

Psych 390

Britt Anderson

Purpose

To learn how to approach the computer as a tool for facilitating research skills.

Skills to support

1. Finding, collecting, commentating, and integrating relevant research literature.
2. Sharing and tracking data, manuscripts, analyses, results, and a finished poster or manuscript
3. In support of the above how do you find, install, and maintain software?
4. Large data handling
5. Writing up your research

Course Time/Place

PSYCH 390 Thursday 14:30 — 17:30 [PHY 313](#)

Instructor

Britt Anderson, PhD & MD

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Topics to be covered

Bibliography software and Zettlekasten

Programming language choices for experiments

Data Storage

Data sharing; Big Data; Data Re-use

Data Analysis

Statistical programming

Data Visualization

Research dissemination

Writing and sharing reproducible analyses and articles

Grades

I know you are all concerned about grades, but I am not. It sometimes feels like University is a checklist: take the right number of courses and get the right numbers on your transcripts and you will win. But that is not the case. Success in your career depends on your being able to deploy what you have learned and being able to keep on learning. These meta-skills are the ones I am most interested in helping you progress with and there are no measurement tools that we can use in this course that will allow us to predict your future occupational success. The compromise is for me to emphasize and incentivize those practices that I have learned to be most correlated with professional success: persistence, self-learning, striving for excellence. That is why I try to grade less on what you produce than how you produce it. A spectacular fail may be worth more than a safe win at this stage of your career. That is the philosophy. How do we make this work in practice?

I will give you frequent small assignments to demonstrate that you are keeping up and working on the material. I will assess your profile in class: do you come, are you interactive, are you prepared, and are you collaborative; and I will provide a final project goal for you to try and stretch your wings and put in practice what you have learned.

My experience is that I don't have to be a strict grader. The world is a far harder grader than I will ever be. You can easily find a way to get a good number in my class without learning a whole lot. That will be a very short term gain. I encourage you to be ambitious for yourselves.

I hope that you will be more proud of what you have learned in this course than any particular pride in how it helps your GPA.

Details

1. Assignments - 60%
2. Participation - 10%
3. Final Project - 30%
4. Extra Credit Sona - 3%

Boilerplate

Cost of Learning Materials

Students need to have access to a laptop for in course programming exercises. This does not need to be purchased for the course, but it does need to be available, and it is presumed that all students currently enrolled in advanced undergraduate studies have access to a computer. The cost is \$0.00.

The computer must run a full operating system (OSX/Windows/Linux). Phones and tablets running iOS or Android will not be sufficient.

Academic integrity:

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. [Check [the Office of Academic Integrity](#) for more information.

Grievance:

A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70, Student Petitions and Grievances, Section 4](#). When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline:

A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for their actions. [Check [the Office of Academic Integrity](#) for more information.] A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to [Policy 71, Student Discipline](#). For typical penalties, check [Guidelines for the Assessment of Penalties](#).

Appeals:

A decision made or penalty imposed under [Policy 70, Student Petitions and Grievances](#) (other than a petition) or [Policy 71, Student Discipline](#) may be appealed if there is a ground. A student who believes they have a ground for an appeal should refer to [Policy 72, Student Appeals](#).

Note for students with disabilities:

[AccessAbility Services](#), located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.