



Published January 3, 2025

# STAT 331/SYDE 334 Winter 2025

## Applied Linear Models

Section 001, 002, 101

### Class Schedule

Course	Meet Days	Meet Time	Location	Instructor(s)
STAT 331 001 [LEC]	<b>Tue, Thu</b> <i>Jan 6 - Apr 4</i>	01:00PM - 02:20PM	EIT 1015	Chelsea Uggenti <a href="mailto:cuggenti@uwaterloo.ca">cuggenti@uwaterloo.ca</a>
STAT 331 002 [LEC]	<b>Tue, Thu</b> <i>Jan 6 - Apr 4</i>	08:30AM - 09:50AM	MC 4020	Chelsea Uggenti <a href="mailto:cuggenti@uwaterloo.ca">cuggenti@uwaterloo.ca</a>
SYDE 334 001 [LEC]	<b>Tue, Thu</b> <i>Jan 6 - Apr 4</i>	01:00PM - 02:20PM	EIT 1015	Chelsea Uggenti <a href="mailto:cuggenti@uwaterloo.ca">cuggenti@uwaterloo.ca</a>
STAT 331 / SYDE 334 101 [TUT]	<b>Tuesdays</b> <i>Jan 6 - Apr 4</i>	02:30PM - 03:20PM	RCH 101	Chelsea Uggenti <a href="mailto:cuggenti@uwaterloo.ca">cuggenti@uwaterloo.ca</a>

schedule data automatically refreshed daily

### Instructor & TA (Teaching Assistant) Information

**Instructor:** Chelsea Uggenti (she/her), [cuggenti@uwaterloo.ca](mailto:cuggenti@uwaterloo.ca)

- Office: M3 3021
- Office Hours:
  - Mondays from 9:30-10:30am [online via Teams \(12\)](#)
  - Thursdays from 3:00-4:00pm in M3 3021

**Teaching Assistants:**

- Office Hours: Will be posted on LEARN

### Course Description

Calendar Description for STAT 331

Modelling the relationship between a response variable and several explanatory variables (an output-input system) via regression models. Least squares algorithm for estimation of parameters. Hypothesis testing and prediction. Model diagnostics and improvement. Algorithms for variable selection. Nonlinear regression and other methods.

[View requirements for STAT 331 \(13\)](#)

## Calendar Description for SYDE 334

Review of basic Normal theory, t, chi-squared, and F distributions. Simple linear regression. Lack of fit. Analysis of variance. Multiple linear regression, variable selection techniques, indicator variables, diagnostics. Brief introduction to non-linear regression, factorial experimentation.

[View requirements for SYDE 334 \(14\)](#)

Your prior knowledge of elementary statistical modeling (STAT 231/241; SYDE212) and linear algebra (MATH 235/245) is **necessary** for this course. Given the large number of topics covered in this course, there will not be time to review these topics. Please **refresh your knowledge on these topics** from any of the courses you have taken before.

The **course web page** is available through [LEARN \(15\)](#) for the purpose of distributing all course materials and announcements. Please review your email and notification settings. I recommend you subscribe to notifications related to Announcements so you don't miss any important information.

Registered students can enroll in the **class discussion board** through [Piazza \(16\)](#). Students are expected to use the Piazza discussion board to discuss course content with each other, the TAs, and the instructor. Post all questions about course content on Piazza instead of emailing the instructor, allowing us all to learn from each other. The policies for posting on Piazza are:

1. Search for your question first before posting.
2. Keep your questions concise and specific.
3. Put relevant information in the subject line to make it easy for students to find your question. For example, use "Course Notes, Chapter 1, Q3 (b)".
4. Indicate what you have tried that did not work. For example, "I tried Exercise 4 and thought the solution should be ... but my solution is different from the solution provided. What is wrong with my solution?"
5. You can post questions while remaining anonymous to your fellow classmates if you'd like by clicking the "Show up as Anonymous" option. However, the instructor and TAs will be able to see your name.
6. **You must send a private message to the instructor/TAs if your question reveals part of an assignment solution.**
7. Do not expect a full solution to your question. You may be given a hint or suggestion as this helps with your learning.
8. The instructor/TAs will do our best to monitor the board and respond to questions during regular business hours (approx. Monday - Friday from 8:30am-4:30pm ET).
9. Students are encouraged to respond to questions and help each other.
10. We expect everyone to be respectful to each other. Any posts that do not meet with the principles in [Policy 33: Ethical Behaviour \(17\)](#) will be removed.

If you have a **non-course content related question or concern** you should feel free to email the instructor directly. Please send your emails from your uwaterloo.ca email address and include your student ID number.

