Renison University College Land Acknowledgement

With gratitude, we acknowledge that Renison University College is located on the traditional territory of the Attawandaron (also known as Neutral), Anishinaabe, and Haudenosaunee peoples, which is situated on the Haldimand Tract, the land promised to the Six Nations that includes ten kilometres on each side of the Grand River.

FALL 2019

Course Code: SDS 250R / SWREN 250R (Section 002)
Course Title: Social Statistics
Class Times/Location: Tuesday/Thursday 11:30am – 12:50pm REN 2918

Instructor: Jeremy Marty-Dugas
Office: REN 1623
Office Hours: Thursdays 2:30-3:30PM (or by appointment)
Email: jmartydu@uwaterloo.ca

Course Description

The primary goal of this course is to help students become informed consumers of quantitative information in social science research. Emphasis will be placed on understanding basic principles of statistics and learning when and how to apply them.

Course Objectives and Learning Outcomes

Upon completion of this course, students should be able to:

i. Explain how statistics are used in social science research to organize quantitative information, test hypotheses, and report research findings
ii. Identify variables in a data set and the level of measurement for each variable
iii. Use various descriptive statistics, tables, and graphs to summarize quantitative information, including data that you collect yourself, or data presented to you through different sources.
iv. Describe the logic of hypothesis testing procedures and the use of inferential statistics in social research.
v. Use appropriate statistics to answer different research questions and test different hypotheses involving one or two variables.
vi. Read with ease basic quantitative information including tables and graphs, and research findings, including hypothesis testing results in academic journals and general media.

**Required Text**
Heiman, G. W. (2015). Behavioral Sciences STAT (2nd edition). Stamford: Cengage Learning. *This text has been around for a few years, so there should be used copies available!*

**Course Requirements and Assessment**
There are two midterms and one final exam. Each midterm is worth 20% of the final grade and the final is worth 30%. The assignments and quizzes are worth a total of 30%.

<table>
<thead>
<tr>
<th>Assessment Component</th>
<th>Date</th>
<th>Weighting</th>
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</thead>
<tbody>
<tr>
<td>Module Review Exercises (Mobius)</td>
<td>Weekly throughout term</td>
<td>10%</td>
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<tr>
<td>Online Quizzes (Möbius)</td>
<td>Weekly throughout term</td>
<td>10%</td>
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<tr>
<td>Assignment 1</td>
<td>September 25</td>
<td>5%</td>
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<tr>
<td>Assignment 2</td>
<td>October 25</td>
<td>5%</td>
</tr>
<tr>
<td>Midterm Test 1</td>
<td>October 2</td>
<td>20%</td>
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<tr>
<td>Midterm Test 2</td>
<td>November 8</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>TBA</td>
<td>30%</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100%</strong></td>
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More detail about the assignments and tests will be provided in class and on Learn throughout the term.

**Course Outline**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>1</td>
<td>Sept. 4</td>
<td>Introduction</td>
<td>None</td>
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<tr>
<td></td>
<td>Sept. 9</td>
<td>Basic Concepts &amp; Levels of measurement</td>
<td>Ch. 1-2</td>
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<tr>
<td></td>
<td>Sept. 11</td>
<td>Frequency distributions</td>
<td>Ch. 1-2</td>
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<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
<td>Readings</td>
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<tr>
<td>2</td>
<td>Sept. 16</td>
<td>Central Tendency</td>
<td>Ch. 3</td>
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<td></td>
<td>Sept. 18</td>
<td>Variability</td>
<td>Ch. 4</td>
</tr>
<tr>
<td>3</td>
<td>Sept. 23</td>
<td>Normal Curve, z-scores <strong>Assignment #1 Due</strong></td>
<td>Ch. 5 (pp. 68-79)</td>
</tr>
<tr>
<td></td>
<td>Sept. 25</td>
<td>Z-scores and sampling distributions</td>
<td>Ch. 5 (pp. 79-84)</td>
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**First Exam (20%) Monday (Sept 30th)**

| 4    | Oct. 2     | Correlations                                  | Ch. 10 (pp. 162-178) |
| 5    | Oct. 7     | More Correlations                             | Ch. 10 (pp. 162-178) |
|      | Oct. 9     | Regression                                    | Ch. 10 (pp. 178-181) |
|      | Oct 14th– 18th | Reading Week – No Classes | Please review the material from the previous lectures |
| 6    | Oct. 21    | More on Regression                            | Ch. 10 (pp. 162-178) |
|      | Oct. 23    | Basic Probability                             | Ch. 6           |
| 7    | Oct. 28    | Hypothesis testing, z-tests **Assignment #2 Due** | Ch. 7          |
|      | Oct. 30    | More on Hypothesis Testing                    | Ch. 7           |
| 8    | Nov. 4     | T-tests, errors, directionality               | Ch. 8 (pp. 126-134) |
|      | Nov. 6     | Confidence intervals and correlation significance | Ch. 8 (pp. 135-139) |

**Second Exam (20%) Monday (Nov. 11th)**

| 9    | Nov. 13    | Independent sample t-tests                   | Ch. 9 (pp. 140-148) |
| 10   | Nov. 18    | Related samples t-tests                      | Ch. 9 (pp. 149-158) |
|      | Nov. 20    | ANOVA                                        | Ch. 11 (pp. 184-196) |
| 11   | Nov. 25    | ANOVA, post hoc tests, effect sizes          | Ch. 11 (pp. 196-199) |
|      | Nov. 27    | Chi-Square & non-parametric tests            | Ch. 13           |
| 12   | Dec. 2     | Review for Final                             |                  |
*The first week of classes is only Wednesday – Friday due to orientation activities.

