ΨC06: Psychophysiology Laboratory

Winter Semester 2011

Course Information

Lecture & Lab:

Fridays, 12 noon - 3 pm

Note: Lectures will also be available online through the PSYC06 Blackboard page

Location: Science Wing (SW) 316

Textbook: Stern, R. M., Ray, W. J., & Quigley, K. S. (2001). Psychophysiological Recording (2nd Ed.). New York, NY, US: Oxford University Press. *(Library Call Number:* **QP360 .S79 2001***)*

Professor: Dr. Elizabeth Page-Gould

Professor's Email: elizabeth.page-gould@utsc.utoronto.ca

Professor's Office Hours/Practicum: Thursdays, 2:00 pm - 3:00 pm in SW316

Teaching Assistant: Kaja Jasinska

Teaching Assistant's Office Hours/Practicum: Tuesdays, 10:00 am 11:00 am in SW316

Teaching Assistant's Email: kaja.jasinska@utoronto.ca

Course Description

Psychophysiology is the study of embodiment: How mental states are reflected in the body, and how bodily states in turn affect the mind. This lab course focuses on how psychological processes are embodied in the peripheral nervous system. You will learn about how activity of the heart, lungs, skin, hormones, muscles, and sexual system reflect psychological processes. Moreover, you will learn how to be a psychophysiological researcher with hands-on lab experience. From data collection to post-processing (or "scoring") to reporting results, you will gain extensive experience with all stages of the psychophysiological research process. Each class will begin with approximately 1 - 1.5 hours of lecture, followed by 1.5 - 2 hours of lab work. You will emerge from this class with advanced and highly-marketable skills in psychophysiology that most psychologists do not gain until at least graduate school, but more typically after they have become post-docs or professors.

Course Resources

Course Blackboard Website and Online Lectures. The course Blackboard website will be your one-stop resource for all course documents, lecture videos, announcements, and assignment submission. Lecture slides and Lab Exercises will be posted on Blackboard at least 24 hours prior to class under "Lab Materials." Come to class with printouts of the slides so that you won't need to copy down what's written on them; make notes on extra information directly on the slides. To view the course lectures, select "Lectures Videos" from the course menu once you have logged into Blackboard. All lab work will be submitted through the "Submissions" section of the Blackboard site. You are highly advised to regularly check the "Announcements" and "FAQ" sections of the Blackboard site, because **you are solely responsible for staying on top of all course announcements.**

Assigned Readings. The reading assignments are listed on the last page of this syllabus next to the class by which you should have completed the reading. The 2nd Edition of the Stern, Ray, & Quigley text, *Psychophysiological Recording*, is an accessible and information-packed resource for the beginning psychophysiologist. You can purchase the textbook directly from the UTSC Bookstore which has both new and used copies for a relatively cheap price. One copy of the text book is on course reserve at the UTSC Library under call number QP360 .S79 2001. If you cannot purchase the textbook, then you will need to use the Library Course Reserves to complete the assigned reading. **If you use the older version, then you are solely responsible for any mistakes or poor marks that you incur.** For some classes, you will be assigned chapters from the Handbook of Psychophysiology or empirical research papers. These readings are available under the "Assigned Readings" section of the course Blackboard site. These readings are not optional and are considered as important as the textbook readings.

Office Hours/Practicums. The Professor and the Teaching Assistant will each hold office hours/practicums once per week in the lab, SW316. This will give you a chance both to get extra help and to use the lab computers to

complete lab assignments that you didn't finish during normal class time. Therefore, the lab will be open 2 extra hours per week in addition to the 3 hours of lab time so that you will have ample time to complete lab work. Kaja's practicum/office hour will be from 10 11 am on Tuesdays, and Prof. Page-Gould's practicum/office hour will be from 2:00 3:00 pm on Thursdays.

Frequently Asked Questions ("FAQ"). Almost any question you ask has the potential to enlighten your fellow students, as well. This will be all the more the case with PSYC06 where you are expected to gain a deep understanding of the material so, the more perspectives you can gain on the same material, the better. The Frequently Asked Questions section of the Blackboard site is the best way for you to get help with the course material while helping out your fellow classmates at the same time! Prof. Page-Gould will regularly review the FAQ to answer questions and ensure the accuracy of the FAQ. If you email Prof. Page-Gould or Kaja with a question that will benefit every student, then we will politely remind you to post it to the FAQ, and we'll answer it there.

