Social Statistics Winter 2024

SDS 250R / SWREN 250R

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Class Schedule

Course	Meet Days	Meet Time	Location	Instructor(s)
SDS 250R / SWREN 250R 081 [LEC]			ONLN - Online	H. D'Ailly *hsiao.dailly@uwaterl...*

schedule data automatically refreshed daily

Instructor & TA (Teaching Assistant) Information

Use the LEARN Course Discussions forum to communicate with your instructor and classmates. Discussion topics can be accessed in LEARN by clicking **Connect** and then **Discussions** on the course navigation bar. For questions of a personal nature, please email your instructor:

- Instructor: Hsiao D'Ailly
  hsiao.dailly@uwaterloo.ca (mailto:hsiao.dailly@uwaterloo.ca)

Course Description

> *Calendar Description for SDS 250R / SWREN 250R:*
>
> This introductory level statistics course will emphasize the collection, manipulation, descriptive presentation, and statistical analysis of social research data. [Note: SWREN 250R is available only to students who have been given conditional admission to the BSW program; such students must have already completed their first undergraduate degree.]
>
> SDS 250R: Prereq: Level at least 2A; Not open to Math. Antireq: ARTS 280, ECON 221, ENVS 278, GBDA 205, ISS 250A/B, ISS 250R, KIN 232, LS/SOC 280, PSYCH 292, REC 371, SMF 230, STAT 202, 206, 211, 221, 231, 241
>
> SWREN 250R: Prereq: Level at least 2A; Not open to students in the Faculty of Mathematics

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.

Learning Outcomes

By the end of this course students should be able to:

explain how statistics are used in social science research to organize quantitative information, test hypotheses, and report research findings;
identify variables in a data set and the level of measurement for each variable;
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;
describe the logic of hypothesis testing procedures and the use of inferential statistics in social research;
use appropriate statistics to answer different research questions and test different hypotheses involving one or two variables; and
read with ease basic quantitative information, including tables and graphs, and research "findings," including hypothesis testing results in academic journals and the general media.

Tentative Course Schedule

Please see the Course Schedule in LEARN for complete details.

Week	Module	Readings	Activities and Assignments
Week 1	Module 01: Introduction and Basic Concepts	Textbook: (Heiman, 2014) • Chapters 1 and 2	Groups for Assignment 1 created by Tech Support
			Module 00 Math Skill Practice (Möbius)
			SDS 250R Student Survey (LEARN)
			Quiz 0: Basic Math Skills (Möbius)
Week 2	Module 02: Frequency of Distributions	Textbook: (Heiman, 2014) • Chapter 2	Module 01 Review Exercises (Möbius)
			Quiz 1 (Möbius)
Week 3	Module 03: Central Tendency and Variability	Textbook: (Heiman, 2014) • Chapters 3 and 4	Assignment 1 Group Expectations Discussion (LEARN)
			Module 02 Review Exercises (Möbius)
			Quiz 2 (Möbius)

Week 4	Module 04: *z*-Scores and Central Limit Theorem	Textbook: (Heiman, 2014) - **Chapter 5**	Module 03 Review Exercises (Möbius)
			Assignment 1 (LEARN)
			Quiz 3 (Möbius)
Week 5	Module 05: The Correlation Coefficient	Textbook: (Heiman, 2014) - **Chapter 10-1, 10-2**	Groups for Assignment 2 created by Tech Support
			Online Midterm 1 (LEARN)
			Module 04 Review Exercises (Möbius)
			Quiz 4 (Möbius)
Week 6	Module 06: Linear Regression	Textbook: (Heiman, 2014) - **Chapter 10-5, 10-6**	Assignment 2 Group Expectations Discussion (LEARN)
			Module 05 Review Exercises (Möbius)
			Quiz 5 (Möbius)
Week 7	Module 07: Probability and Hypothesis Testing	Textbook: (Heiman, 2014) - **Chapters 6, 7, and 10-3, 10-4**	Module 06 Review Exercises (Möbius)
			Assignment 2 (LEARN)
Week 8	Continue Module 07: Probability and Hypothesis Testing	Textbook: (Heiman, 2014) - **Chapters 6, 7, and 10-3, 10-4**	Module 06 Review Exercises (Möbius)
			Quiz 6 (Möbius)
Week 9	Module 08: *t*-Test and Confidence Intervals	Textbook: (Heiman, 2014) - **Chapter 8**	Module 07 Review Exercises (Möbius)
			Quiz 7 (Möbius)
Week 10	Module 09: *t*-Test with Two Samples	Textbook: (Heiman, 2014) - **Chapter 9**	Online Midterm 2 (LEARN)
			Module 08 Review Exercises (Möbius)
			Quiz 8 (Möbius)
Week 11	Module 10: The One-Way Analysis of Variance (ANOVA)	Textbook: (Heiman, 2014) - **Chapter 11**	Module 09 Review Exercises (Möbius)
			Quiz 9 (Möbius)

Week 12	Module 11: Chi Square and Other Nonparametric Procedures	Textbook: (Heiman, 2014) • Chapter 13	Module 10 Review Exercises (Möbius)
			Quiz 10 (Möbius)

Texts / Materials

Title / Name	Notes / Comments	Required
Heiman, G.W. (2014). Behavioral Sciences STAT (2nd Edition). Toronto: Houghton Mifflin.		Yes

For textbook ordering information, please contact the W Store | Course Materials + Supplies (https://wstore.uwaterloo.ca/) .

Student Assessment

Component	Value
Module Review Exercises (Best 10 of 11)	20%
Online Quizzes and SDS 250R Survey (Best 10 of 12)	20%
Assignments (2 x 5%)	10%
Online Midterms (2 x 5%)	10%
Final Examination (in-person)	40%

Assignment Screening

No assignment screening will be used in this course.

Administrative Policy

Course Policies

Late Assignments

Late assignments will not be graded unless there is a documented illness or family emergency.

Online Midterms

You may only take the midterms once. You may not retake a midterm. In cases of severe illness or other extenuating circumstances, with supporting documents, the weighting for the online midterm may be allocated to the final exam.

Territorial Acknowledgement

The University of Waterloo acknowledges that much of our work takes place on the traditional territory of the Neutral, Anishinaabeg and Haudenosaunee peoples. Our main campus is situated on the Haldimand Tract, the land granted to the Six Nations that includes six miles on each side of the Grand River. Our active work toward reconciliation takes place across our campuses through research, learning, teaching, and community building, and is centralized within the Office of Indigenous Relations (https://uwaterloo.ca/indigenous)

University Policy

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 (https://uwaterloo.ca/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 (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70). 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 (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 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 (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71). For typical penalties, check Guidelines for the Assessment of Penalties (https://uwaterloo.ca/secretariat/guidelines/guidelines-assessment-penalties).

Appeals: A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70) (other than a petition) or Policy 71, Student Discipline (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71) 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 (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72).

Note for students with disabilities: AccessAbility Services (https://uwaterloo.ca/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.

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.