

PSYC 5294(#8480): PSYCHOPHYSIOLOGY
FALL 1999: W 9:00-11:50 am, Derring 5077

Syllabus

Instructor: Bruce H. Friedman

Office: Derring 5081D

Office Hours: M 9-10; Tu 10:30-11:30; W 2:00-3:00; Th 9:30-10:30, or by appt.

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Textbook: Hugdahl, K. (1995). Psychophysiology: The mind-body perspective. The text will be supplemented by various reading, which will be announced in class.

This course is intended to be a survey of the basic theoretical, methodological, and applied issues in the field of *psychophysiology*. Psychophysiology takes an integrative theoretical perspective on the mind-body relationship that involves the synthesis of cognitive, affective, behavioral, and physiological variables. Psychophysiological methodology has traditionally been characterized by non-invasive electrophysiological measures such as heart rate, EEG/ERP, and skin conductance taken in conjunction with psychological and behavioral indices. Contemporary psychophysiolgists may also employ brain imaging techniques such as fMRI as well as endocrine system measures such as cortisol level. As such, psychophysiology is both a theoretical exploration of the so-called "mind-body problem" and a methodology to address a wide range of specific psychological topics. This course will address the fundamental theoretical issues that historically have driven the field, and will also cover applications of psychophysiology to cognitive, clinical, developmental, social, and personality psychology. Moreover, the relationship between psychophysiology and cognate fields will be considered: e.g., behavioral and psychosomatic medicine, cognitive neuroscience, and various other domains in the general realm of biological psychology.

The two primary aims of this course are: (1) to become acquainted with basic theory and methodology in psychophysiology, and (2) to apply this knowledge to your own particular interests in psychology. This is not a course on nervous system anatomy and physiology, though we will spend a little time reviewing these topics. It is assumed that you have a basic familiarity with these areas through previous coursework, and you can review further them as you see fit (a solid foundation in these areas is *essential* to becoming a good psychophysiolgist). This is also not a hands-on, technical course in psychophysiological recording; an in-depth consideration of that area exceeds the scope of this course. Again, such technical knowledge is critical, and it will be addressed from time to time, but expertise in this area is generally better acquired *after* one has a basic knowledge of the fundamentals of psychophysiology.

Course assignments are geared towards professional activity in psychophysiology. As such, your grading will be based on (1) a term paper, weighted as 60% of your final grade, (2) an in-class presentation, weighted as 30% of your final grade, and (3) class participation, weighted as 10% of your final grade.

Your **term paper** and **presentation** will be on the same topic, and will be either a research proposal or an integrative literature review. The presentations will be of typical conference length for a paper session or symposium; i.e., approximately 20-25 minutes, with ~ 8-10 minutes for questions and discussion. You should also identify a seminal article related to your topic for the class to read prior to your presentation. The presentation will be a distilled version of your term paper, and they will occur during the last four class sessions.

Your term paper, which should be approximately 18-22 pages in length, is due on the last day of class. You will get the opportunity to submit a shorter, ungraded preliminary version of your paper, upon which you will receive feedback; this first version of the paper will be due about halfway through the course. Your final paper will be a revision of this first draft, and your grade will partially reflect the degree to which you successfully address the original comments. This process is intended to mirror the "real world" of submission, revision, and re-submission of research articles to scientific journals (final papers will not be accepted unless a preliminary draft has been submitted).

Class participation points will be partially based on your actively taking part in class discussions, including the question and answer periods of your classmates' presentations. *Informed* participation in class discussions requires reading the assigned material in *advance of the class*. Attendance is expected; please see me ahead of time if you anticipate having to miss class for some unavoidable reason (attendance of a scientific meeting is considered to be a highly legitimate reason for missing a class).

You will also be asked to lead a discussion on an assigned article, in collaboration with a partner. Your participation grade will also reflect your success in this effort.

Grading scale

93-100%	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-

Tentative Schedule

NOTE: The following schedule must necessarily be somewhat tentative, since the extent to which topics will be covered depends on the pace to which the class adapts. Any changes or adaptations to the schedule will be announced in class. Students are responsible for knowing about any such announced modifications.

August

W	25	Ch. 1	Introduction
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September

W	1	Ch. 2	Concepts & Terms
W	8	Ch. 3-5	The Brain & Nervous System
W	15	Ch. 6	Electrodermal Activity; paper discussion
W	22	Ch. 7-8	Orienting and Conditioning, Clinical Applications of EDA; paper discussion
W	29	Ch. 9	The Heart and Blood Circulation; paper discussion

October

W	6		Special Topics (SPR); Draft of paper due
W	13	Ch. 10	Cardiovascular Psychophysiology; paper discussion
W	20	Ch. 11	The Electroencephalogram; paper discussion
W	27	Ch. 12	Event-Related Potentials; paper discussion

November

W	3	Ch. 13	Skeletal Muscles, Eye Movements, and the Respiratory System; paper discussion
W	10	Epilogue	Epilogue; presentations begin
W	17		presentations
W	24		thanksgiving break

December

W	1		presentations
W	8		presentations; Paper due