Science of Psychology

PSYC UN1001

- **Course Location:** Schermerhorn 501
- **Course Time:** Mondays & Wednesdays, 1:10pm to 2:25pm

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(Syllabus subject to revision)

Course Description

A broad survey of psychological science including: sensation and perception; learning, memory, intelligence, language, and cognition; emotions and motivation; development, personality, health and illness, and social behavior. This class discusses relations between the brain, behavior, and experience. Additionally, it emphasizes science as a process of discovering both new ideas and new empirical results.

Course Overview

"Psychology" refers broadly to the study of what minds are like and how they interact with the wider world. This puts psychology at an intersection between many other disciplines. It can be used as a bridge between philosophy and medicine, or between neuroscience and sociology, or between human artwork and animal behavior. As a result, an introductory course such as this one offers a very wide sampling of topics, with something for everyone. Please read this syllabus carefully to make sure you haven't missed anything important.

If you are **considering psychology as a major or concentration**, this course will introduce you to many of the questions of interest to psychology that you might pursue in your future studies. In addition to the reading, please feel free to reach out to the TAs and myself to discuss your particular interests.

If you just **need the course to fulfill a science requirement**, the good news is that almost everyone will find common ground with one part of psychology or another. While the course is intended to be challenging, it is also designed to be accessible to all students.

If you are a pre-med student and **are taking the course in anticipation of the MCAT**, you will find that every section of the course will cover material relevant to the MCAT guidelines. However, the course is not intended to primarily be an MCAT prep course, so you should review the psychological topics listed by the AAMC, and contact us if you wish to discuss any of those particular topics in greater detail.

Course Requirements

Textbook: *Psychology, 8th Edition* (Required) by Henry Gleitman, James Gross, & Daniel Reisberg (2010). Each lecture makes reference to a corresponding chapter of the textbook (although some chapters will require multiple lectures to cover).

- **I strongly recommend that you try to keep up with the assigned readings.** The material is, at times, challenging, and may take longer than you anticipate. Some chapters may receive more than one lecture; my advice is to try to read the entire chapter before the first such lecture, to get the most out of each lecture.

Lectures: Students are expected to attend every lecture. The lectures form the core content of the class, drawing from key topics in the textbook. Slides for each lecture will be available via Courseworks prior to each lecture (although the final slides are subject to last-minute modification). Additionally, lectures will be recorded as audio and uploaded to Courseworks.

- **You're not the only person in the audience.** Everyone behind you can see what you're doing, and everyone around you can hear you, so be respectful to your fellow students. Don't chat with your neighbors. Don't eat food during class. If everyone behaves like the kind audience member that we all want sitting nearby, everyone benefits.
- **Arrive on time and stay for the whole class.** Departures and arrivals are disruptive, so make the effort to get to class on time. If circumstances require that you leave early, try to arrive a bit early to ensure that you can sit near the doors.
- **Digital decorum is essential, and will be enforced.** Cell phones should be silenced. Do not text, message, or chat with others digitally during class. Laptops may be used to take notes, but may not be used to browse the Internet. The TAs will keep an eye on the class and will ask violators to stop. Anyone who repeatedly disrupts class with their electronics will not be allowed to use them at all.

Optional Readings: Every lecture after the first has an attached scientific paper, as described on the schedule of classes, and available via Courseworks. These readings are *optional*, and are intended to give students insight into current questions in psychological research.

- **These papers are current peer-reviewed science.** They are not journalistic summaries written for a general audience. As a result, they can be challenging to read and understand. This is intentional:

If you are interested in psychological science, there's no time like the present to become acquainted with the actual research.

- **These readings, all recently published, are a mix of opinion pieces, perspectives, and reviews.** They reflect the views and interpretations of their authors. In some cases, these opinions will conflict with information in the textbook, or with other current published views. Science is an active and ongoing conversation, and many of the ideas covered in the optional readings have not yet achieved a scientific consensus.
- **You will write at least one paper for class based on a selection from these readings** (see "Papers" below). Read the schedule for the whole semester in advance to see which topics might interest you most, then make sure you devote enough time to carefully read and consider the target article.

