

Psychology 4133(101)
Human Information Processing
(formerly “Perception & Cognition”)

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TEXT

There are good textbooks in sensation, good textbooks in perception, and good textbooks in cognition. But there is not a good textbook option for this class in human information processing that covers that entire territory, and I don’t think you’d be very happy if I assigned multiple textbooks! The good news is that I’ve built a model of human information processing over many years of teaching and doing research in the area and I’ve developed a collection of very detailed lecture outlines which I will give you as we complete each unit of study. Of course, those outlines will be fleshed out via lectures. If you listen to all the lectures, pay attention, take good notes, and review and elaborate upon your notes, I believe that you will do just fine.

For those of you want to have a textbook, there are two that I can recommend. I’m fairly sure you can find copies of one or both of these books online at relatively low cost:

Matlin, M. W. (2015). *Cognition* (9th edition). John Wiley & Sons, Inc. ISBN: 9781118983287

Foley, H. J., & Matlin, M. W. (2010). *Sensation and Perception* (5th edition). Routledge. ISBN: 9780205579808

I can’t provide you with reading assignments that would run in parallel with lectures since the lectures are not structured to follow the organization of either of these books. However, I think that if you use a little common sense (and the tables of contents and book indices) you’ll be able to find readings in each book that are relevant to the topics we’re covering in our class. Just keep in mind that testing will be based entirely on lectures.

COURSE TOPICS

(in the order we'll cover them and subject to change)

Introduction

- A. Definitions
- B. Historical antecedents
- C. Who is the "Great Man" of cognitive psychology?
- D. Our information processing model
- E. Themes in the course

Sensory Processes

- A. Review of structures and functions of the eye
- B. Information selection through eye movements
- C. Selection of information through rod & cone action
- D. Selection by receptor tuning?
- E. Information extraction in the retina
- F. Cortical feature detection
- G. Visual sensory information storage
- H. Auditory stimulus and receptors
- I. Auditory sensory information storage

Preattentive and Attentional Processes

- A. Segmentation (and depth perception)
- B. Channelization
- C. Selective attention
- D. Definitions of selective attention
- E. Bottleneck models of attention
- F. Effort models of attention
- G. Vigilance
- H. Improving concentration

Pattern Recognition

- A. Definition and description
- B. Template matching models
- C. Feature analytic models
- D. Auditory pattern recognition (speech)

Short-Term Memory

- A. General description
- B. Functions of STM
- C. Retrieval (scanning) from STM
- D. STM capacity
- E. STM contents
- F. Loss from STM

- G. Structure of STM
- H. Maintenance rehearsal
- I. Elaborative rehearsal
- J. Mental imagery
- K. Multi-component model of working memory

Long-Term Memory

- A. Evidence for the duplex model
- B. LTM capacity
- C. LTM contents
- D. More on LTM recall accuracy
- E. LTM structure
- F. Models of LTM organization

Social Perception and Cognition

- A. Introduction
- B. What qualities do we perceive?
- C. Observer effects on person perception
- D. Implicit personality theory
- E. Formation of first impressions
- F. Perceiver determinants of first impressions
- G. Target person determinants of impressions
- H. Accuracy of our impressions
- I. Perceiving emotions

Creative Problem Solving (and other loose ends)

- A. Definitions of creative problem solving
- B. Stages of the creative thought process
- C. Social factors influencing creativity
- D. Organizational stress
- E. Personal variables influencing creativity
- F. Blocks to creativity
- G. Enhancing creativity

EXAMS

Four noncumulative exams will be given at approximately equal intervals throughout the semester. Tentative test dates, subject to change, are: Sept 16, October 12, November 7, and December 2.

Makeup exams will all be administered during final exam week on Monday December 5 at 10:30 am in PY-102.

Each exam will test knowledge of material covered in class since the previous test and up to the date of the exam. Exams are non-cumulative.

GRADING

Each exam will be scored on a percentage-correct scale as follows:

A = 90-100%

B = 80-89%

C = 70-79%

D = 60-69%

F = 59% and lower

Course grades will be based on the average of grades earned on the four exams using the same grading scale shown above.

ATTENDANCE POLICY

I teach some classes in which attendance is strongly related to grades, and in those classes I try to limit absences using grade penalties for excessive absenteeism. In this course, I do not have enough data to really know how strong the attendance-performance relationship is. I am pretty confident that it is moderate to strong, but have decided to leave it up to you to decide whether to attend class or not. I will take attendance occasionally to monitor the relationship between attendance and performance, but I will not require attendance except on days of exams. Missing an exam due to an unexcused absence (see below) will result in a one letter grade reduction on that exam.

MISSED AND MAKEUP EXAMS

Students who miss scheduled exams will be allowed to take makeup exams on Monday, December 5 (during final exam week) at 10:30 am in PY-102. There will be a one letter grade penalty for exams that were missed for unexcused reasons. There is no grade penalty for exams that were missed due to excused reasons. University policy dictates three types of excused absences:

- the student provides a written excuse from a medical practitioner stating that the student was unable to test on the day of the test;
- the student provides a written excuse from a medical practitioner stating that the student's dependent child was ill on the day of the test;
- the student provides a written excuse from an official of Midwestern State University stating that the student was in attendance at a mandatory

university function on the day of the test.

Funerals, employment-related absences, illnesses not requiring medical attention, job interviews, family emergencies, automobile malfunctions, court appearances, etc., will they are legitimate reasons to miss class, do not constitute excused absences by university policy.

DISABILITIES

Individuals requiring special accommodations under the Americans with Disabilities Act should contact the Midwestern State University Disability Support Services office.