

The University of Manitoba
Faculty of Education

EDUA 7850 A01 Design & Analysis of Educational Research (Quantitative)

(3 credit hours, CRN: 55866)

Course Outline Jan. to Apr. 2018

Industrial Strength !!

Time: Wednesdays 5:30 pm to 8:30 pm
Wednesday January 3, 2018 to
Wednesday April 4, 2018 (inclusive)

Room: 360 Education Building

Office Hours: Wednesdays 3:30 to 5:30 or by appointment

Instructor: Robert Renaud PhD
227A Education
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Course Overview:

EDUA 7850 (3): Design & Analysis of Educational Research (Quantitative). A study of the use of quantitative methods in analyzing educational research data. Descriptive and inferential procedures commonly used in educational research will be discussed and students will learn to use statistical packages. The course will also address when it is appropriate to employ quantitative designs and present common designs and their associated analyses. Prerequisite: EDUA 5800.

In Addition:

You will be required to use, understand, and employ confidently the computer analysis package SPSS (Statistical Package for the Social Sciences). There are copies in some open area computer labs supported by Instructional Systems across campus. I recommend that you purchase a copy for yourself. Any version of SPSS from 16 onward will do. The advanced analysis package will need to be loaded with the program. One convenient source to purchase a license to use SPSS is <http://www.Student-Discout.ca>

Look for IBM SPSS Statistics Grad Pack 22.0/23.0/24.0/25.0 STANDARD - 6/12 month - Windows or Mac DOWNLOAD - install on up to 2 computers. Do not purchase the BASE version as it will not have all of the functions we will need in this course. Check the SPSS version (22, 23, 24, or 25) to ensure that it is compatible with the operating system on your computer.

Required Texts:

Morgan, G. A., Leech, N. L., Gloeckner, G. W., & Barrett, K.C. (2013). IBM SPSS for introductory statistics: Use and interpretation (5th ed.). New York: Routledge.

Leech, N. L., Barrett, K. C., Morgan, G. A. (2015). IBM SPSS for intermediate statistics: Use and interpretation (5th ed.). New York: Routledge.

Evaluation:

The major course requirements (and weights) are as follows:

1. Class Assignments 80%

In most classes, you will be asked to complete a short assignment that will ask you to perform an analysis and briefly interpret selected parts of the results. There will be 10 assignments throughout the course. That means each assignment will be worth exactly 8%. Each assignment is due by the start of the next class (i.e., one week to complete the assignment).

For each assignment, there are two parts to be submitted

- Typed answers to assignment question(s)
- Copy of all output

2. Take-home Exam 20%

On the last day of the course, you will be given a take-home exam. The completed exam should be submitted by email (to Robert.Renaud@umanitoba.ca) and is due by midnight Friday April 13, 2018.

Lesson Schedule

Wed. Jan. 3	Introduction to the Course
Wed. Jan. 10	Quantitative Research Concepts (Leech - Chapter 1) Introduction to SPSS (Leech - Appendix A)
Wed. Jan. 17	Descriptive Statistics (Morgan - Chapter 3) Data and Assumptions (Morgan - Chapter 4)
Wed. Jan. 24	Selecting and Interpreting Inferential Statistics (Morgan - Chapter 6)
Wed. Jan. 31	t-Test (Morgan - Chapter 10)
Wed. Feb. 7	Oneway Analysis of Variance (ANOVA) (Morgan - Chapter 11)
Wed. Feb. 14	Repeated-Measures ANOVA (Leech - Chapter 10)
Wed. Feb. 21	<i>University Winter Break - no class</i>
Wed. Feb. 28	Factorial ANOVA (Leech - Chapter 9)
Wed. Mar. 7	Chi-Square (Morgan - Chapter 8)
Wed. Mar. 14	Correlation and Simple Linear Regression (Morgan - Chapter 9)
Wed. Mar. 21	Multiple Regression (Leech - Chapter 6)
Wed. Mar. 28	Factor Analysis (Leech - Chapter 4)
Wed. Apr. 4	Final Class - Take home exam

Expectations

Students are expected to attend all classes and submit assignments by the due dates. If you require any modification to insure your full participation in this course, please talk to me as soon as possible. Given that the material in this course is covered at a fairly rapid rate, missing even a single class can make the process of keeping up with the material and completing the assignment(s) much more difficult. You can expect to receive grades/feedback on each assignment and the take-home exam within a week after submission.

University policies. The University of Manitoba requires that I point out a number of policies and regulations regarding attendance and withdrawal, academic integrity, and appeals of grades. You will find these explained in the General Academic Regulations section of the 2017-2018 General Calendar (http://umanitoba.ca/student/records/media/2017_2018_Graduate_Calendar_Final.pdf). Also, please see the University Policies section for policies regarding the responsibilities of academic staff towards students.

Grading

Letter grades will be assigned according to the Faculty of Education grading conversion scheme:

Letter Grade	Grade Point	Level of Achievement	Percentage Range
A+	4.5	WOW!!	95+
A	4	Excellent	90-94
B+	3.5	Very Good	85-89
B	3	Good	80-84
C+	2.5	Satisfactory	75-79
C	2	Adequate	70-74
D	1	Marginal	60-69
F	0	Failure	Below 60

Course Technology

Students are welcome to use technology (e.g., cellphones, laptops, etc.) during class if the technology is used for relevant educational purposes within this course. In this particular course, students are encouraged to bring their laptop computers to class. In most classes, I will demonstrate a statistical procedure on my computer, and students may follow along on their own computers. There will also be opportunities during class for students to use their computers to explore the SPSS software and/or work on an assignment.

Unless a student must either send or respond immediately to an urgent personal message (email, text, or phone), I ask that students refrain from using technology during class for purposes that are not relevant to this course.

Class Communication

The University requires all students to activate an official University email account. For full details of the Electronic Communication with Students please visit: http://umanitoba.ca/admin/governance/media/Electronic_Communication_with_Students_Policy_-_2013_09_01_RF.pdf

Please note that all communication between myself and you as a student must comply with the electronic communication with student policy (http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html).

You are required to obtain and use your U of M email account for all communication between yourself and the university.

Recording Class Meetings

The University of Manitoba and I hold copyright over the course materials, presentations and lectures which form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without my permission. Course materials (both paper and digital) are for the participant's private study and research.

Student Accessibility Services

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services <http://umanitoba.ca/student/saa/accessibility/>
520 University Centre 204 474 7423 student_accessibility@umanitoba.ca

University Policies

Within the University of Manitoba, there are a number of policies and regulations that students should be aware of in the following areas:

- Academic Support for Students
- Health and Wellness Support
- Copyright Resources and Support
- Your Rights and Responsibilities
- Specific policies within the Faculty of Education

Detailed information in each of the above areas can be found at within our Faculty of Education webpage at <http://umanitoba.ca/faculties/education/current/index.html>