Papers: Students will write three short (2 page) papers, each due during the class session before an exam. The focus of these papers will be to apply concepts learned in this course to topics of ongoing scientific research. One paper will address the experience of participating in an experiment in the department (see "Experimental Participation" below), and a second paper will focus on the optional course readings. The third paper may be of either type. Additional details about the format and content of the papers is described in a separate handout on Courseworks.

- **There is a big difference between an opinion and a scientific opinion piece.** In science writing, an opinion that cannot be backed up with either a formal theory or with experimental evidence is not worth taking seriously. Despite often being subjective, peer-reviewed scientific opinion pieces nevertheless cite the literature to support their arguments. Thus, it is *not* OK to turn in an interpretation (be it positive or negative) that has no basis in evidence.
- **It is OK to be critical of the *content* of an article.** You may disagree with the premise, interpretations, or conclusions of the research your paper addresses (be it an optional reading or an experiment that you participated in). However you approach a paper, bring evidence to the table and cite your sources. Papers will be graded on the strength and clarity of their arguments, as well as the application of themes and ideas covered in class. These criteria apply whether the papers reflect a positive or critical interpretation of the material. However, criticisms that focus on things like the tone of the target article will be marked down accordingly.

Exams: There will be three exams (two midterms and a final). Of these three exams, the highest score earned will have a weight of 35% of the final grade, the middle score will be worth 25%, and the lowest score will be worth 15%. The midterms will be non-cumulative, covering the first third and second third of the class, respectively. The final exam will focus primarily on the last third of the class, but will also include some material from the earlier portions of the class. All exams will mix multiple choice questions with short-answer questions.

- **If you cannot attend an exam, contact me as soon as possible.** Make-up exams can be arranged with my permission and that of your dean, but only given appropriate extenuating circumtances. *Vacation travel plans are not an acceptable reason to miss an exam.* Don't buy your tickets on dates that conflict with exams.
- **Getting comfortable with the vocabulary should be a top priority when studying for exams.** Because psychology is multi-faceted, it uses a lot of words more precisely than is ordinary in conversation. For example, there is a technical distinction between "obedience" and "conformity," and we'll be testing whether you've learned those distinctions. If you can write a single-sentence definition for each vocabulary word in a chapter, you're off to a great start.
- **Focus on material covered in lecture.** The scope of the class is such that it's impossible to lecture on every concept in the textbook. Thus, although the whole textbook is fair game, material covered in lecture is *much* more likely to appear on an exam. Going back over the lecture slides, especially while re-listening to lectures, is a good way to remind yourself of the way the concepts fit together.

Experimental Participation: Psychology is an unusual scientific discipline, because those who study it are simultaneously the subjects of study. Ours is a research department, and every member of the faculty has an active ongoing research program. Participating in research is an important part of psychological training. For additional details, see the handout on Courseworks. NOTE: if you are under the age of 18, contact me

directly about this requirement, as you are not legally eligible to participate in research until your 18th birthday.

- **You must complete experiments worth at least 6 credits.** An "experimental credit" refers to approximately 30 minutes of participation, so some experiments may be worth multiple credits. Although you can finish these credits at any point in the semester, please don't put them off until the end of the semester. The last day that you can participate for credit is the last day of classes.
- **Contribute to science.** The direct beneficiaries of your participation are usually not the faculty, but are actually the graduate students, lab techs, and volunteers who are responsible for the day-to-day operations of their lab. As such, approach experimentation as you would helping another student out. They get data, you get credit and hopefully a positive experience, everyone wins.
- **Write a paper.** Your experimental participation is not just about data, it's also about understanding how experiments are performed in practice. We will spend time throughout the semester thinking about the field's historically noteworthy studies, but those studies largely felt at the time very much like your experimental participation. Writing a paper about the study (see "Papers" above) will help put your experience in context.

Students With Disabilities

Students with disabilities registered for this course and who require classroom accommodations should get in touch with me as soon as possible. Additionally, stop by the Office of Disability Services (ODS), located in Wien Hall, Suite 108A, to register for support services, if you have not already done so. In particular, students who qualify for extra exam time will need to fill out an application with ODS before they can authorize it. It usually takes at least two weeks to process such applications, so plan accordingly.

Grading: Final grades will depend on scores earned for the completed assignments, according to the following breakdown.

