4*, 147-155.
- Spearling, G. (1960). The information available in brief visual presentations. *Psychological Monographs: General and Applied*, *74(11)*, 1-29
- Westfall, J. E., Jasper, J. D., & Christian, S. (2012). Inaction inertia, the sunk cost effect, and handedness: Avoid the losses of past decisions. *Brain and Cognition*, *80*, 192-200.

Learn an overview of cognitive psychology (1)

You will leave this course with general knowledge of classic and contemporary theories of cognitive psychology. In other words, you will obtain knowledge of major concepts, theoretical perspectives, empirical findings, and historical trends in cognitive psychology. *Fulfills departmental Goal 1: knowledge base in psychology.*

Develop a scientific mindset (2)

You will **critically** examine the assigned readings and lecture concepts. You will also practice your ability to understand how studies are conducted and how data is collected, analyzed, and interpreted. This is an important skill to develop because one way to validate concepts and ideas in cognitive psychology (and the field psychology as a whole) is through data collection, hypothesis testing, and experimentation. *Fulfills Earlham goal Investigate and departmental Goal 2: Scientific Inquiry and Critical Thinking*

Develop a differential and integrative mindset (3)

We will examine cognitive processes from multiple approaches and perspectives. No single approach or perspective is yet sufficient to explain the complexity of human cognition. While sometimes different approaches might offer conflicting views on a given topic, some other times these approaches **integrate** and offer a more complete picture. You will be asked in class, exams, and assignments to determine when and why either conflict or integration (or both) occur. *Fulfills Earlham goal Integrate and departmental Goal 2: Scientific Inquiry and Critical Thinking*

Apply knowledge of cognition to the world and everyday life (4)

This course will regularly emphasize the connection between the material covered in class, readings, and everyday life. There will be multiple assignments and exam questions that will require you to think how you would apply multiple theories, concepts, and findings to real world problems and your everyday life. *Fulfills Earlham Goal Apply*

To develop an independent mind (5)

In addition to understanding how scholars use and examine concepts within the domain of motivation science, you will be required to think **independently**. What does it mean to think independently? It means that you should examine the **facts of reality** that give rise to the concepts and ideas that will be presented in this class. It also means that you should explore and question how scholars arrived at a particular idea, concept, or definition. Remember that scholars are also *fallible* human beings and that knowledge should never be taken on authority. **Think for yourself and explore the world independently.** *Fulfills Earlham goal Reflect and departmental Goal 2: Scientific Inquiry and Critical Thinking.*

Using tests as a way to learn (6)

My course is extremely test heavy and for a good reason. Cognitive psychology research has shown that, under most circumstances, retrieval-based learning (i.e., testing!) allows you to retain information much longer than, for example, passively reading a book or listening to a lecture. Additionally, answering higher quality questions will help you analyze, integrate, and apply the concepts you will learn in this class. Not only will you have the opportunity to be quizzed frequently; you will also have the chance to create your own quizzes from time to time. Being able to create and answer good quality questions will elevate your learning skills to the next level. *Fulfills Earlham goal Create.*

Notes. These goals are numbered from one to six to facilitate subsequent identification within this syllabus. For instance, grading categories (under the grading section below), will explicitly state which goals they are fulfilling by alluding to the above numbers. Departmental goals are consistent with American Psychological Association's Guidelines for the Undergraduate Psychology Major.

GRADING

Exams	60%
Reaction Papers	15%
Online Quizzes	15%
Classwork	<u>10%</u>
Total	100%

A+ = 99-100%	B+ = 87-89%	C+ = 77-79%	D+ = 66-69%	F = 60% and below
A = 93-98%	B = 83-86%	C = 73-76%	D = 63-69%	
A- = 90-92%	B- = 80-82%	C- = 70-72%	D- = 60-62%	

I will round you up to the next letter if your grades are 89.96, 79.96, 69.96, or 59.96 (or above).

Exams, 60% of your grade (fulfills goals 1-6)

There will be a total of four exams, and each will be worth 100 points. About half of the questions will be multiple choice and the rest will be short answer and essay questions. **I will drop your lowest score from these exams, so only three will count towards your final grade.** This is because I personally do not like deciding what constitutes an emergency or a serious illness that will merit to take a make-up exam. Since I am dropping one score, I will only consider make-up exams for athletic competitions (**not practice!**) and **official** college events.

Exams 2, 3, and 4 are **selectively** cumulative. This means that you will be asked to review a **small** amount of the content that you already studied when preparing for an earlier exam. I do this to prevent forgetting important concepts and ideas. Most people forget the information they study right after taking the exam! Don't feel bad if this happens to you, this is how memory works. Once you fulfill a goal, information related to it begins to be forgotten. I will make sure to bring important and recently forgotten information back to your awareness. I will let you know what to study from previous exams, so this will not be a surprise.

