

Class Syllabus: Computer Applications in Psychology with Laboratory

Spring 2012

Location	HCB, room number TBA
Course name	Computer Applications in Psychology with Laboratory
Course number	ISC 4933: Special topics course, 4 credits
Course time	Lecture: 3:30-4:50 pm, Monday/Wednesday Lab: TBA
Office Hours	TBA
Instructor	Gordon Erlebacher
Telephone (wk)	(please communicate by email)
FAX	(850) 644-0098
Email	Gordon Erlebacher
Instructor home page	http://www.sc.fsu.edu/~gerlebacher
Course Description	This course gives the students practical knowledge of a power programming language "R" with application to computational and research elements important to the field of psychology. Topics include complex searches, image and audio manipulation, data analysis, all in the context of using a variety of software tools and packages.
Content	Each week is dedicated to one topic related to programming. Topics were selected to provide psychology students with practical skills and tools that can help them in their research, as well as make them more competitive for graduate/professional school and/or jobs. All topics will be studied with the help of the language "R." Topics include (one of two weeks per topic): <ul style="list-style-type: none"> • concepts of the language R • data protection and backup • reading and writing datasets • preparing data for analysis, data restructuring • Excel queries • internet searching • signal and image manipulation • visualization of experimental data • image databases • handling of audio data
Prerequisites	General Psychology (PSY2012) Basic Computer Literacy (BSC2010L, CGS2960, CGS2100, or ISC3313, or other instructor approved course) Research Methods in Psychology (PSY3213C)
Text Book	No required book. Resources are available on the internet. Recommended book: R in a Nutshell, a Desktop Reference , by Joseph Adler, ISBN-13: 978-0596801700, Publ: O'Reilly Media, 614 pp., 2010.

Assignments

Assignments consist of weekly lab reports, which include abstract, statement of work, questions posed, results, and conclusions. The report also includes graphs, explanations, and source code, as necessary for clarity. Using the web for examples and tutorials is fine, as is seeking conceptual help from each other. However, credit to other people's work is mandatory, and copying from a classmate or other source is strictly prohibited! Students should expect to spend 6-10 hours per week outside of class for assignments.

Course Objectives

At the end of this class, the student will

- be able to work with typical datasets from animals and humans used in the field of psychology.
- be able to backup and protect data from viruses and hacking
- be able to input and output datasets using R.
- be able to restructure, and extract subsets from, datasets using R.
- be able to combine multiple datasets and extract information for analysis using R
- be able to read and write data files to a computer
- be able to backup critical files on their computers and restore the data
- be able to use the internet (e.g., Google) to perform complex searches
- be able to access data stored in external databases, using R
- be able to display data as line plots using R
- be able to store and retrieve photos from popular website such as Flickr
- be able to perform basic photo manipulation using image editing tools
- be able to edit audio files.
- be able to compute basic quantities associated with an audiofile
- be able to perform simple statistical analysis (t-tests and Anova) using R

University Attendance Policy

Students are strongly encouraged to attend all classes (both lectures and labs). Successive weeks build upon one another; thus, catching up on missed work becomes increasingly difficult. Students who do not attend regularly will have a hard time making good grades. Lab reports must be submitted on the stated due date, unless the absence is excused. Points will be removed from late assignments as indicated in syllabus section on grading. (specific to the university)

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness. Documented attendance at scientific conferences also is excused.

When absences occur for any reason (excused or otherwise), it is the student's responsibility to get notes and other pertinent information from another student as soon as possible, carefully go over the notes, and then come to the instructor and/or TA to discuss anything that is at all unclear. It also is the student's responsibility to complete missed homework assignments in a timely fashion.

Collect the names, phone, and email of four people who are sitting by you so you can exchange notes if necessary. (If you came in late on the first day of this semester, or you added this class after the first day of classes, be sure to get this information from 4 people as soon as possible.) If you are absent for any reason, you will need to have classmates you can contact for notes and information about what you missed. You do not have the option of sending a mass email to the class to ask for notes.

Courtesy

Students should be punctual, and remain in class until dismissed. If you must leave class early, please let the instructor know before class begins.

Grading

The course grade will be based entirely on the laboratory component of the class. There will be no formal exams. Each week, there will be a new lab assignment, part of it done during the scheduled lab, part at home. The lab work supports the coursework given during the class lectures. All homework is to be returned by email.

	<p>Each lab report has a maximum grade of 100. Late reports are subject to grade reduction. Each homework/ One day late: 10 points; two days late: 15 points; three days late: 30 pts; one week late: 40 pts; beyond one week: grade is zero.</p> <p>The scale for the grades will be A (90-100%), A- (87-89%), B+ (83-86%), B (77-82%), B- (73-76%), C+ (69-72%), C (63-68%), C- (59-62%), D+ (55-58%), D (50-54%), and F (</p>
<p>Academic Honor Policy</p>	<p>The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to ". . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at http://dof.fsu.edu/honorpolicy.htm.)</p> <p>The Academic Honor System of The Florida State University is based on the premise that each student has the responsibility 1) to uphold the highest standards of academic integrity in the student's own work, 2) to refuse to tolerate violations of academic integrity in the University community, and 3) to foster a high sense of integrity and social responsibility on the part of the University community. Please note that violations of this Academic Honor System will not be tolerated in this class. Specifically, incidents of plagiarism of any type or referring to any unauthorized material during examinations will be rigorously pursued by this instructor. Before submitting any work for this class, please read the "Academic Honor System" in its entirety (as found in the <i>FSU General Bulletin</i> and in the FSU Student Handbook and ask the instructor to clarify any of its expectations that you do not understand.</p>
<p>American With Disabilities Act</p>	<p>Students with disabilities needing academic accommodations should: 1) register with and provide documentation to the Student Disability Resource Center (SDRC); 2) bring a letter to the instructor from SDRC indicating you need academic accommodations. This should be done within the first week of class. This and other class materials are available in alternative format upon request.</p> <p>For more information about services available to FSU students with disabilities, contact the:</p> <p>Student Disability Resource Center 874 Traditions Way 108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice) (850) 644-8504 (TDD) sdrc@admin.fsu.edu http://www.disabilitycenter.fsu.edu/</p>
<p>Free Tutoring from FSU</p>	<p>For tutoring and writing help in any course at Florida State University, visit the Academic Center for Excellence (ACE) Tutoring Services' comprehensive list of tutoring options - see http://ace.fsu.edu/tutoring or contact tutor@fsu.edu for more information. High-quality tutoring is available by appointment and on a walk-in basis. These services are offered by tutors trained to encourage the highest level of individual academic success while upholding personal academic integrity.</p>
<p>Syllabus Change Policy</p>	<p>Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.</p>