How to Get Help with the Course. The fastest two ways to get help is to (1) read this syllabus, and (2) read the "FAQ" section of the Blackboard site and post to it. The vast majority of questions Prof. Page-Gould receives could have been answered immediately if these sources were checked first. If you are struggling with the course, then come to Dr. Page-Gould's and Kaja's office hours for help. We will help you devise a strategic plan to earn the mark that you desire. We are here to help you do your best!

Marking/Course Requirements

Your final course mark will be calculated from a diverse array of lab exercises, physiological data collection, "scoring" of physiological data, two exams, and a final project. Each component of your mark is described in detail in the subsections that follow. Here is how these components will be used to calculate your final course mark:

5 Lab Exercises	10% (2% each)
Vascular Impedance Data Collection	5%
Vascular Impedance Data Scoring	5%
Exam 1	15%
Exam 2	15%
Final Project	50% (25% scoring, 25% final paper)

Lab Exercises (5). Five labs (Labs 2, 5, 7, 8, and 9) will involve lab work, which will be combinations of physiological data acquisition, scoring, and interpretation. We will come to class with your labs printed for you, but they will also be posted on Blackboard with the lecture notes for each lab. You may complete these labs by yourself or working with another person. If you work with another person, your work must obviously be your own. All lab exercises will be due 2 weeks after the date they are distributed (e.g., the Lab Exercise for Lab #2 will be due by the end of Lab #4). Late labs will be docked by 10% for each 24-hour period they are late, beginning at 3:00 pm on the day they are due.

Vascular Impedance Data Collection. One of the most advanced forms of psychophysiological data acquisition is vascular impedance. Beginning in Lab #3, you will be shown how to apply band electrodes to collect these data, and you will be required to apply these sensors to a same-sex student. After applying the sensors to your satisfaction, you will connect your student partner to the impedance cardiograph in the lab and administer a brief psychophysiological protocol. The data collected during this time will be used anonymously by all students for the final project. Your application and connection to the equipment will be photographed for marking purposes, and the data collected from it will also contribute to this portion of your mark. **The last day to complete the Vascular Impedance Data Collection Assignment is March 11!**

Vascular Impedance Data Scoring. One of the most advanced forms of psychophysiological data scoring is vascular impedance. Beginning in Lab #3, you will be shown how to "score" vascular impedance data to determine stroke volume, cardiac output, pre-ejection period, and left ventricular ejection time. You will then be required to score 3 25-minute datafiles collected in my lab during a classic Trier Social Stress Test. Your scoring will be evaluated for plausibility, reliability, and validity. Plausibility will be evaluated by comparing the values your scoring derives to

known physiological plausibility values. Reliability will be evaluated by conducting a reliability analysis on the entire class. Validity will be evaluated by overlaying your scoring on Dr. Page-Gould's scoring of the same data. **The last day to complete the Vascular Impedance Data Scoring Assignment is March 18!**

Exams. There will be 2 non-cumulative exams over the course of the semester. Each exam is worth 15% of your mark. The exams will be about 40% multiple choice, 10% matching, and 50% short answer. Exams will test material covered during the lectures, labs, and assigned readings since the previous exam. Exam 1 will cover Labs 1 - 5 and Exam 2 will cover Labs 7 - 10. A topic-based review sheet and a few example test questions will be posted on the "Exams" section of the course Blackboard site no less than 1-week prior to each exam. There will be no official cumulative final exam for this lab course, as the exams are not a major component of your course mark.

Final Project. The bulk of your course mark will come from your final project. For your final project, you will be required to score physiological data from 16 students that was collected during the labs. Specifically, you will score vascular impedance, respiratory sinus arrhythmia, and non-specific skin conductance responses for a randomly-assigned 16 files. **As you finish each file, you are to upload your data to Blackboard. The last day to upload your last data file will be April 1st.** After scoring all your files, you will amalgamate them and conduct basic statistical analyses. Finally, you will write a final project paper in APA Style 6 to report your results. **Your final project will be due at 5 pm on April 13, submitted through Blackboard.** You are solely responsible for staying on top of the work required to complete your final project. The "Final Project" section of the course Blackboard site will provide details about the project and resources to help you complete it.