- **Experimental Participation:** 4%
- **Paper 1:** 7%
- **Paper 2:** 7%
- **Paper 3:** 7%
- **Lowest Exam Score:** 15%
- **Middle Exam Score:** 25%
- **Best Exam Score:** 35%

Letter grades are subsequently assigned according to the following criteria:

Bound		Grade		Bound
	$>$	A+	$\geq$	97
97	$>$	A	$\geq$	93
93	$>$	A-	$\geq$	90
90	$>$	B+	$\geq$	87
87	$>$	B	$\geq$	83
83	$>$	B-	$\geq$	80
80	$>$	C+	$\geq$	77
77	$>$	C	$\geq$	73
73	$>$	C-	$\geq$	70
70	$>$	D	$\geq$	60
60	$>$	F		

Academic Integrity

Students are expected to do their own work. Getting someone else to do your work for you, or passing someone else's work off as your own, is a breach of academic integrity and is a serious offense in academic circles, as is cheating on an exam. Whether you're getting help from another student, or copying a block of text from the Internet, anyone presenting the work as their own without citation or attribution will be referred to Dean's Discipline, with appropriate disciplinary action to follow.

Details regarding Columbia's definition of academic dishonesty (including examples), as well as the consequences, are available in **Columbia's Guide to Academic Integrity**. Inform yourself about what the university's policies on cheating and plagiarism are, because "I didn't know!" is not an acceptable defense.

Schedule of Classes

Date	#	Topic	Reading	Due	Optional Readings
01/18/2017	1	What Is Psychology?	Ch. 1		
01/23/2017	2	Sensation	Ch. 4		Krishna et al. (2016)
01/25/2017	3	The Visual System	Ch. 5		Cox (2014)
01/30/2017	4	Perception			Macknik et al. (2008)
02/01/2017	5	Neural Systems	Ch. 3		Shors (2014)
02/06/2017	6	Brain Architecture			Adolphs (2015)
02/08/2017	7	Consciousness	Ch. 6		Furlanetto et al. (2013)
02/13/2017	8	Memory Processing	Ch. 8		Kensinger (2015)
02/15/2017	9	Memory Systems		Paper 1	Porter & Baker (2015)
02/20/2017		EXAM #1			
02/22/2017	10	Learning Mechanisms	Ch. 7		Dunsmoor & Murphy (2015)
02/27/2017	11	Learning Models			Littman (2015)
03/01/2017	12	Artificial Intelligence			Mnih et al. (2015)
03/06/2017	13	Judgment & Reasoning	Ch. 9		DeKay (2015)
03/08/2017	14	Decision Making			Tormala (2016)
03/20/2017	15	Intelligence	Ch. 11		Newton (2015)
03/22/2017	16	Language	Ch. 10		Kroll et al. (2014)
03/27/2017	17	Motivation	Ch. 12		Perryer et al. (2016)
03/29/2017	18	Emotion		Paper 2	Inzlicht (2015)
04/03/2017		EXAM #2			
04/05/2017	19	Social Cognition	Ch. 13		Czopp et al. (2015)
04/10/2017	20	Social Influence			Jetten & Mols (2014)
04/12/2017	21	Personality	Ch. 15		Perkins et al. (2015)
04/17/2017	22	Evolutionary Psychology	Ch. 2		Beran (2015)
04/19/2017	23	Development	Ch. 14		Hamlin (2013)
04/24/2017	24	Adolescence			Hankin (2015)
04/26/2017	25	Psychopathology	Ch. 16		Kirmayer & Ryder (2016)
05/01/2017	26	Treatment	Ch. 17	Paper 3	Huhn et al. (2014)
05/08/2017		FINAL EXAM (1:10pm-4pm)			

Additional Resources For Students

- **Columbia University Writing Center**. Feedback on written assignments for this class, or any other!
- **Tutoring Services**. Tutoring must be arranged in advance, so apply early if you think you could benefit from some extra tutoring.
- **Health Services**. Health first!
- **Go Ask Alice!**. Answers to common health questions.
- **Counseling & Psychological Services** (CPS). For appointments, call 212-854-2878. For after-hours assistance, call 212-854-9797 or contact Public Safety at 212-854- 5555.
- **The Office of Disability Services** (ODS).