COURSE DESCRIPTION
This course presents an overview of laboratory methods in cognitive psychology, including: research
design, methodology, data analysis, and statistical inference. We will explore these issues through the lens
of human communication; specifically, speech. Students will design and complete a research project in
which they record and analyze speech to explore questions about how meaning is expressed through
spoken language.

The first few class meetings will be devoted to an overview of speech and spoken prosody, and choosing
projects (I will have some suggestions, though you may also come up with your own.) After you have a
topic, you will spend the remainder of the semester conducting an experimental investigation of your
topic. You will do the background research, design the study, create the necessary stimuli, collect data
from multiple subjects, analyze the data, and write up the results. Each week, we will work through these
steps, and by the end of the semester you will complete both oral and written presentations of your work.

COURSE OBJECTIVES
Knowledge:
• Understand how speech is produced
• Understand the role of prosody in speech production and comprehension
• Explore the details of one area of speech production through targeted readings and research

Skills
• Critique a primary source article
  o Understand the BIG QUESTION the paper addresses
  o Understand the hypothesis of the paper
  o Determine whether the method is appropriate for testing the hypothesis
  o Determine whether the data support the hypothesis
  o Determine whether the author’s conclusions are warranted based on the data
• Conduct experimental research
  o Propose your own hypothesis based on existing literature
  o Design a method appropriate for testing your hypothesis
  o Collect data and statistically analyze your results
  o Interpret your results in the context of others’ work

RESOURCES
You are not required to purchase any materials for this class. However, there will be readings posted on
MOODLE that you will be responsible for:

ATTENDANCE
Attendance is mandatory. You are expected to come to class prepared and on time. You may not miss
more than one Thursday class. Missing more than one Thursday class will result in a failing grade.

LAB NOTEBOOK
Throughout the semester, you will be required to keep a lab notebook. You’ll use this notebook to keep
track of what you’ve done on your project, and to communicate with your group members. Lab notebooks
will be kept on the Group section of the MOODLE site.
PRAAT ASSIGNMENT
On 2/7, you will turn in an assignment about exploring the features of speech using a software program called Praat. We will have Praat on all of the computers in Reese 222, and you are also welcome to download it to your own computer (it is free for Mac or PC). We’ll talk more about this during class.

ARTICLE CRITIQUES
Throughout the semester, you will be finding and reading primary source articles to inform your understanding of your topic. You will be required to submit 3 article critiques on articles of your choice. Ideally, you will critique articles that you will use in writing the Introduction of your paper.

What follows is an outline of what should be included in your critique:

Introduction: Here is where the authors situate and motivate the experiment they conducted. The goal of a good introduction is to tell the reader what experiments have been done on the topic before, the results of those experiments, and why what the authors have done is the logical next step toward answering the big question. You should tell your audience the following:
  1. What is the big question the authors are addressing?
  2. What important prior findings led to this experiment?
  3. What is the authors’ hypothesis, i.e. what is the claim they are testing with the experiment?

Method: In this section, the authors should present all of the information you would need if you wanted to replicate their experiment. In your critique, include the following:
  1. Who were the participants in the experiment?
  2. What were the experimental materials?
  3. What was being manipulated in the experiment?
  4. What was being measured?
  5. What did the participants do?

Results: You should explain the graphs or figures that appear in this section. Understand the axes of any graphs, and the headings of any tables. You should explain the results in plain language, paying attention to what results the authors report as significant.

Discussion: Here is where the authors will explain what they found and what they think it means. In your critique, include the following:
  1. What did the authors conclude from their results?
  2. What do they say their results mean for our understanding of the big question?

Critique: In this section, explain what you think of the study. Here are the types of things you should include:
  1. Do you agree with the authors’ conclusions? Why or why not?
  2. Do you think the conclusion is warranted based on the data?
  3. Could you improve on the methodology?
  4. What other questions could be addressed with the method used?
  5. What are some real-world implications of the findings?
  6. What would you propose as a follow-up to the experiment?