**The last week of classes is Monday-Tuesday to make up for days missed in the first week of the term.

**Late Work**
Assignments are due on the listed due date. Online activities and quizzes will be closed on the due dates specified on Learn. Tests must be written on the scheduled date at the scheduled time. If there is a documented reason for missing a test, or deadline, see below for information about accommodation. Please note that documentation must be provided within 48 hours of the deadline (http://www.registrar.uwaterloo.ca/students/accom_illness.html). Missed tests or assignments will receive a zero.

**Electronic Device Policy**
Electronic devices are allowed in class, provided they do not disturb teaching or learning. However, recent studies suggest that students who bring laptops to class perform worse (on average) than their non-laptop using peers, and are much less likely to pay attention in class. Laptops can also be a distraction for other students. Please be courteous to your fellow students and only use your laptop for the purposes of engaging in course content (e.g., taking notes). Please set all electronic devices on silent mode during class. Audio and visual recording devices are permitted for note-taking purposes only.

**Attendance Policy**
Attendance is strongly encouraged. Much of the course content we will be covering does not appear in your readings, or appears only in limited detail. Thus, attending class is essential for doing well in this class.

**Final Examination Policy**
For Fall 2019, the established examination period is December 6-21, 2019. The schedule will be available at the end of September. Students should be aware that student travel plans are not acceptable grounds for granting an alternative final examination time (see: https://uwaterloo.ca/registrar/final-examinations)

**Accommodation for Illness or Unforeseen Circumstances:**
The instructor follows the practices of the University of Waterloo in accommodating students who have documented reasons for missing quizzes or exams. See
http://www.registrar.uwaterloo.ca/students/accom_illness.html

Please note that documentation must be provided within 48 hours of the
deadline. Make up dates for tests or assignments will be determined
solely by the instructor.

**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. See the UWaterloo Academic
Integrity webpage (https://uwaterloo.ca/academic-integrity/) and the
Arts Academic Integrity webpage (https://uwaterloo.ca/arts/current-
undergraduates/student-support/ethical-behaviour) for more
information.

**Discipline:** Every student is expected to know what constitutes
academic integrity, to avoid committing academic offences, and to take
responsibility for their own actions. [Check the Office of Academic
Integrity (https://uwaterloo.ca/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 professor, academic advisor, or
Academic Dean. When misconduct has been found to have occurred,
disciplinary penalties are imposed under the University of Waterloo
Policy 71 – Student Discipline. 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 (https://uwaterloo.ca/secretariat-general-counsel/policies-

Students should also be aware that copyright laws in Canada prohibit
reproducing more than 10% of any work without permission from its author,
publisher, or other copyright holder. Waterloo’s policy on Fair Dealing is
available here: https://uwaterloo.ca/copyright-guidelines/fair-dealing-
advisory Violation of Canada’s Copyright Act is a punishable academic
offence under Policy 71 – Student Discipline.
Grievance: A student who believes that a decision affecting some aspect of university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4 (https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70). When in doubt, please be certain to contact the department’s administrative assistant, who will provide further assistance.

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 are grounds. Students who believe they have grounds for an appeal should refer to Policy 72, Student Appeals (https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-72).

Academic Integrity Office (uWaterloo): http://uwaterloo.ca/academic-integrity/

Accommodation for Students with Disabilities:

Note for Students with Disabilities: The AccessAbility Services office, located on the first floor of the Needles Hall extension (NH 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 the AAS office at the beginning of each academic term.

Intellectual Property. Students should be aware that this course contains the intellectual property of the instructor, which can include:

- lecture handouts and presentations (e.g., PowerPoint slides)
- lecture content, both spoken and written (and any audio or video recording thereof)
- questions from various types of assessments (e.g., assignments, quizzes, tests, final exams)
- work protected by copyright (i.e., any work authored by the instructor)

Making available the intellectual property of instructors without their express written consent (e.g., uploading lecture notes or assignments to an online repository) is considered theft of intellectual property and subject to disciplinary sanctions as described in Policy 71 – Student Discipline. Students who become aware of the availability of what may be their
instructor’s intellectual property in online repositories are encouraged to alert the instructor.

**Mental Health Support**
All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health supports if they are needed.

**On Campus**
- Counselling Services: counselling.services@uwaterloo.ca / 519-888-4567 xt 32655
- **MATES**: one-to-one peer support program offered by Federation of Students (FEDS) and Counselling Services
- Health Services Emergency service: located across the creek form Student Life Centre

**Off campus, 24/7**
- **Good2Talk**: Free confidential help line for post-secondary students. Phone: 1-866-925-5454
- Grand River Hospital: Emergency care for mental health crisis. Phone: 519-749-433 ext. 6880
- **Here 24/7**: Mental Health and Crisis Service Team. Phone: 1-844-437-3247
- **OK2BME**: set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online at the Faculty of ARTS website
Download UWaterloo and regional mental health resources (PDF)
Download the WatSafe app to your phone to quickly access mental health support information
A respectful living and learning environment for all

Everyone living, learning, and working at Renison University College is expected to contribute to creating a respectful environment free from harassment and discrimination.

If you experience or witness harassment or discrimination, seek help. You may contact Credence & Co., Renison’s external anti-harassment and anti-discrimination officers, by email (info@credenceandco.com) or by phone (519-883-8906). Credence & Co. is an independent K-W based firm which works with organizations toward thriving workplace cultures, including professional coaching, consulting, facilitation, policy development, conflict mediation and ombudsperson functions.

Harassment is unwanted attention in the form of disrespectful comments, unwanted text messages or images, degrading jokes, rude gestures, unwanted touching, or other behaviours meant to intimidate.

According to the Ontario Human Rights Code, discrimination means unequal or different treatment causing harm, whether intentional or not, because of race, disability, citizenship, ethnic origin, colour, age, creed, marital status, sex, sexual orientation, gender identity, and gender expression, or other personal characteristic.