

SYLLABUS

PSCH 352 (Cognition & Memory); CRN 12247

Instructor:

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Dates:

The course is taught in the fall semester, 2020. It runs for 15 weeks.

Instruction begins Monday, August 24, and ends Friday, December 5.

Final Exam Week is from Monday, December 8, to Friday, December 11.

Format:

The course is taught remotely, through the associated Blackboard site. There are no in-person components.

The instruction is asynchronous. All 15 subject matter units (see below) are accessible to the students from the beginning to the end of the course. However, students who have *no* prior course work in Cognitive Psychology are recommended to access the 15 Units in the order they are presented on this web site.

Each subject matter unit is presented through (a) A specified set of pages in the textbook; (b) a narrated video lecture, and (c) one or more questions on four quizzes that become accessible during the semester.

Textbook:

The textbook is Daniel Reisberg, “Cognition: Exploring the science of the mind”, 7th edition (7e), 2019. W.W. Norton & Co. Notice that page references in the course schedule refer to the 7th edition, specifically. In each unit, there is a specification of the relevant textbook pages or chapters that pertain to that unit. Students are not mandated to read the textbook, but it is highly recommended that they do so. Because the course is asynchronous, the relevant textbook passages can be read in any order, but it is recommended that the lectures and textbook passages are studied in close proximity in time. Whether a student uses a text-first or lecture-first learning strategy matters is a matter of personal preference.

Grading:

There are a total of 16 quiz questions. Each correct answer contributes 1 point toward the student’s grade. The student can take each quiz multiple times. Each answer will receive right/wrong feedback (but not content feedback).

There is a Final Examination with a total of 48 questions. Each correct answer contributes 2 points toward the student's grade. The Final Examination can only be taken once, and only during Finals Week.

Objectives:

The objective of the *Cognition and Memory* course is to give the student a basic understanding of the cognitive functions of the human mind. The most central cognitive functions are attention, memory, and thinking. There are other cognitive functions as well, such as imagery, perception, and so on, but they are not covered in this course (but the interested student will find some material about them in the textbook). In the cognitive approach, the operation of the cognitive functions is explained in terms of information processes. For each function, researchers ask what information is processed, and how. The answers are related to everyday experience as well as findings from the research literature. Some cognitive phenomena are familiar from everyday life; others are more surprising or unexpected. At the end of the course, the student should be able to use the cognitive concepts and principles taught in the course to understand cognitive phenomena. The secondary objective is that the student should come to understand the methods that are used to study human cognition, interpret findings, and read research reports.

The subject matter is divided into 15 units:

Unit 1:

A brief historical overview of how Cognitive Psychology developed in the last one hundred years.

Unit 2:

The three main cognitive functions in long-term memory. The factors that determine the efficiency of encoding include repetition, depth of processing, and amount of relevant prior knowledge. Encoding works by linking new information to information that is already encoded.

Unit 3:

Information can always be represented in different ways, using different 'codes'. Some representations might be more useful than others for a particular task or situation.

Unit 4:

Information has to be retained in memory, if it is to be used at some later time. A strong hypothesis about retention is that information, once encoded, is affected more by interference than by passive fading.

Unit 5:

Information has to be retrieved from memory when it is to be used. Retrieval happens through spread of activation.

Unit 6:

Memories tend to change over time, so what is retrieved is represented in memory in a distorted form.

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Unit 7:

Sources of memory distortions include lack of source monitoring and encoding specificity.

Unit 8:

Both selective and divided attention are subject to capacity limitations.

UNIT 9:

The capacity of short-term time memory (STM) is often studied with the Digit Span Task. People escape the low capacity of STM by, in part, by representing information in chunks, i.e., familiar patterns of information.

Unit 10:

Working Memory has multiple parts, including the central executive, the rehearsal loop, and the visual scratchpad.

Unit 11:

Problems tend to be difficult to solve because the total number of possible solution paths that need to be evaluated is very large.

Unit 12:

Problems can be difficult to solve because the problem solver creates the wrong initial representation of the problem.

Unit 13:

People sometimes solve problems via analogy.

Unit 14:

People probably do not draw conclusions with content-free, logical inference rules.

Unit 15:

Systematic biases influence people's judgments about probabilities.

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