Reaction Papers for Make it Stick chapters, 15% of your grade (fulfills goals 1-4)

You will write seven *short* reaction papers in this class. The reaction papers will only be two pages long and double spaced (APA format). You will be given specific instructions (a week in advance) for each of these papers. Each reaction paper will be worth 100 points and correspond to first seven chapters of the Make it Stick book. Broadly speaking, you will be asked to integrate, synthesize, and apply the material covered in this book. **Since you will have at least one week to work on these assignments, I will not accept make-ups or extensions. Plan wisely! I will also drop your lowest score!**

Online Quizzes, 15% of your grade (fulfills goals 1-6)

You will have to complete online quizzes for each of the textbook chapters and week of class. Expect multiple choice and short answer questions (no long essays). You will have 30 minutes to complete the quiz. The amount and combination of questions will match the allotted time (my estimate is always based on research and prior experience). You may be wondering whether you can use your textbook and notes while answering the quizzes. The answer is **yes**. However, you should have read and studied the chapter, slide, or notes in advance. You may have time to look up a concept or forgotten fact, but you will not have time to "answer and read as you go." Do not work in groups. This should be individual work.

Quizzes will be available on Friday by 5pm and will close Monday night before midnight (i.e., 11:59pm). Each quiz will be worth 100 points. **Since you have multiple days and times to take these online quizzes, no make-ups or extensions are allowed. Use your time wisely! Also, your lowest score will be dropped!**

Classwork, 10% of your grade (fulfills goals 1-6)

Each and every of my classes will have an active component to it. I do not believe in students passively listening to an instructor for 50 minutes. Each class period will be worth 10 points. You will earn those 10 points in different ways depending on the class period. Sometimes, you will have to actively engage and participate in discussions and some other times, you will have to turn something in (e.g., an open book quiz or reflection). This is similar to an attendance policy, except that you are expected to **actively** do something in the classroom to earn points. I understand you may have to skip class because life is full of surprises and unexpected events, so **I will drop your 3 lowest scores!** For justified absences, I will not give you make-up assignments. I will simply not count those class periods towards your grade. Justified absences will not take away your right to have your 3 lowest scores dropped. **An absence is justified if and only if it is an official college event.**

A NOTE ON POINTS – READ CAREFULLY

Adding points will only make sense within each grading category. For example, each reaction paper is worth 100 points and there is a total of 7 reaction papers. This means that 700 points = 15% of your overall grade (i.e., the value of the reaction papers in this class). Similarly, and also within the category of reaction papers, if you obtain 500 points out of 700 points, you will have achieved 10.71% out the 15% (i.e., what the reaction papers are worth in this class). This principle applies for each grading category.

Do not add points across categories, as this will not be accurate!!! Points will only make sense within their respective category. You may or may not be familiar with a system like this, but at the end of the day, it is all the same. It comes down to simple math and the proportion of total points you earn from the total points available. Please rest assure that your Moodle gradebook will always be up to date. But if you have any questions about your grade, I will be very happy to answer it **J**.

TERMS OF ENGAGEMENT AND CLASSROOM BEHAVIOR

This section refers to how we will relate to one another in the context of this class. **I expect you to be respectful and welcoming to myself and other students (you can expect the same from me).** Apply this principle and everything should work fine. Additionally, **do not be late! If you are late, you will, at most, earn half the points of a given day.**

You are allowed to use technology in this class. I will even allow you to Tweet or make a quick Facebook update if it is related to class material (as long as it is brief). Beware, however, that several studies have shown that using technology in the classroom to take notes may actually harm your learning. Considering the benefits that technology offer and how prevalent it is in everyday live, I think the long-term solution to this problem will be about **how** one uses it and not **if** one should use it. Until then, use it wisely and at your discretion. I do, however, discourage using technology for any purpose other than class (e.g., social media for non-academic purposes, shopping, etc.).

Grading and communication. I am here to help you succeed in this course. I will usually grade every quiz and assignment within a week and I will reply to your e-mails within 24 hours (except weekends). I do not hold fixed office hours, but you are free to schedule an appointment with me using this link: munoangel.youcanbook.me. You may also contact your fellow classmates through the “quick e-mail” function in Moodle (left bottom corner). I strongly encourage you to also get help from your fellow students and/or learn and study together.

ACADEMIC INTEGRITY POLICY

Please read the academic integrity policy before taking course: <http://earlham.edu/curriculum-guide/academic-integrity/>. Violations to this policy will be reported in each and every occasion. It is a College mandate.

Academic Accommodations

Students with a documented disability (e.g., physical, learning, psychiatric, visual, hearing, etc.) who need to arrange reasonable classroom accommodations must request accommodation memos from the Academic Enrichment Center (main floor of Lilly Library) and contact their instructors each semester. For greater success, students are strongly encouraged to visit the Academic Enrichment Center within the first two weeks of each semester to begin the process.

