

**T602**  
**Psychophysiological Responses to Media**  
Spring, 2017  
Section 15977

**Professor**

Dr. Robert Potter (rfpotter at iu dot edu)

**Office Hours**

Mondays 3-5 and by appointment  
Room: 019, Stack 1/Basement, Franklin Hall

**Class Meetings**

Mondays & Wednesdays  
From: 9:30 am – 10:45 am  
Room: 216 Franklin Hall

**Description**

This course is designed to introduce students to the field of psychophysiology and explore ways it has been applied to the study of media message processing. Students are expected to be comfortable with quantitative data analysis. We will begin with a history of the field of psychophysiology, an exploration of how it has been used in studying media, and a discussion of the theoretical assumptions underlying all measures.

Then, we will turn toward specific measures. Topics include measurement of cardiac activity via the electrocardiogram (ECG); measurement of sympathetic nervous system activation via electrodermal activity (EDA); measurement of facial muscle activity via electromyography (EMG); algorithmic coding of facial movements; measuring visual attention through eyetracking; and direct measurement of central nervous system activity via the electroencephalogram (EEG).

The course will include a practical lab component. Students will be expected to learn and apply data recording and analysis techniques.

**Books & Readings**

Potter, R. F. & Bolls, P.D. (2012). *Psychophysiological Measurement and Meaning: Cognitive and Emotional Processing of Media*. New York, NY: Routledge.  
--Referred to as PMM on Syllabus

Other readings will be available on Canvas.

## **ADMINISTRATIVE INFORMATION**

### Course Lectures and Note-Taking

Lecture notes will not be posted online. You should come to class, actively listen, and take good notes. Doing so will help to make sure you REALLY understand what is being said. If you don't understand something...ASK! Note-taking is a skill that requires practice but really does pay off in deeper learning.

Audio recordings of most course meetings will be posted on Canvas. So, if you want to review your notes, miss a class, or want to listen to something again, there will likely be an opportunity.

### Disabilities

To request disability accommodations, please contact IU Disabilities Services (855-3508) or visit [their Website](#) for more information.

### Academic Misconduct

All acts of dishonesty in any academic work constitute academic misconduct. This includes, but is not necessarily limited to, the following:

*Cheating*-using or attempting to use unauthorized materials, information, or study aids in any academic exercise.

*Plagiarism*-representing the words, ideas, or data of another as one's own in any academic exercise. ([Plagiarism: What it is and How to Avoid it](#))

*Fabrication*-unauthorized falsification or invention of any information or citation in an academic exercise.

*Aiding or abetting academic dishonesty*-intentionally or knowingly helping or attempting to help another student commit an act of academic dishonesty.

**Academic Misconduct will not be tolerated in this class.** If misconduct is suspected, the professors will meet with you to discuss it. A summary of the incident and that discussion, any evidence, and a description of the sanction will be sent to the [Office of Student Ethics](#). Consequences may include a grade deduction on your assignment and/or your course grade. You have the right to appeal this sanction and the Office of Student Ethics will inform you of that process.

### Religious Holidays

According to IU policy, accommodations will be made if you need to miss class for observance of a religious holiday. However, it all begins by you filling out [this form](#) and bringing it to me.

## **Course Requirements**

### **Class Participation/Reading Comments, 20% of Final Grade**

Each student is expected to submit comments on the assigned readings prior to each class meeting. These are for YOUR benefit and therefore can be summaries of major points, questions for discussion, points of information/clarification, opinions of the particular reading in light of other things you have learned/experienced, etc. However, I *will* read them so you should view it as external motivation to get the reading done somewhat early and think about it deeply. These comments will be sent to me/the class by **11:59 pm the night before class** to allow for reading before class.

\*\*\* We will decide as a class whether to do this via email or Canvas Discussion tool.

Then, during each class period, I hope that the dynamic can be a nice mixture of lecture and discussion of the things you find interesting in the readings.

### **Data Collection Experience, 20% of Final Grade**

I want you to have hands-on experience with psychophysiological data collection. Eventually, I'd love for each of you to have your own psychophysiology labs! To that end, student pairs will be randomly created and you will design and conduct an original "experiment" during the course of the semester. Classmates and other friends may serve as subjects. You should try to collect data from about 10 people. You are not shooting for an article in *Nature* here. The experiments can be short and simple. The goal is to give you experience with data collection and perhaps pilot data to guide future studies.

My recommendation for everyone...but particularly if you are new to psychophysiology, is that you focus on using measures that are comparatively simple to collect and analyze...and with which I have the most experience: ECG, EDA, and/or EMG. These are the "power trio" which can be used to answer many media-related questions about cognitive processing and emotional response.

Those of you wanting to try your hand at other measures (facial coding, eyetracking, EEG) will need to get me 'on board' with your idea early...since a project like this requires more time from me, more independent study from you, *and* some bottlenecks in lab scheduling.

The last class meeting and final exam session are reserved for the research teams to give 15-20 minute presentation to the class about their study.

These presentations should be treated as

75% conference presentation

a brief literature review  
conceptual and operational definitions of all variables  
hypotheses/research questions  
procedures  
analysis and results  
conclusions

25% teaching module

what mistakes did you make (so we don't make them)?  
what did you learn as 'best practices'?  
what questions did the process elicit for you?

