

## **Consent Cover Letter**

### **Introductory Physics for Life Science Majors: Course Analysis Project**

#### **Background**

You are being asked to take part in a research study being led by Dr. Lauren Barth-Cohen; the research team includes Drs. Barth-Cohen, Jordan Gerton, Claudia De Grandi and graduate teaching assistant Jason May. Before you decide to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. If there is anything that is not clear to you, or if you would like more information, please ask the research team. Take time to decide whether you want to volunteer to take part in this study.

The purpose of this research study is to study learning and instruction in undergraduate Physics courses at the University of Utah. Results of this research will be used to modify or reform course curriculum and instruction. The long-term goal is to improve undergraduates' learning experiences in these courses and increase their effectiveness.

#### **Study Procedure 1: Collecting Course Work**

The research team is asking for participation from each undergraduate who is currently enrolled in the Introductory Physics for Life Sciences lab courses (PHYS 2015 and PHYS 2025). The study will primarily consist of activities already occurring within normal required course activities and assignments. Furthermore, there may be a few additional questionnaires and/or surveys.

If you consent to participate, then you agree to allow the research team to analyze your course activities, assignments, and demographic data. Specifically, this portion of the study will include: a) the collection and analysis of your course work, including, but not limited to, examinations, homework assignments, lab reports, pre-lab assignments, etc.; b) participating in surveys and/or questionnaires. The purpose of the analysis will be to examine how the course activities support your learning. The study is not focused on evaluating or assessing the quality of your submitted activities and work.

Some of the course activities and assignments that this study would collect and analyze may be graded for credit in your respective course. If you choose not to consent in this study, that will not impact your course grade or assignment of credit. Additionally, if you consent to this study then the research team will collect demographic and academic information from the University of Utah Office of Budget and Institutional Analysis. All this information once collected will be disconnected from student names, and replaced with randomly generated numbers and/or pseudonyms. The research analysis will therefore be conducted and presented with anonymous participants.

#### **Study Procedure 2: Video/Audio Recording**

In order to collect additional data regarding the student learning process in the course, we may be video and/or audio recording some portions of the class sessions. The purpose is to capture

student dialogues through learning of course content, as well as to observe the collaborative practices adopted among students when engaged in these dialogues.

### **Study Procedure 3: Interviews and focus groups**

Additionally, if you are willing to provide additional insight, we may invite you to participate in a short interview or focal group, beyond your course work. The interview or focal group will be scheduled at your convenience and should not take more than 90 minutes of your time.

At any time during the course, you can opt out and terminate your participation in this study with no impact on your course grade or anything else. **This study will NOT impact your grade in any of your courses.**

### **Risks**

There is minimal risk of this study beyond what you normally experience during school. The primary difference is that your activities will be recorded for research purposes.

- If you elect to participate in this study, the primary risk you may experience would be a slight decrease in outside-of-class time if you decide to participate in an interview or focus group. This will likely be on the order of up to ninety (90) minutes per interview/focus group.
- You may feel uncomfortable having a researcher in the classroom videotaping course activities. If you are uncomfortable, you can request to not be recorded at any time.
- If you are interviewed, the questions asked will be related to the content covered in your course. You may feel uncomfortable being interviewed, and may request at any time to not participate.
- You may be worried that your participation in the study could affect your grades. Participating or not participating in this study will not affect your grade for this class in any way.
- As with all research, there is a chance that confidentiality could be compromised; however, we are taking precautions to minimize this risk.

### **Confidentiality**

Every effort will be made to protect confidentiality in this study. For course work, student names will be removed and replaced with randomly generated numbers and/or pseudonyms, which will then act as the sole identifier for the work. This will be the same for any surveys and questionnaires that are collected as well. All student work and the identifier key will be kept in separate locked locations.

For video/audio recordings, interviews and focus groups, all digital data will be kept on password-protected computers. If transcribed, all transcripts will be de-identified in a manner similar to the student work previously described.

Data collected from this study will be viewed by members of the research team. As the data collected will be video recordings and copies of written work, anonymity is not possible.

However, information gathered for this study will only be available in its raw form to the investigators.

With your permission, short excerpts of video data and annotations may be shown at professional conferences and research meetings. Furthermore, transcripts of video and audio data may be included in manuscripts submitted for publication.

### **Benefits**

There may also be minimal benefits related participating in this study. These benefits may include an increase in comprehension of the content covered in your courses. As well, the courses in which you are enrolled may benefit from the results this study.

### **Person to Contact**

If you have any questions, complaints, or if you feel you have been harmed by this research, please contact the following individuals:

Jason May  
Graduate Teaching Assistant  
Department of Physics and Astronomy  
University of Utah  
(775) 354-4632  
jason.may@utah.edu

Lauren Barth-Cohen  
Assistant Professor  
Department of Educational Psychology  
University of Utah  
(801) 581-7148  
lauren.barthcohen@utah.edu

Contact the Institutional Review Board (IRB) if you have questions regarding your rights as a research participant. Also, contact the IRB if you have questions, complaints or concerns which you do not feel you can discuss with the investigator. The University of Utah IRB may be reached by phone at (801) 581-3655 or by e-mail at [irb@hsc.utah.edu](mailto:irb@hsc.utah.edu). This study will run through the duration of this course. Participation in this study is voluntary. You can choose not to take part. You can choose at any time in the study to rescind your consent to participate.

Please write your name: \_\_\_\_\_

**For the following, check all boxes showing that you consent to participate in that portion of the study. This includes the collection of data and possible publication of de-identified results.**

#### **Study Procedure 1: Collecting Course Work**

- ☐ I consent to have my survey responses and student work collected.

#### **Study Procedure 2: Video/Audio Recording**

- ☐ I consent to being video/audio recorded as part of class lectures, discussions, and lab sessions.

#### **Study Procedure 3: Interviews and focus groups**

- ☐ I consent to participate in interviews and/or focus groups that will be audio or video recorded.