Course Expectations

To help maintain a *safe, respectful, and productive community* in which we – students and teaching team alike – can take risks in our learning/teaching, tackle challenging concepts, and ultimately grow as learners, we should endeavor to follow these mutual expectations:

- Be prepared for class.
- Be active and participate in class.
- Be open to trying new ways to support learning.
- Learn from mistakes and seek/review/provide feedback.
- Promote an inclusive and safe learning environment.
- Actively listen to and respect others in all class-related environments.
- Ask and respond to questions/concerns in a timely manner (acknowledging busy times!).

Learning Outcomes

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

Explain the main concepts of linear regression models.
Understand the methods of least squares and maximum likelihood estimation for model parameters.
Interpret the model and its parameters (e.g., regression coefficients) in the context of any application.
Draw inferences from a fitted model about the parameters of interest and make predictions.
Apply the previous two outcomes when fitting linear models to real data using R.
Assess model quality by diagnosing violations in underlying model assumptions (and identify strategies for improvement).
Evaluate competing fitted models built using various model selection methods (and choose between them).
Communicate results and conclusions clearly and concisely to disparate audiences and interest groups.

Tentative Course Schedule

This schedule is approximate and may vary during the term. Any major updates to this schedule will be announced on LEARN.

Weeks/Dates	Topics	Text References	Assessments	Tutorials
1. Jan 6-10	Introduction  <b>1. Statistical Modelling</b>  <b>2. The Straight Line Model</b> <ul style="list-style-type: none"><li>• Model formulation and interpretation</li><li>• Least squares estimation</li><li>• Mean response and residual variance estimation</li></ul>	Oldford (O) - Ch. 1-2  Abraham and Ledolter (AL) - Ch. 2		Introduction to R/RStudio

Weeks/Dates	Topics	Text References	Assessments	Tutorials
2. Jan 13-17	<ul style="list-style-type: none"> <li>Maximum likelihood estimation</li> <li>Estimators and their properties</li> <li>Important distributions</li> <li>Distributions of estimators</li> <li>Confidence intervals</li> </ul>	O - Ch. 2-4 AL - Ch. 2		Straight Line Model in R
3. Jan 20-24	<ul style="list-style-type: none"> <li>Prediction intervals</li> <li>Intervals in R</li> <li>Hypothesis testing</li> </ul>	O - Ch. 4-5 AL - Ch. 2	<b>Assignment 1</b> due Mon Jan 20	Help Session
4. Jan 27-31	<ul style="list-style-type: none"> <li>Inference on residual variance</li> <li>ANOVA and F test</li> <li>Model limits</li> <li>Data transformations</li> </ul>	O - Ch. 4-6 AL - Ch. 2, 6		<b>Concept Quiz 1</b> (Tues, Jan 28)
5. Feb 3-7	<ul style="list-style-type: none"> <li>n-dimensional geometry</li> <li>Random vectors</li> </ul>	O - Ch. 7 AL - Ch. 3		A1 and Q1 Solutions
6. Feb 10-14	<ul style="list-style-type: none"> <li>Multivariate normal distribution</li> </ul> <b>3. The Linear Model</b> <ul style="list-style-type: none"> <li>Examples</li> </ul>	O - Ch. 8-9 AL - Ch. 3-4	<b>Assignment 2</b> due Mon Feb 10	No tutorial
Feb 17-21	Reading Week			
7. Feb 24-28	<ul style="list-style-type: none"> <li>Estimation</li> <li>Estimators and their properties</li> <li>Distributional building blocks</li> <li>Distributions of estimators</li> </ul>	O - Ch. 9, 11, 12 AL - Ch. 4	<b>Midterm</b> (Fri, Feb 28)	Midterm Review
8. Mar 3-7	<ul style="list-style-type: none"> <li>ANOVA and F test</li> <li>Significance tests</li> <li>General linear hypothesis</li> </ul>	O - Ch. 9, 11, 12 AL - Ch. 4		A2 and Midterm Solutions