Missed Assignments or Exams. Late assignments will be docked 10% for every 24-hour period they are late past the due date/time. According to University policy, you may miss **one** assignment due date or exam for a number of legitimate reasons and receive accommodation from us. You will need to obtain verifiable documentation of the reason for missing the assignment due date or the exam. For all assignments other than the exams, you may receive an extension of one week on **one** assignment. If you miss the deadline for more than one assignment, then the normal late penalties of 10% of that mark per 24-hour period will apply. If you miss an exam, then **contact us as soon as you know that you will have to miss the exam.** If need be, there will be one make-up exam per exam that will be scheduled within a week of the original exam. There will only be one make-up exam scheduled, and, if you confirm with Prof. Page-Gould that you will take the make-up exam, then you must show up or you will receive a 0%.

Accessibility

Everyone with a love of learning is a welcome member of this class, and we strive to provide an equal playing field for students with diverse learning styles and needs. Please contact the AccessAbility office as soon as possible if you need any form of accommodation. The AccessAbility office is located in SW302 and can be emailed at: ability@utsc.utoronto.ca **To ensure that Prof. Page-Gould can help you, please bring your letter of introduction to Prof. Page-Gould before the end of January 2011.** She will then complete all your exam accommodation forms at the same time and submit them to AccessAbility.

Academic Integrity

This classroom is built on mutual respect, so I assume that you take great pride in your integrity. However, in the rare cases of substantial evidence that the University of Toronto's Code of Behaviour on Academic Matters (Section B) has been compromised, then I will enact the procedures outlines in Section C of the Code of Behaviour on Academic Matters. First, I will invite you to discuss the possible offence through an email invitation. If our discussion leads me to believe that you have not compromised the code, then the matter will be dropped. If either you fail to respond to two requests for this discussion or new evidence comes to light, then a formal investigation will be initiated. **Under absolutely no circumstances will I change a mark without merit. If you ask me to fraudulently change your mark, you are placing yourself at risk for being cited for academic dishonesty.**

Lab Schedule and Assigned Readings

If the reading just says "Chapter XX," then that means the reading comes from the textbook, Stern, Ray, & Quigley (2001). The non-textbook readings can be found online under the "Assigned Readings" section of the Blackboard site.

Date	Lecture Topic	Lab Topic	Reading
1: Jan. 14	*Introduction to Psychophysiology Laboratory*	*Planning for Semester's Labs*	Course Syllabus, Chapters 1 **AND** 2
2: Jan. 21	*Basic Principles of Psychophysiological Theory & Inference*	*Psychophysiological Inference and Reporting*	Chapter 4, **AND** Cacioppo, Tassinary, & Berntson (2007)
Jan. 28	CLASS CANCELLED	NO LAB!!!	Catch up on previous readings
3: Feb. 4	*Cardiovascular System*	*Collecting and Scoring Cardiovascular Data*	Chapter 12
4: Feb. 11	*Cardiovascular System*	*Collecting and Scoring Cardiovascular Data*	Blascovich, Seery, Mugridge, Norris, & Weisbuch (2004)
5: Feb. 18	*Respiration*	*Scoring Respiratory Data*	Chapter 10
6: Mar. 4	*Exam 1*	*Final Project Work*	
7: Mar. 11	*Electrodermal Responses*	*Collecting and Scoring Electrodermal Data*	Chapter 13, **AND** Cooper (1959)
8: Mar. 18	*Hormonal System*	*Collecting and Handling Hormonal Samples*	Kaltsas & Chrousos (2007)
9: Mar. 25	*Electromyography*	*Scoring and Interpreting Muscle Data*	Chapter 8
10: Apr. 1	*The Sexual Response*	*Final Project Work*	Jannsen, Prause, & Geer (2007)
11: Apr. 8	*Exam 2*	*Final Project Work*	