

SEMESTER AT SEA COURSE SYLLABUS

Voyage: Spring, 2013
Discipline: Psychology
Course Title: 4559-101: Cognitive Psychology
Upper Division
Faculty Name: Dr. Charles J. Morris
Prerequisite: Introductory Psychology or Permission of Instructor

COURSE DESCRIPTION

The purpose of this course is to explore the behavioral and cognitive processes involved in learning, memory, and problem solving. Specific objectives include a deeper understanding of individual differences in ability, the role of genetic and environmental influences, brain mechanisms, basic cognitive processes, and how the principles of learning, memory, and problem solving can be applied to education and everyday life. Among those applications will be eyewitness testimony, memory improvement, challenges of aging, brain injuries, and accident prevention. Due to the unique nature of the Semester at Sea Program, and the focus on educational issues in our field work, we will give special attention to cross-cultural perspectives on learning and memory throughout the semester. This will include a comparative examination of the educational systems of several countries we will be visiting during our voyage.

COURSE OBJECTIVES

By the time you have completed this course, you should have accomplished the following:

- **Obtained a thorough understanding of the basic concepts and theories about how we learn, remember, and solve problems.**
- **Developed an understanding of how psychologists study these phenomena.**
- **Further developed your ability to critically evaluate psychological research and draw reasonable conclusions from empirical data.**
- **Developed your ability to apply the principles of learning, memory, and problem solving to educational settings and everyday life.**

TOPICAL OUTLINE OF COURSE

Section #1: Basic Principles of Learning & Problem Solving (Days 1-6)

Fundamental Principles of Learning, Operant & Classical Conditioning, Evolution and Learning, Individual Differences in Intelligence, Nature vs. Nurture of Ability, What IQ Tests Miss, Basic Principles of Problem Solving

Reading Assignment:

Willingham: *Why Don't Students Like School?*

Chapter 7: How Should I Adjust My Teaching for Different Types of Learners?

Chapter 8: How Can I Help Slow Learners?

Bouchard: The Minnesota Study of Twins Reared Apart

Gottfredson: The General Intelligence Factor

Stanovich: The Thinking That IQ Tests Miss

Bjork: How to Succeed in College: Learn How to Learn

Rohrer & Pashler: Recent Research on Human Learning Challenges Conventional Instructional Strategies

Roediger & Karpicke: The Power of Testing Memory: Basic Research and Implications For Education

Carpenter, Pashler & Cepeda: Using Tests to Enhance 8th Grade Students' Retention Of U.S. History Facts

Optional/Highly Recommended:

Roediger, Putnam & Smith: Ten Benefits of Testing and Their Applications to Educational Practice

Exam #1 (Friday, January 25)

Section #2: Basic Principles of Memory & Problem Solving (Days 7-12)

What is Memory?, Short- & Long-Term Memory, Episodic & Semantic Memory, Storing & Retrieving Information, Memory & Problem Solving

Reading Assignment:

Schacter: *The Seven Sins of Memory*

Introduction

Chapter 1: Transience

Chapter 2: Absent-Mindedness

Chapter 3: Blocking

Willingham: *Why Don't Students Like School?*

Chapter 1: Why Don't Students Like School?

Chapter 2: How Can I Teach the Skills They Need When Standardized Tests Require Only Facts?

Chapter 3: Why Do Students Remember Everything That's on Television and Forget Everything I Say?

Exam #2 (Saturday, March 2)

Section #3: Beyond Remembering (Days 13-17)

Memory in Childhood, Cognitive Development, Memory & Problem Solving, Eyewitness Testimony, False Memories, Our Biased Memory

Schacter: *The Seven Sins of Memory*

Chapter 4: Misattribution

Chapter 5: Suggestibility

Chapter 6: Bias

Willingham: *Why Don't Students Like School?*

Chapter 4: Why Is It So Hard for Students to Understand Abstract Ideas?

Chapter 5: Is Drilling Worth It?

Chapter 6: What's the Secret to Getting Students to Think Like Real Scientists, Mathematicians, and Historians?

Exam #3 (Friday, March 22)

Section #4: When Learning, Memory & Problem Solving Fail (Days 18-24)

Memory Deficits, Aging & Memory, The Causes & Treatment of Alzheimer's & Other Dementias, Memory Improvement Programs, Recent Developments

Schacter: *The Seven Sins of Memory*

Chapter 7: Persistence

Chapter 8: Vices or Virtues?

Final Exam (Wednesday, April 17))

FIELD LAB ASSIGNMENT

Twenty percent of your grade will be based upon a field lab component, which will involve a visit to the National Institute of Education and to a nearby school (Thursday, February 21). The purpose of the field lab will be to supplement our examination of educational practices and outcomes in various countries throughout the world. Singapore was selected because of its excellent educational system, one in which teachers are highly qualified and well-respected. We seek to learn more about teacher training, how it affects educational practices in the schools, and what accounts for the impressive performance of Singapore students on international exams. The field lab will be part of a comprehensive study of how the principles of learning, memory, and problems solving have been applied to educational practices. By the time we visit the Institute, you will have read and discussed the book by UVA's Dan Willingham which applies the principles of cognition to the classroom, watched and discussed an excellent documentary by journalist Fareed Zakaria which examines educational practices and outcomes among the highest performing countries in the world, and studied Sal Kahn's proposals for reforming education in the U.S. and elsewhere. You will be required to submit a 5-7 page paper in which you use the principles we studied and the things we observed to propose changes in our educational system. Attendance is mandatory.

METHOD OF EVALUATION

Your grade will be based upon your performance on three exams and occasional quizzes during the semester (60%), a cumulative final exam (20%), and completion of your field work which will include a reading assignment and 5-7 page paper. The following grading scale will be used:

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

Depending on the overall performance of the class, the grading scale may be lowered somewhat but it will not be made more stringent.

REQUIRED TEXTBOOKS

AUTHOR: Daniel L. Schacter

TITLE: *The Seven Sins of Memory* (Paperback)

PUBLISHER: Houghton Mifflin, 2001

ISBN#: 0-618-21919-6

AUTHOR: Daniel T. Willingham

TITLE: *Why Don't Students Like School?* (Paperback)

PUBLISHER: Jossey-Bass, 2009

ISBN#: 978-0-470-59196-3

ELECTRONIC COURSE MATERIALS

In addition to the textbook, a number of articles on learning, memory, and/or problem solving will be assigned throughout the semester. These materials will be placed in the electronic course folder.