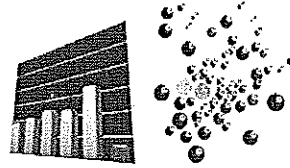


University of Toronto in Scarborough

PSY C08

Advanced Data Analysis in Psychology



Winter 2009

Course Outline

Lectures location: University of Toronto Scarborough Room SY 110 (new Science building)

Lectures times: Wednesdays 2-5 pm

Course Director: Gabriela Ilie, Ph.D.

Contact: gilie@utsc.utoronto.ca

Weekly office hours: Wednesdays 10-12 pm

Office location: SW 418

Teaching Assistants: Dwayne, Pare; Dominique, Vuvan; Stephanie, Bass; Amsel, Ben;
Gelareh, Jowkar-Baniani.

Office hours and exam reviews: Check the intranet for postings.

Office location: SW 418 B, C and D

Tutorials times and locations: Tutorials will begin on January 12, 2009

Tutorial 1: Tuesdays 11-12 HW 310

Tutorial 2: Tuesdays 11-12 AC 334

Tutorial 3: Tuesdays 11-12 HW402

Tutorial 5: Tuesdays 12-13 HW215

Tutorial 6: Tuesdays 12-13 AC334

Tutorial 7: Tuesdays 12-13 HW402

E-mail communication.

For security purposes, student emails will be answered if and only if the subject line contains the course number, the student's name and number. Replies will be sent within maximum 2 business days. Email messages outlining problem sets that require the TA or the instructor's assistance will not be answered. For assistance with problem solving, lecture or text material that

requires clarification, students are asked to attend office hours where such requests can be effectively and efficiently addressed.

Web-Option value-added model. Please read this section carefully. This is a traditional class and will be taught in the traditional section, the classes, however, will be videotaped. The resulting video, will then be placed online where you may view it, if you may find it helpful, at a later time. Our choice for this option stems for wanting to offer you possibilities, we think, could be very helpful especially in this type of class. To our knowledge, this is the first time such option will be offered in conjunction to our traditional method of teaching this course, and we are excited to try it out. We hope you will find it most helpful. Please note, there will be no formal webOption (i.e., L60) section created for the course.

Course Description. *This course is a continuation of PSY B07. The primary focus of this course is on the understanding of the Analysis-of-Variance and its application to various research designs. Examples will include homogeneity of variance, normality assessments, a-priori and post hoc tests, effect size, and power. Finally, there will be an introduction to regression and multiple regression, including discussions of design issues and interpretation problems. Students will learn the use of computers in statistical analysis and SPSS.*

Course Evaluation: Grading: Your final grade in the course will be based on two assignments each worth 10%, a mid-term examination worth 40%, and a final examination, non-cumulative, worth 40%. The date for the mid-term examination will be posted and announced early in the term (check the intranet postings in case you miss any classes). The date for the final examination will be published by the registrar's office on ROSI sometime during the term. The exams will be 3 hours long and will assess your theoretical understanding of the material as well as your ability to solve problems and read SPSS output.

Exam penalties. A make up midterm exam will be allowed, only, and only if a UTSC medical certificate will be provided and the information can be verified as accurate with the medical professional who issued the note. All physicians will be called upon. No exceptions will be made. No other circumstances will be considered for requests to attend a make up exam. *The physician's statement must include the following:*

- a. *Full name, mailing address, telephone number of the physician.*
- b. *State the nature of the illness and its duration (i.e., specific dates, covered), and*
- c. *An indication of whether the illness and/or medication prescribed would have SERIOUSLY affected the student's ability to study and perform over the period in question.*

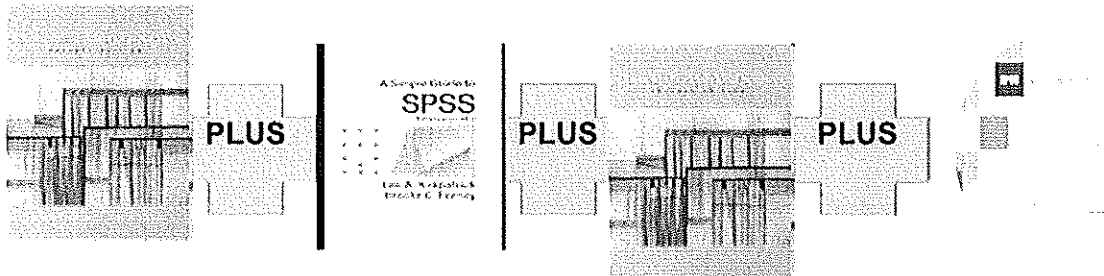
The certificate must state that, in the physician's opinion, you are unable to write the test, not just that you were examined for a complaint.

