Required text:
- Additional readings will be required for each topic. These will be available on the Blackboard course site.

Overview

This seminar will introduce students to the conceptual, theoretical and methodological issues of human Psychophysiology. Psychophysiology is the field of study linking cognitive, emotional and behavioral phenomenon to physiological responses. The seminar will consist of lectures, discussion and hands-on experience with psychophysiological assessment. Students will visit three state-of-the art psychophysiology laboratories. A variety of response systems will be covered including cardiovascular, electrodermal (EDA), electroencephalographic (EEG), endocrine, and electromyographic (EMG). The fundamentals of specific systems and measures will be covered, as well as applications to psychopathology, cognition, emotion, health, and social psychology.

The course is organized into three sections 1) Foundational Knowledge, 2) Systems & Measures and 3) applications. Readings and lectures/discussions in the Foundational Knowledge section will focus on the basic assumptions and principles of psychophysiology as well as a review of basic physiology. At the end of this section, students will be given a short exam. In the Systems & Measures section, we will focus on specific systems, such as the brain, cardiovascular, somatic, immune and endocrine systems, and specific measures such as the EEG, blood pressure, heart rate, EMG, and blood/saliva assays. The Applications section focuses specific areas or topics which utilize psychophysiological measures. Students will present a novel idea for an empirical study using a psychophysiological measure(s) and entertain questions. Examples of specific study topics include risk for cardiovascular disease, social neuroscience, emotion regulation, psychopathology, addiction, lie detection, attention, and memory.

Attendance policy:

You are expected to attend all class meetings (barring illness or other reasons deemed legitimate at the instructor’s discretion) and contribute to the discussion each week. Class attendance and participation will be considered in assigning grades.

Grading:

Grades in this course will be derived from your performance in the following areas: class attendance/participation (10%), a take-home exam on foundations (30%), an in-class presentation on an application topic of your choice (30%) and a term paper on this same topic (30%). An explanation of each requirement follows:

Class attendance/participation: You will be required to submit a 3’ x 5’ index card with your name and 1 -2 questions or comments from the readings for each week. These are due at the beginning of each class period. These cards will aid me in determining your attendance and participation. Engaging in class discussion will also factor into this portion of your grade.

Take-home exam on foundations: I will give a take-home exam testing on the foundational knowledge material. It will allow you to compile your acquired knowledge regarding the basic assumptions, principles and foundational knowledge of Psychophysiology. You will be given one week to complete the exam.
**Presentation:** During the applications section of the course you will give a **presentation** on a topic of your choice. Your topic should fit within one of the broad areas that I have specified and you should meet with me relatively early in the semester to choose your topic. Your presentations should be around 30 minutes in length with some time for questions. Similar to a thesis defense or conference presentation, you should use PowerPoint as part of your presentation.

**Term paper:** The term paper should be on the same topic as your presentation and should be a **research proposal.** The paper should be 8 – 12 pages and propose a novel study using at least one psychophysiological measure. The paper should include a brief introduction that supports your hypothesis and a full methods section. To approximate the manuscript review process, you will be allowed to submit a preliminary draft of your paper for my comments and suggestions no later than 11/1/06. The preliminary draft will not be graded and I will give you comments within two weeks of you submitting the draft.

**Obligatory pseudo-legalese:**

*Note taking and recording:* You are encouraged to take notes on the lectures and are permitted to tape-record class sessions for your own purposes. However, you are not permitted to take notes or tape-record for purposes of sale and distribution. Failure to comply with this rule will result in referral to the Student Affairs Disciplinary Office.

*I* Grade Policy: An “I” grade indicates incomplete coursework. It may be awarded to only when a small portion of the student’s work is incomplete and only when the student is otherwise earning a passing grade. Requests for “I” grades must be approved by me by the last day of the course and not after. I will tell you that I very rarely give incomplete grades, and if I do, it is only for the most extreme of unforeseen circumstances. For more information regarding University policy on “I” grades, please refer to page 41 of the undergraduate catalog, section entitled “I” Grade Policy.”

Religious Preference Absence Policy: If you anticipate being absent from class due to a major religious observance, please provide notice of the date(s) to me, in writing, by the 2nd class meeting.

Academic Assistance for Students with Disabilities: If you have a disability that requires special needs for lectures, assignments or exams, I will accommodate you. First you must identify yourself with The Office of Student Disability Services, SVC 1133, Voice: (813) 974-4309; TDD: (813) 974-5651, [http://www.sa.usf.edu/sds/](http://www.sa.usf.edu/sds/). Once you have met their requirements, please bring me a memorandum from SDS explaining your disability and needs and we will coordinate. You must identify your disability to me by the second class of the semester so we can coordinate early.

**Academic honesty:**

Academic honesty is critical to the academic process. It is essential that students and faculty abide by the highest ethical standards with regards to the origin of ideas, the accuracy of data, and similar matters. Academic and personal integrity is based on a commitment to honesty and ethics. Academic dishonesty occurs when a student or faculty violates the principals of honesty and ethics. The following is a list of activities that constitute academic dishonesty that are relevant to this course. This is not a complete list, and ignorance of academic dishonesty is not an excuse.

1. **Cheating on exams:** This includes but is not limited to illicitly using notes or other sources of information while taking an exam, obtaining information about an exam prior to the time it is give, copying answers from another student, having another person take the exam for you, and changing answers on an exam that has been graded and returned by the instructor.

