Winter 2019 Course Syllabus
PSY 365: Cognition (01)
Tuesday & Thursdays 11:30 am - 12:45 pm, LMH 114
Department of Psychology

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Office Hours:	Tuesdays 10:15 am – 11:15 am & Thursdays 2:30 pm to 3:30 pm (and by appointment)

Course Description

This course concerns itself with the *science of mind*. The contents and processes of mind such as thinking, reasoning, perceiving, attention, memory, knowledge and language are of central interest to theorists and researchers in the areas of cognitive psychology and cognitive science in general. This course will provide a historical background to the modern science of mind, illustrate some pertinent research methods, and cover some important *empirical findings* and theories in the study of cognition.

Course Objectives: Upon successful completion of this course students will be able to:

1. **Summarize** the important methods, research findings, and theories of cognition.
2. **Evaluate** current issues in cognition research.
3. **Compare** the strengths and weaknesses of various theories of cognition.
4. **Explain** how cognition is studied empirically.

Textbook (Required):

Cognitive Psychology: Applying the science of the mind. **Third Edition**. (2012), by Gregory Robinson-Reigler & Bridget Robinson Reigeler, Allyn & Bacon.

E-Reserved Readings:

Colom, R., et al. (2003) Working memory and intelligence. Personality and Individual Differences, 34, pp.33-39.

De Neys, W. (2006). Dual processing in reasoning. Psychological Science, 17(5), pp. 428-433.

Evans, J. St. B. T. & Curtis-Holmes, J. (2005). Rapid responding increases belief bias: Evidence for the dual-process theory of reasoning. Thinking & Reasoning, 11(4), pp. 382-389.

Pavani, F., Spence, C., & Driver, J. (2000). Visual capture of touch: Out-of-body experiences with rubber gloves. Psychological Science, 11, 353-359.

Pylyshyn, Z. (2003). Return of the mental image: Are there really pictures in the brain? TRENDS in Cognitive Sciences, 7(3), 113-118.

Roediger, H. L. & Karpicke, J, D. (2006). Test-enhanced learning: Taking memory tests improves long-term retention, Psychological Science, 17(3), 249-255.

Roediger, H. L. & Marsh, E, J. (2005). The positive and negative consequences of multiple-choice testing, Journal of Experimental Psychology: Learning, Memory, and Cognition, 31(5), 1155-1159.

Satel, S. & Lilienfeld, S. O. (2013). Losing our minds in the age of brain science, (Introduction; pp. ix-xxiii). From Brainwashed: The Seductive Appeal of Mindless Neuroscience.

Shipstead, Z., Redick, T. S. & Engle, R. W. (2010). Does working memory training generalize? Psychologica Belgica, 50, 245-276.

Shimamura, A. P. (2010). Bridging psychological and biological science: The good, bad, and ugly. Perspectives on Psychological Science, 5, 772-775.

Stanovich, K. E. (2013**a**). Falsifiability: How to foil little green men in the head. Chapter 2 (pp. 21-36) from How to Think Straight About Psychology (10th Ed.)

Stanovich, K. E. (2013**b**). Operationism and essentialism: "But, doctor, what does it really mean?" Chapter 3 (pp. 37-52) from How to Think Straight About Psychology (10th Ed.)

It is **important** that you keep up with the assigned readings throughout the entire duration of the course. Assigned readings will be officially announced in class (and blackboard.) E-reserve readings will also be indicated via the due dates of the reading assignments (see page 3.) Additional readings may be added on to the above E-reserve listing (& not all of the above may be assigned). Any modifications will always be announced in class (and blackboard.)

Course Evaluation

    I. Exams (**70% of grade**)
      Midterm Exam 1 — 20 points (20%)
      Midterm Exam 2 — 20 points (20%)
      Final Exam (Semi-Cumulative) — 30 points (30%)

    II. Assignments (**15% of grade**)
      Reading Assignments — 12 points (12%)
      Journal Article Review Assignment — 3 points (3%)

    III. Participation (**15% of grade**)
      In-Class Activities (unannounced) — 15 points (15%)
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100 points*

***Note that since the sum of all points is 100, the terminology "points" and "percentage" are interchangeable in this scheme.**

Exams (3): 70% of final grade

There will be two midterm exams and a "semi-cumulative" final exam. Exams will consist of multiple-choice, fill-in the blank, and short answer questions. Questions will be drawn from both lectures and assigned readings. Although there will be a very large overlap between lecture content and assigned readings, lectures will present some material not found in the assigned readings and also not cover some material found in assigned readings. A consequence of this is that a non-trivial portion of exam questions will comprise of material that is unique to either lectures alone or assigned readings alone. In other words, to do "well" on the exams you must do both the assigned readings and attend class (which means paying attention and taking good notes-- not just physically being there). Although the second midterm will only directly test material covered after the first midterm, some of that material will be built upon an understanding of some midterm 1 material—most notably Topic 2 content.) The final exam will be "semi-cumulative." It will consist of material covered after midterm 2 and material throughout course that was specifically *designated as final exam content* (for example, all of Topic 2 will be designated as final exam content).

