

## Syllabus

### Psych 2RA3: Research Design and Statistics for Behavioural Sciences I

**Fall Session:** September to December 2007

**Lectures:** Monday, Thursday: 12:30-1:20, Tuesday 1:30-2:20, JHE/264.

**Tutorials:** Tuesday 9:30-10:20, JHE/264.

**Course email address:** [stats@brain.mcmaster.ca](mailto:stats@brain.mcmaster.ca)

Use this email address rather than individual email addresses for the TAs, tutors, and instructor. You will get a much faster response through the course email address.

We are not able to return long distance phone calls. Email is highly recommended and will be answered promptly. All the TAs, undergrad tutors, and the instructor can be reached at the course email address. Please put something meaningful in the subject line, such as your name and date (e.g., Simons Jan 17) to help us keep track of which emails have been answered. Thanks! If you write more than one email in one day, number them (e.g., Simons Jan 17 message 2).

**Course web site (this is the same site for both 2RA3 and 2RB3):**

<http://www.science.mcmaster.ca/Psychology/psych2ra3/>

**Course description:** We will study advanced statistical principles in the design and analysis of experiments in psychology. Topics include parametric and non-parametric techniques for single samples, two sample and multi-sample designs. Students will gain an understanding of frequency distributions, probability, sampling, and the central limit theorem. We will learn to make inductive inferences based on significance testing. We will study statistical power and effect size, and the importance of estimating both statistical and practical significance. We will learn to interpret and present results of experiments in graphical and written form.

**Office Hours for Professor Shedden, the Graduate TAs, and the Undergraduate tutors:** See [Office Hours web page](#) for regular office hours, which will be updated as they are arranged.

#### Textbooks and Software:

- Required: Aron, Aron, and Coups: Statistics for Psychology, 4th Edition (also on reserve at Mill's).
- Optional: The textbook will be available in the bookstore in two forms: you can either purchase the textbook alone (this year it may be bundled with a free Study Guide), or you can purchase it bundled with the student version of the statistical package SPSS 15.0. SPSS is also installed in the university computer labs so it is not necessary to purchase it, but some people like to install it on their own computers and it is a lot less expensive if bundled with the textbook.

Companion web site for the textbook: [http://wps.prenhall.com/hss\\_aron\\_statistics\\_4](http://wps.prenhall.com/hss_aron_statistics_4)

There are important links on this web site, including links to electronic chapters which will be required for the course.

#### Required access to university technology centres:

Lab Assignments require SPSS, which is installed in the computer labs. Register for Technology Centre services by getting a MAC ID via MUGSI ([http://www.mcmaster.ca/uts/mugsi\\_reg.htm](http://www.mcmaster.ca/uts/mugsi_reg.htm)) if you have not already done so. Registering gives you full access to the labs, an email account, and web space among other services. Student Consultants are available for general help in using the Technology Centres. For more information, visit the Student Frequently Asked Questions page (<http://www.mcmaster.ca/uts/students/faqs.htm>).

**Grade evaluations:**

Your grade in the course will be based on:

- 10 or 11 laboratory assignments (10%)
- 4 multiple-choice exams (90%)

**Grading Details:**

The laboratory assignments will make up 10% of your final grade. Some will require SPSS analysis and output as well as step by step work with a calculator. Your data set is linked to your grades page. Please see the [Laboratory Assignments web page](#) for due dates and details about submitting labs.

There will be 4 multiple-choice exams. There are no make-up exams (no exceptions). You may bring only an approved calculator, pencils and erasers suitable for multiple-choice scan sheets, and your McMaster student ID card to the exams. Sheets with formulae and statistical tables will be supplied for you. An approved calculator is any calculator whose name starts with Casio fx991. Please see the [Schedule and Notes web page](#) for exam dates.

The midterm with the lowest grade will be discarded. The final grade will then be determined by one of the following options:

Option 1: Labs 10%, Midterms 25% each (50%), Final 40%

Option 2: Labs 10%, Midterms 5% each (10%), Final 80%

The option that generates the highest value will determine your final grade.

**The instructor reserves the right to alter the evaluation scheme if necessary.**

A percentage marking system will be used for the individual components. The final percent will be converted to a letter grade using the Senate-approved transformation. In converting the final percent to a letter grade, any values less than 0.5 will be rounded down, and any values greater or equal to 0.5 will be rounded up. For example, 49.4 = F and 49.5 = D-.

**Policies****McMaster University Policy for Medicals and Deferred Exams**

Please refer to the [Office of the Associate Dean of Science \(Studies\)](#) for important information regarding missed course work, medical exemptions (including the McMaster medical certificate), exam conflicts, and deferred exams.

**Academic Dishonesty**

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of a academic dishonesty please refer to the Academic Integrity Policy, located at <http://www.mcmaster.ca/academicintegrity>.

The following illustrates only three forms of academic dishonesty:

1. Copying or using unauthorized aids on tests and examinations.
2. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
3. Improper collaboration in group work.