2. **Plagiarizing:** This includes but is not limited to presenting as our own some or all of the work of others without appropriate attributions or citations of your sources(s), paying someone to write your paper, copying all or part of someone else’s paper (includes papers downloaded from the internet).

3. **Providing false excuses:** This includes but is not limited to lying about why one cannot take an exam or why an assignment is late and forging or altering a legal or medical excuse.

4. **Falsifying information:** This includes but is not limited to making up or altering data, making up content for a paper and presenting information drawn from a review or abstract as if you have read the original source.

5. **Colluding on assignments:** This includes but is not limited to working with other students on an assignment without the instructor’s approval.
**Expanded course schedule with reading list**: The bulleted items are required reading. The supplemental readings are not required. If you are interested in a specific topic or measure, these supplemental readings provide more in-depth or expanded knowledge. A tabular form of the schedule can be found on the last page.

### 8/30: Introduction to Psychophysiology
- S, R & Q, Chapter 1

### 9/6: Psychophysiological Inference

### 9/13: Bioelectrical Measurement
- S, R & Q, Ch. 2 & 3

*Publication Guidelines:*

### 9/20: Concepts & Electrodermal measurement
- S, R & Q, Ch 4, 5 & 13
Concepts & Electrodermal measurement (cont’d)

Publication Guidelines:

9/27: Central Nervous System: EEG & Neuroimaging
- S, R & Q, Ch 7, pp 79 – 91
- Other readings TBA

Supplemental:

Publication Guidelines:

10/4: Central Nervous System: Event-related potentials (Guest lecture by Dr. Donchin)
- S, R & Q, Ch 7 pp 91 – 105

Supplemental:

Publication Guidelines:
10/11: Skeletomotor System: Electromyography
• S, R & Q, Ch. 8

Supplemental:

Publication Guidelines:

10/18: Skeletomotor System: Startle (Guest lecture by Dr. Drobes in Drobes lab)

Supplemental:

Publication Guidelines:

10/25: Peripheral Nervous System: Cardiovascular – Heart rate, blood pressure, impedance cardiography
• S, R & Q, Ch 12

Supplemental:

Publication Guidelines:
Cardiovascular – Heart rate, blood pressure, impedance cardiography (cont’d)

11/1: Peripheral Nervous System: Respiration & Heart rate variability
- S, R & Q, Ch 10

Supplemental:

Publication Guidelines:

11/8: Psychoneuroimmunology & Endocrine measurement

Supplemental:

11/15 – 12/6 Applications
**Class Schedule**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/30</td>
<td>Introduction to Psychophysiology</td>
<td>Ch 1</td>
</tr>
<tr>
<td></td>
<td><strong>Part I: Foundational Knowledge</strong></td>
<td></td>
</tr>
<tr>
<td>9/6</td>
<td>Psychophysiological Inference</td>
<td>Cacioppo, Tassinary, &amp; Berntson, 2000; Miller &amp; Keller, 2000</td>
</tr>
<tr>
<td>9/20</td>
<td>Concepts &amp; EDA</td>
<td>Ch 4, 5 &amp; 13; Fowles (1980); Lacey (1967); Pennebaker &amp; Chew (1985)</td>
</tr>
<tr>
<td></td>
<td><strong>Part II: Systems &amp; Measures</strong></td>
<td></td>
</tr>
<tr>
<td>9/27</td>
<td>EEG &amp; Neuroimaging</td>
<td>Ch 7, pp 79 – 91; Wheeler, Davidson &amp; Tomarken (1993); TBA</td>
</tr>
<tr>
<td>10/4</td>
<td>ERP: Guest Lecture by Dr. Donchin</td>
<td>Ch 7 pp 91 – 105; Donchin &amp; Fabiani (1991); Otten &amp; Donchin (2000)</td>
</tr>
<tr>
<td>10/11</td>
<td>EMG</td>
<td>Ch 8; Cacioppo, et al. (1986); Vanman, et al. (1997); Flor &amp; Birbaumer (1993)</td>
</tr>
<tr>
<td>10/18</td>
<td>Startle: Guest Lecture by Dr. Drobes</td>
<td>Lang (1995); Drobes, et al. (2001)</td>
</tr>
<tr>
<td>10/25</td>
<td>Cardiovascular – BP, HR, impedance</td>
<td>Ch 12; Manuck &amp; Krantz (1986); Matthews, et al. (2003); Kagan, Reznick &amp; Snidman (1988)</td>
</tr>
<tr>
<td>11/1</td>
<td>Cardiovascular, HRV &amp; Respiration</td>
<td>Ch 10; Berntson, Cacioppo &amp; Quigley (1993); Salomon (2005); Anderson &amp; Chesney (2002)</td>
</tr>
<tr>
<td>11/8</td>
<td>PNI &amp; Endocrine</td>
<td>Uchino, et al. (2000); Lovallo, et al. (2000); Cacioppo (1994)</td>
</tr>
<tr>
<td></td>
<td><strong>Part III:</strong></td>
<td></td>
</tr>
<tr>
<td>11/15</td>
<td>Applications (student presentations)</td>
<td></td>
</tr>
<tr>
<td>11/22</td>
<td>Applications (student presentations)</td>
<td></td>
</tr>
<tr>
<td>11/29</td>
<td>Applications (student presentations)</td>
<td></td>
</tr>
<tr>
<td>12/6</td>
<td>Applications (student presentations)</td>
<td></td>
</tr>
</tbody>
</table>

*The guest lecture on 10/20 will take place in Dr. Drobes’ lab

This is a preliminary schedule. It is subject to change with notification of the instructor.