On exam days . . .
Make sure you bring to class a black lead pencil (#2 or softer) and a "good" eraser. You will be responding on a scantron form.
A point of caution: Be careful when filling these scantron forms. Bubbles should be filled in properly, and you should thoroughly erase any changed answers. No corrections will be made as a result of errors on your part.
Emergency closings: In the event that the university closes on the date of a scheduled midterm exam, the affected exam will be held during our next regularly scheduled class.

On missing exams . . .
Don't! Unless having a justified reason for missing an exam, see below, you will not be able to make up a missed exam and will score a zero for that portion of your grade. Scheduling a makeup exam presents problems for the whole class, for me as an instructor, and for support staff in the psychology department. Numerous people may be inconvenienced by modifications to exam scheduling for a single student (e.g., by limiting/affecting what can be discussed or presented in a post exam lecture/discussion.)
If, however, you miss an exam for an extremely good reason, be prepared to provide documentation for your justified absence (e.g., a doctor's note) and be prepared to make up the exam ASAP. This is by no means an issue to be taken lightly, you **must** have a very good reason for an exam absence and you **must** be able to document it sufficiently. Please promptly offer your documentation to me rather than waiting for me to initiate that rather "uncomfortable" conversation.
If you are going to be absent, get in touch with me ASAP--this is your responsibility (do not wait for me to get in touch with you, or simply wait until you see me at the next class). If I do not hear from you within 24 hours of the exam, you have forfeited your opportunity to write the exam. Any alternative date/time exams are likely to consist of an alternative form to the one provided to the regular class.

Reading Assignments: 12% of final grade
Reading assignments will require that you thoughtfully read some E-Reserved material(s) and answer a set of provided questions. These assignments will be made available on blackboard and will be graded on a credit / no credit basis. Responses are to be made in your own words with no quotations taken from articles. Avoid skimming the assigned readings for "the answers" as this strategy may result in a non-credited assignment due to superficial responses. There will *likely* be eight of these assignments, thus each being worth 1.5 points—but this number is subject to change as it may be increased (or even decreased). Regardless the number of assignments given, assignments will be equally weighed, and your final reading assignments score will be converted to a score out of a total of 12 points

The following will result in assignments NOT receiving credit:
1. Late or incomplete assignment (e.g., missing a response to a single question)
2. Responses in which your own wording was not used. It is important to take note that unlike typical papers you may write in university classes, the nature of these assignments will ask that all of your responses are made completely using your own wording—do not use any quotations from the assigned reading(s). You will not be using citations or incorporating a reference section into these assignments. Do not incorporate the work of anyone else (including fellow students) into your responses. Doing so will be considered plagiarism (as described in the

catalog and in the Student Code.) If you submit an assignment that contains plagiarized material, you may receive a failing grade for the course.
3. Assignments containing responses that do not *clearly* evidence a reflective reading of the material (e.g., superficial responses or too skimpy on the relevant details.)

Journal Article Review Assignment: 3% of final grade

Details concerning the journal article review assignment will be outlined in class sometime after our coverage of topic 2. The content of the research methods unit (topic 2) will be very relevant to this assignment.

Participation (In-Class Activities): 15% of final grade

In-class activities will almost always be <u>unannounced</u> and will be graded on the basis of participation (completed vs. not completed). Many of these will amount to a quick "mini" experiments generating class data that will serve to illustrate upcoming course concepts/material. Some others may take the form of pop quizzes or quiz-like activities that touch upon either assigned readings that should have been completed or material just presented in class that day. If you have a valid reason (e.g., illness) for missing an in-class activity, obtain documentation for this absence (e.g., doctor's note) and supply this to me. Note that these activities will be brief in duration (typically 10 minutes or less) and **you must be in class during the time of their administration to be credited.**

Scoring Details: Your first absence results in a <u>zero</u>-point deduction. Your second absence will result in a <u>one</u>-point deduction. Each subsequent absence will result in an additional **<u>one</u>**-point deduction. **Since this is a class participation component of your score, you will not be able to make-up any in-class activity you miss due to absence.**

Attendance

If you must miss a non-exam date class you need neither secure my consent nor supply me with a reason for the absence. But please note that <u>missing classes will most likely have consequences on your grade in this course</u>: i) I will be presenting material in class that is not covered in the assigned readings; ii) I often clue students in to especially important assigned reading material during lecture/discussion; iii) an unannounced in-class activity may have been conducted (see above Participation section); iv) **I do not provide lecture notes for missed classes**—please do not ask as I can make <u>no exceptions</u> on this out of fairness to all students; v) you may miss obtaining important announcements and/or handouts in a timely manner. You can mitigate <u>some</u> of these—see the **A helpful suggestion** section below.