PAPER PRESENTATION
Once during the semester, you will present an article critique to your fellow students. You should follow the same guidelines you would for a written critique, but your presentation will be oral. Some important points:
  1. You should plan to use PowerPoint, Keynote, OpenOffice, or Prezi for your presentation.
  2. You should present your points as bullet points, which are short, but complete, sentences.
  3. You should include all important graphs and tables in your presentation and be able to explain what each is showing.
  4. Use your own words; do not quote from the paper.
ORAL PROJECT PRESENTATION
On the last day of class, your group will present your findings to the class. You should prepare a presentation along the lines of the article critiques, but now the study will be your own.

FINAL PAPER
Each group is required to submit a final paper, in APA format, describing their study.

GROUPS
Group assignments will be reviewed and returned to students with written comments and suggestions. It is expected that students make changes as soon as possible. It is also expected that each student be actively involved in the research tasks and complete her share of the work. The success of each research project depends on the efforts of each individual. Each group is responsible for dividing tasks equitably among group members.

GROUP EVALUATIONS
Each student throughout the semester will submit group evaluations. These evaluations will be used to assess the progress of each research group. The evaluations you receive from your fellow group members will comprise 5% of your final grade.

GRADING ALGORITHM
You will be graded on your class participation (including your group grade), your Praat assignment, your lab notebook, 3 article critiques, 1 paper presentation, your oral project presentation, and your final paper. Here is the formula that will form the basis for your grade:

Group Grade 5%
Participation 5%
Praat Assignment 10%
Lab Notebook: 10%
Article Critiques (3 total): 30%
Paper Presentation 10%
Oral Project Presentation 10%
Final Paper 20%

ACCOMMODATION
If you require accommodation for a disability, you need to provide the appropriate documentation from AccessAbility Services: https://www.mtholyoke.edu/accessability. Please provide this documentation within the first 2 weeks of class, and plan to speak with me after class about how we can best make the accommodations.

ACADEMIC HONESTY
It is expected that you will abide by the College’s honor code throughout this course. Any student found to be in violation of the honor code will be reported to the dean of the College and could receive a failing grade for the class. For more information on the College’s honor code, consult the student handbook.

Plagiarism will not be tolerated. That is, all work you submit must be your own. When in doubt about whether to attribute an idea to someone, do it. It is always better to over-cite than to fail to cite someone. This tutorial will instruct you about the proper use of sources: http://www.mtholyoke.edu/lits/ris/Plagiarism/What_is_plag.htm

CLASSROOM CIVILITY
I expect that everyone will strive to maintain a mutually respectful classroom environment that is conducive to learning and the open exchange of ideas. To this end, I ask that you arrive on-time for class and that you refrain from packing up your things before class ends. Moreover, I ask that you refrain from using personal electronic devices for anything that is not class-related. Texting, Facebooking, shopping,
etc. are disrespectful not only to me, but also to your fellow students, and I won’t tolerate these activities in the classroom.

**GRADE CALCULATION**

Grades will be rounded to the nearest whole number, and assigned a letter as follows:

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<td>31-Jan</td>
<td>Thurs</td>
<td>Introduction to phonetics and prosody</td>
<td>Ladefoged &amp; Johnson, Chs 1 &amp; 5</td>
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<td>7-Feb</td>
<td>Thurs</td>
<td>Reviewing the prosody literature</td>
<td>Cutler, Dahan, &amp; van Donselaar, 1997; Wagner &amp; Watson, 2010</td>
<td>Praat assignment due</td>
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<td>14-Feb</td>
<td>Thurs</td>
<td>Methods of prosodic research</td>
<td>Ito &amp; Speer, 2006; Watson, Gunlogson, &amp; Tanenhaus, 2006</td>
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<td>15-Feb</td>
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<td>Form groups and commit to projects</td>
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<td>Work on literature search</td>
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<td>28-Feb</td>
<td>Thurs</td>
<td>Work on methods and IRB Proposal</td>
<td>Submit: IRB Proposal</td>
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<td>7-Mar</td>
<td>Thurs</td>
<td>Stimulus Preparation</td>
<td>Submit: Draft of items</td>
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<td>14-Mar</td>
<td>Thurs</td>
<td>Experiment Coding</td>
<td>Submit: Final Item List</td>
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<td>28-Mar</td>
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<td>Work on writing Introduction and Methods; Collect Data</td>
<td>Submit: Draft of Introduction &amp; Methods</td>
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<td>Work on writing results and discussion</td>
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<td>12-Apr</td>
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<td>Submit: Draft of Results</td>
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