<https://www.earlham.edu/academic-enrichment-center/disability-services/>

Academic Enrichment Center

The Academic Enrichment Center (AEC) helps with study habits and skills as well as a peer tutoring service. The AEC is staffed by trained peer tutors for either prearranged group tutoring sessions or one-on-one tutoring sessions for other courses. Peer tutoring is a free service offered to all Earlham students. For more information, please visit <http://www.earlham.edu/academic-enrichment-center/peer-tutoring/>.

The Earlham Writing Center

The Earlham Writing Center provides one-on-one assistance with writing. We are here to work with writers from all disciplines and all skill levels: whether you are confused about where to begin, you are stuck on page one of five, or just need some advice on final revisions. The Writing Center Consultants will begin with your needs and concerns first, so please come prepared with questions and an idea of what you would like to focus on.

You can enjoy free, walk-in service in the Main Level of Lilly Library starting September 2nd from Sunday -Thursday 7-10 p.m. with additional hours on Sunday 2-5 p.m. You may also schedule an appointment using the online scheduler found on our website: www.earlham.edu/writing-center. Also, if you want help with specific grammar topics related to your own writing, www.grammarly.com/edu is available for all Earlham students to proofread their papers and learn more about grammatical errors.

Course schedule is on the next page 😊

TENTATIVE COURSE SCHEDULE & READINGS*

WEEK	DATES	TOPICS AND READINGS	WHAT'S DUE?***
1	January 16 th – January 20 th	Introduction to the class and assessments. Start reading your textbook and the Make it Stick book.	Nothing Yet!
2	January 21 st – January 27 th	Introduction to Cognitive Psychology Chapter 01 textbook Chapter 01 Make it Stick	Nothing Yet!
3	January 28 th – Feb 3 rd	Sensation and Perception Chapter 03 textbook Chapter 02 Make it Stick	Jan 28 th : Online Quiz Feb 1 st Reaction paper
4	February 4 th – February 10 th	Attention Chapter 04 textbook Chapter 03 Make it Stick	Feb 4 th Online Quiz Feb 8 th Reaction paper
5	Feb 11 th – Feb 17 th	Break Week! No new Topics	Feb 11 th Online Quiz Feb 13 th Reaction Paper
6	Feb 18 th – Feb 24 th	Short-Term and Working Memory Chapter 05 textbook Chapter 04 Make it Stick	Feb 21 Exam I
7	Feb 25 th – March 3 rd	Long-Term Memory Structure Chapter 06 textbook Chapter 05 Make it Stick	Feb 25 th Online Quiz Mar 1 st Reaction Paper
8	Mar 4 th – Mar 10 th	Long-Term Memory: Encoding, Retrieval, and Consolidation Chapter 07 textbook Chapter 06 Make it Stick	Mar 4 th Online Quiz Mar 8 th Reaction Paper
9	Spring Break!	Spring Break	Spring Break

TENTATIVE COURSE SCHEDULE & READINGS* (CONTINUED)

WEEK	DATES	TOPICS AND READINGS	WHAT'S DUE?
11	Mar 18 th – Mar 24 th	Prospective Memory Reading to be assigned	Mar 18 – Online Quiz Mar 22 – Reaction Paper
12	Mar 25 th – Mar 31 st	Everyday Memory and Memory Errors Chapter 08 Textbook Chapter 07 Make it Stick	Mar 28 – Exam II
13	April 1 st – April 7 th	Knowledge Chapter 09 textbook	April 1 st Online Quiz April 4 th Reaction paper
14	April 8 th – April 14 th	Visual Imagery Chapter 10	April 8 th Online Quiz
15	April 15 th – April 21 st	Language Chapter 11	April 15 th Online Quiz
16	April 22 nd – April 28 th	Problem Solving Chapter 12	April 22 nd Online Quiz
17	April 29 th – May 5 th	Decision Making and Human Intelligence Chapter 13	April 29 th Online Quiz May 2nd – Exam 3
18	May 6 th – May 12 th	Final Exams week!	Final Exam May 30th 10:30 AM

*This schedule and readings (or something very similar to this) is what you will encounter this semester. This being said, changing a few readings (or flipping the order of a few weeks) is always possible and will be done at the discretion of the instructor. You will be notified ahead of time and it will not impact the way you allocate your time. A revised and organized schedule will be given to you if this is the case. It is always preferable to make changes when something is not “quite right” than to stick to it because it was already organized that way. Stay tuned!

** On a given week, you will take the online quiz pertaining to the material covered the week before. Similarly, on a given week, you will turn the reaction paper pertaining the Make it Stick chapter you read the previous week.

TENTATIVE COURSE SCHEDULE & READINGS* (CONTINUED)

** I know reading two journal articles in one week may look scary. Don't panic! Some of these articles are short. The articles will also be clarified and/or explained in class until the information is truly understood and processed. You are not alone 😊.

FINAL REMARKS

I reserve the right to make any changes to this syllabus. There are two guiding principles for potential changes:

1. It should always benefit the student. I will more likely cut (rather than add) material in case I notice that what I assigned is too much to handle.
2. You will be notified ahead time, given a new version of the syllabus, and there will always be a good and logical reason to make the changes.