Please do NOT email me the following (or variants of the following) questions:
1. "I missed class today. Did I miss anything important?"
2. "Can you send me the lecture notes that I missed?"
3. "I am going to miss class because **. . .** will there be an in-class activity today?"

Answers to above questions will always have to be:
1. *uh* … yes, of course you did.
2. No, sorry. See the <u>A helpful suggestion</u> section below.
3. Maybe.

On being late for classes

It is a mistake to think that missing the first few minutes of class is harmless. All things being equal, the worst x minutes that you could possibly miss in a lecture is often the **FIRST** x minutes. Those first few minutes of class are often where the context for all the remaining lecture material gets outlined. Your comprehension of lecture material will often be "challenged" when you miss the preceding material—even just a few minutes. If you do arrive late, please be courteous to your fellow classmates and quietly take the closest or least disruptive seat.

A helpful suggestion

Get to know some of your fellow classmates. Pair up with at least one other student as a "Lecture-Notes-Buddy." That is, in the event you do miss a class, your Lecture-Notes-Buddy will allow you to copy her/his notes for the missed. **Do not expect the instructor to provide you the notes for a missed class. Do not expect the instructor to recap for you an entire missed lecture after class.**

Our responsibilities:

Both the professor and student have responsibilities in the teaching / learning process.
My responsibilities as an instructor include...
*   being well organized
*   being courteous and helpful with students
*   providing an updated and informative course
*   returning graded materials promptly
*   being fair and unbiased with grading

Your responsibilities as a student include...
*   attending classes and being punctual--especially for exams!
*   paying attention in class and taking notes
*   asking questions about material you do not understand
*   seeking help with material if you're having difficulty (e.g., meeting with me)
*   not creating distractions for other students or the instructor (e.g., excessive talking) **Silence your phones** (phones should also be placed away during class)
*   doing the assigned readings and studying the course material

A note about student dissatisfaction with grades:

An unfortunate reality of any course is that not all students will obtain the final grade they desire. Some students may even fail the course. As an instructor of the course, my responsibility is to insure that evaluation procedures were fair. To a very large extent, this can be determined by how the class is performing overall. If your performance as a member of this class is substantially below the general class performance, then you cannot simply claim that the evaluation procedures were unfair. Some careful thought has to be given to what else might possibly be wrong, and how it might be changed.
To minimize any damage to your student records, **it is important that you consult with me very early once difficulty arises** (e.g., discuss this with me during an office hour.) Remain vigilant about your progress in the course.
When students approach me late in the term claiming that they NEED a specified grade, what can I (the instructor) do for them? the answer will be disappointing. As long as the grading procedures were fair, YOU as a student are in control and responsible for your own grade. As an

instructor, I must be fair and unbiased with the grading procedures, which includes sticking to the same procedures that applied to the entire class. Deviations on my part from the outlined procedures for any single student amounts to cheating those students who were evaluated under the original scheme.

Topics covered:

The following is a list of the topics that will be covered in this course. Although no dates are indicated below, we will progress through the topics in the order listed. Exam dates have already been scheduled (see Exam and other important dates section). Topics are not of equal length (i.e., the duration of time we devote to them.) **Please note that Topic # ≠ Chapter #.** Throughout the course I will often refer to the topic number as indicated below.

#	Topic	Assigned Readings[†]
1	History & Foundations	**Chapter 1** **[Shimamura, 2010; Satel & Lelienfeld, 2013]**
2	Common Methods used to study Cognition	**E-Chapter Supplement**: Research in Cognition: Investigating Mind and Brain **[Stanovich, 2010a; Stanovich 2010b]**
3	Perception	**Chapter 2**: pp. 45-61 (stop @ Perception and Action) **[Pavani et al., 2000]** **Chapter 5**: pp. 186-90 (stop @ Individual Differences) **Chapter 2**: pp. 68-81
4	Attention	**Chapter 3**: pp. 83-86; 98 (start @ Attentional Blink)-109; 116 (start @ Automatic Processing)-127. **Chapter 4**: pp. 129-151 (stop @ A Unitary View of Mem.); 159 (start @ Mind Wandering)-161 (stop @ Ironic Processes...); 164 (start @ Improving Executive Function)-170 **[Colom et al., 2003; Shipstead et al., 2010]**
5	Memory Processes & Knowledge Representation	**Chapter 6** and **Chapter 7** (Chapter 8 is optional) **[Roediger & Karpicke, 2006; Roediger & Marsh, 2005; Pylyshyn, 2003]**
6	Reasoning, Judgment and Decision Making	**Chapter 11**; **Chapter 12**: pp. 510 (start @ Algorithms)-511. **[De Neys, 2006; Evans, 2005]**

[†]**IMPORTANT:** The above readings may **NOT** be the official assigned readings that you are responsible for. Some of the above may be scaled back and/or **additional readings may be assigned**. These modifications will always be announced in class.
Note: Above readings in brackets refer to E-reserve material (these will be explicitly assigned via the reading assignments.