You are expected to consult closely with me on each stage of this process. In fact, I should serve as a pre-test subject for all experiments.

**Article Discussion Leading, 10% of Final Grade**

The last 3 weeks of the semester are unscheduled. It is possible that we will use some of that time for the research teams to collect data. However, those *registered* for the course will be responsible for leading a discussion of an article that uses one or more of the physiological measures we discuss during the semester. I hope each student will pick an article that they want to read and let me know about it...so that the task serves YOU.

**“Take Home” Exam, 20% of Final Grade**

Just to make sure you've been listening. This exam will be done on your own time, answering questions via Canvas. It will be a timed exam, but reasonable. You should study and know how and where to access reference materials that you may need. In other words, it's open-book, but likely not easy unless you have prepared.

**Final Research Proposal, 30% of Final Grade**

You will submit a complete research proposal, including literature review, hypotheses, and a discussion of the measures you expect to use. The goal here is to have you leave this course with a proposed piece of research that you can complete in the future in the ICR. There are “mile markers” built into the schedule where you will submit drafts of this proposal to me for feedback. This will prevent procrastination. No one will be able to get an “A” on this portion of the course grade if they do not submit *something* at each mile marker.

## Tentative Weekly Schedule

**January 9/ Monday:** Meet & Greet, Course Expectations

**January 11/ Wednesday:** **Starting Slowly**  
Reading: PMM Forward, Preface, & Chapter 1

**January 16/ Monday:** NO CLASS, Martin Luther King Day

**January 18/ Wednesday:** **History and Assumptions**  
Reading: PMM Chapter 2

**January 23/ Monday:** **Monstrosities, Induction, and p-hacking**  
Reading: Science isn't broken  
p-hacking  
Induction Model  
\*\*\*Note, my recommendation is to begin Wednesday 1/25 readings early!!!

**January 25/ Wednesday:** **Homeostasis, Homeodynamics, & Answers in the Weeds**

Reading: Canon (1929)  
Berntson & Caccioppo (2007)

**January 30/ Monday:** **Okay, Let's Start Measuring Things**  
Reading: PMM Chapter 3 & Chapter 7

**February 1/ Wednesday:** **Heart Rate Recording**  
Reading: PMM Chapter 4

**February 6/ Monday:** **\*\*\* Heart rate lab demonstration**  
Reading: Stern, Ray, & Quigley Chapters 6 & 12

**February 8/ Wednesday:** **More on Data Collection Experience  
Intro to Media Lab**  
Reading: Media Lab Manual

**February 13/ Monday:** **Measuring Emotion in Two Dimensions**  
Reading: Potter & Bolls Chapter 5

**February 15/ Wednesday:** **\*\*\* EDA/EMG lab demonstration**  
Reading: Bradley & Lang (2007)

**February 20/ Monday:** **EDA SITE COMPARISONS**  
Reading: Payne, Schell, & Dawson (2016)

- February 22/ Wednesday: Heart Rate Variability**  
 Reading: Allen, Chambers, & Towers (2007)  
 Bailey, Potter, Pisoni, & Lang (2015)  
 Koruth, Lang, Potter, & Bailey (2015)
- February 27/ Monday: Brain Wave Measurement/EEG**  
 Reading: Reed & Innis (*in press*)
- March 1/Wednesday: Different EEG Analyses**  
 Reading: Maclin et al. (2011)  
 Minas, Potter, Dennis, Bartelt, Bae (2014)
- March 6/ Monday: EEG Demonstration**  
 Reading: No reading BUT discussion article PDFs due to Potter
- March 8/ Wednesday: Facial Coding –Measuring Emotions Discretely**  
 Reading: Cohn, Ambadar, & Ekman (2007)  
 Cohn & Kanade (2007)
- March 10/Friday: Mile Marker 1: Research Proposal Draft Due to Canvas**
- March 13/ Monday: NO CLASS**
- March 15/ Wednesday: NO CLASS**
- March 20/ Monday: Eye Tracking**  
 Reading: Cummins (*in press*)  
 iMotions Pocket Guide
- March 22/ Wednesday: “At Home” Exam Opens on Canvas. Due Monday Before Class**  
 Reading: Coronel & Federmeier (2015)

**Potter Meets with Research Teams Wed-Friday**

- March 27/ Monday: Data Cleaning & Processing for ECG**  
 Reading: TBA
- March 29/ Wednesday: Data Cleaning & Processing for EDA/EMG**  
 Reading: TBA
- April 3/ Monday: Article Discussion\_\_\_\_\_**  
 Reading:
- April 5/ Wednesday: Article Discussion\_\_\_\_\_**

Reading:

**April 10/ Monday:** Article Discussion \_\_\_\_\_  
Reading:

**April 12/ Wednesday:** Article Discussion \_\_\_\_\_  
Reading:

**April 14/Friday:** Mile Marker 2: Research Proposal Draft Due to Canvas

**April 17/ Monday:** Article Discussion \_\_\_\_\_  
Reading:

**April 19/ Wednesday:** Article Discussion \_\_\_\_\_  
Reading:

**April 24/ Monday:** Article Discussion \_\_\_\_\_  
Reading:

**April 26/ Wednesday: Research Presentations**

**May 3: /Wednesday: 8am-10am Research Presentations**

**\*\*\* Final Research Proposal Due May 5 @ Noon via Canvas**