Medical notes and information submitted that does not abide to these specifications will not be considered. All medical certificates must be submitted to the course Director in person within 72 business hours of the missed examination. If the student Director cannot be reached then the medical notes must be dropped to the Course Director's attention in room SW 521 with either Gloria Luza or Cindy Tse.

Required texts and materials

1. Gravetter, F. & Wallnau, L. (1991). Statistics for the Behavioral Sciences, 7th edition. Wadsworth Thompson Learning, New York. And Study guide.
2. Gravetter, F. & Wallnau, L. (1991). Study guide to accompany "Statistics for the Behavioral Sciences, 7th edition. Wadsworth Thompson Learning, New York.
3. A simple Guide to SPSS for version 16.0. Kirkpatrick, Lee A. and Feeney, Brooke C. (2009)
4. SPSS Student Version 16.0

The ISBN number for all materials required for this course is: 0495777374



PSY C08 – Winter 2009 (G. Ilie)

Outline of the topics to be covered in the course:

Please note:

Bold font required Chapters are from the TEXT BOOK.
Light type font required Chapters are from the SPSS guide Book.

Week - date	Topics	Chapters
1 – Jan 7 2009	Introduction (TAs and Course Director, Nelson and resources available to students) Review of Basis Stats <i>Goal:</i> To provide students with an overview of previously learned material as it becomes relevant to current course material.	1 through 11.
2 – Jan 14 2009	Introduction to ANOVA & post hoc SPSS analysis Assessing the assumptions: Normality & descriptive statistics Homogeneity of Variance Effect Size Power <i>Goal:</i> learn the theoretical implications of this analysis; how to calculate it by hand and using SPSS; how to assess its assumptions; how to interpret its results; learn how to calculate effect size and power; how to calculate post- hoc analyses; how to interpret all this combined information. Going from specific to general: Seeing the bigger picture.	13 PART 1 (all), PART 2 (only 10) PART 2 (only 6) 10 (only pp. 322-323 Fmax Test) 8 (p. 256) 8 (p. 260)
3 – Jan 21 2009	One Factor ANOVA (IM) & post hoc cont. Two Factor ANOVA (IM) & post hoc Main Effects and Interactions Assessing the assumptions: Normality & descriptive statistics Homogeneity of Variance Effect Size Power <i>Goal:</i> learn the theoretical implications of this analysis; how to calculate it by hand and using SPSS; how to assess its assumptions; how to interpret its	13, 10 (only pp. 322-323 Fmax Test) 8 (pp. 256-265) PART 1 (all), PART 2 (6 & 10 only) 15 & PART 2 (only 6 & 11) + Class handouts

results; learn how to calculate effect size and power; how to calculate post-hoc analyses; how to interpret all this combined information.
Going from specific to general: Seeing the bigger picture.

HANDING OUT ASSIGNMENT 1 (Assignment 1 will be due on February 11, 2009 at 2 pm in class. Assignments submitted after 2 pm will have to be submitted to Room SW 521, where they will be stamped and the time of their submission will be noted. Assignments submitted between 2 pm February 11 and 2 pm February 12 will receive a 10% penalty. Assignments submitted after 2 pm February 12 2009 will NOT be accepted.

4 – Jan 28 2009

Two Factor ANOVA (IM) & post hoc cont.

One Factor ANOVA (RM) & post hoc 14 & PART (6 & 12); handouts
Assessing the various assumptions (RM designs!)

Effect Size

Power

Goal: learn the theoretical implications of this analysis;

how to calculate it by hand and using SPSS;

how to assess its assumptions; how to interpret its

results; learn how to calculate effect size and power; how to calculate post-hoc analyses; how to interpret all this combined information.

Going from specific to general: Seeing the bigger picture.

5 – Feb 4 2009

Two-way Mixed ANOVA (Between-Within)

Main Effects and Interaction handouts & PART 2 (6 & 13)

Assumptions; Effect Size; Power

6 – Feb 11 2009

ASSIGNMENT 1 DUE TODAY AT 2:00 PM in class.

Please read carefully the information above about late submissions.

Two-way Mixed ANOVA (Between-Within) cont.

MIDTERM:

All lectures & lecture materials covered up to date. Please check the intranet for the location, date and time of the mid-term exam.

Feb 18 2009

No class. Reading week.

7 – Feb 25 2009

Correlation

16 & PART 2 (6 & 14)

Goal: learn the theoretical implications of this analysis;

how to calculate it by hand and using SPSS;

how to assess its assumptions; how to interpret its

results; learn how to calculate the strength of the relationship;

how to interpret all this combined information.