Exam and other important dates:

Last day 100% refund	January 11
Last day 75% refund	February 1
Midterm 1	**February 7**
Spring Break	March 4 - 8
Drop deadline with a grade of "**W**"	March 8
Midterm 2	**March 21**
Journal Article Review Assignment	April 4 (in class)
Final Exam (semi-cumulative)	**Wed April 24 12 noon**

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Course Grade Schedule:

A	92-100 points	B+	88-89 points	C+	78-79 points	D+	68-69 points
A-	90-91 points	B	82-87 points	C	72-77 points	D	60-67 points
		B-	80-81 points	C-	70-71 points	F	< 60 points

For purposes of letter grade submission, numerical scores are rounded up from the **second decimal place value** to the nearest whole number (i.e., xx.45 and greater). For example, 81.**45**, (a **B-**) would be rounded up to an 82 (a straight **B**). An 81.**44**, however would remain a B- (the border needs to be placed somewhere).

Important note:

Your continuation in this course indicates your acceptance of the above schedule and procedures. The above schedule and procedures, however, are subject to some modification in the event of extenuating circumstances (as assessed by the instructor).

This course is subject to the GVSU policies listed at http://www.gvsu.edu/coursepolicies/

Below you will find a copy of Assignment 1. All future assignments will be placed up on blackboard under the <u>Assignments</u> link (you'll find this first assignment up there too.)

Assignment #1
Due: Thursday January 17 (**<u>TYPED</u>** & hard copy in class)

Instructions: You'll need to read two separate E-reserve readings to answer the below questions. **<u>All responses must be in your own words</u>**. <u>Please retain the below numbering in your responses</u>. Suggested response length below indicates an estimate of the <u>minimum</u> length for a "sufficient" response--feel free to provide longer more elaborate responses if you desire.

<u>**FYI**</u>
<u>Reductionism</u>: An approach in which one attempts to reduce one level of explanation to a more basic or fundamental level of explanation (not a "simpler" level).
<u>Localization</u>: The strategy of specifying the specialized region(s) of the brain that specifically underly a given mental (or behavioral) process.
<u>Mentalist view</u> = <u>Dualist view</u> (as used in assigned readings)
<u>Materialist view</u> = <u>Monist view</u> (as used in assigned readings)

Reading 1:
Shimamura, A. P. (2010). Bridging psychological and biological science: The good, bad, and ugly. <u>Perspectives on Psychological Science</u>, <u>5(6)</u>, 772-775.

1. What is **cognitive neuroscience**? (2 - 3 sentences)
2. What was meant by Shimamura's use of **naive reductionism**? (2 - 3 sentences)
3. What does Shimamura mean by a **mentalist** view (note that we will use the term **dualist** view (**dualism**) in this course to refer to this concept. (2 - 3 sentences)
4. What is meant by **materialism?** (2 - 3 sentences)

Reading 2:
Satel, S. & Lilienfeld, S. O. (2013). Losing our minds in the age of brain science, (Introduction; pp. ix-xxiii). From <u>Brainwashed: The Seductive Appeal of Mindless Neuroscience</u>.

NOTE: The library has put up two versions of this reading. For the E-book version, you need only read the above chapter. I'd recommend for most of you that you simply use the version published in <u>Skeptical Inquirer</u> (it is the same chapter, not as "aesthetically pleasing", but you are less likely to encounter technical glitches.

5. What is meant in reference to "levels of explanation" and how do the authors' use of the term "**neurocentrism**" relate to this idea? (~4 sentences)
6. Would Shimamura (your reading 1 author) consider Satel and Lilienfeld as having a **mentalist** (**dualist**) view or a **materialist** view due to things they write in that chapter (note Satel and Lilienfeld use the term **monist** view as opposed to **materialist** view in referring to the very same concept)? Explain why. (~4 sentences)

<u>Optional reading:</u> *(this does not have to be read to complete the assignment, but it does provide further context and elaboration for those interested in reading further about these issues):*
Miller G. A. (2010). Mistreating psychology in the decades of the brain. <u>Perspectives on Psychological Science</u>, <u>5(6)</u>, 716-743.