Weeks/Dates	Topics	Text References	Assessments	Tutorials
9. Mar 10-14	<ul style="list-style-type: none"> <li>Case Study: South African heart disease               <ul style="list-style-type: none"> <li>Confidence regions</li> <li>Nested models</li> <li>Additional sum of squares</li> <li>ANOVA</li> </ul> </li> </ul>	O - Ch. 12 AL - Ch. 4	<b>Assignment 3</b> due Mon Mar 10	Help Session
10. Mar 17-21	<b>4. Model Checking and Diagnostics</b> <ul style="list-style-type: none"> <li>Residuals and residual plots</li> <li>Weighted least squares</li> <li>Outliers</li> <li>Studentized residuals</li> </ul>	O - Ch. 13-14 AL - Ch. 4, 6		<b>Concept Quiz 2</b> (Tues, Mar 18)
11. Mar 24-28	<ul style="list-style-type: none"> <li>Leverage</li> <li>Influence</li> <li>Multicollinearity</li> </ul>	O - Ch. 14-15 AL - Ch. 5-6		A3 and Q2 Solutions
12. Mar 31 - Apr 4	<b>5. Model Search and Selection</b> <ul style="list-style-type: none"> <li>One-variable-at-a-time selection methods</li> <li>Criteria-based selection methods</li> </ul>	O - Ch. 16 AL - Ch. 7	<b>Assignment 4</b> due Mon Mar 31	Final Exam Review
Apr 9-25	Final Exam Period			

## Lectures

In advance of lectures, unannotated lecture material will be posted to LEARN. During lectures, students will annotate the material alongside the instructor. If you only annotate what the instructor annotates, then you are *missing out on important material*.

**The instructor's annotated slides will typically not be posted following the lecture.** If you miss lectures, then you are *responsible* for reaching out to a classmate in order to find out what was missed.

## Tutorials

Tutorials will be used to introduce R/RStudio, provide further explanations/examples, discuss assessment solutions, review for exams, and ask questions about course content.

## Out-of-Class Workload

As in any university course, much of your learning in this course will take place outside of class time. You should plan to spend between 3 and 6 hours each week in out-of-class learning. This learning consists mostly of making sure you

understand the concepts and steps that were used in class to solve problems and then solve exercises from the textbook on your own.

## Texts / Materials

*Note: Any prices provided in course outlines are best estimates based on recent online prices and do not include shipping or taxes. Prices may vary between retailers.*

Title / Name	Notes / Comments	Required	Price (CAD)
Linear Regression: Course Notes by R.W. Oldford	These notes are an optional reference book (available for free on LEARN). This course uses the same notation and terminology to these notes.	No	\$0
Introduction to Regression Modeling by Abraham and Ledolter	This textbook is an optional reference book (available for free on LEARN). This course uses some different notation and terminology to this textbook.	No	\$0
R and R-Studio	Free software. Installation information will be provided on LEARN.	Yes	\$0

## Student Assessment

Component	Value
Concept Quizzes	5% (2.5% each)
Assignments	20% (5% each)
Midterm	20%
Final Exam	55%

## Assessments

The evaluation is set up to promote *mastery of the materials/skills* listed above by the end of the course, and to provide *opportunities to learn from mistakes*. Note: There are several [formative and summative assessments \(18\)](#) used in this course to assist your learning. Please read the evaluation methods below carefully along with the descriptions of the assessments (**WHY? WHAT? HOW?**). If you have *any questions* about any of the assessments, please do not hesitate to ask during class, office hours, or on Piazza.

### Concept Quizzes:

**WHY?** To promote: (i) engagement with the course material, (ii) self-reflection and metacognition, (iii) peer-to-peer interaction, (iv) summarization of what you are learning, and/or (v) progression tracking.

**WHAT?** Two (2) "two-part" quizzes consisting of an individual quiz (Part 1 - worth 1%) and a group quiz (Part 2 - worth 1.5%) for which students are encouraged to discuss their answers with classmates and ask questions of the teaching team. Some questions may be the same for both parts.

**HOW?** In-person and *partially* open book quizzes held on the tutorial dates listed in the schedule above.

## Assignments:

**WHY?** To demonstrate your mastery of the learning outcomes in an authentic manner, including your use of the statistical software, R. See [Math Assignment Planner \(19\)](#).

**WHAT?** Four (4) assignments, each composed of (typically) 1–5 questions requiring solving theoretical proofs, plots, R code and output, and/or written responses.

**HOW?** Submitted to Crowdmark and are due by 11:59pm ET on the tentative dates listed in the schedule above.

## Midterm Examination

**WHY?** To serve as an opportunity to demonstrate your understanding, application, and integration of the course material, including practical application of the skills/concepts with the statistical software, R.

**WHAT?** One (1) midterm exam.

**HOW?** In-person and closed book exam held on the date listed in the schedule above from 6:30–8:00pm. Room and seat assignments will be accessible prior to the exam on [Odyssey \(20\)](#).

## Final Examination

The 2.5-hour cumulative final examination will be scheduled by the Registrar's Office and held during the University Exam Period. Please do not make any travel plans before the final exam schedule is posted.

- **Incompletes:** Students who are unable to complete the final exam for a valid, documented reason will only be eligible for a [grade of incomplete \(21\)](#) (INC) if they have completed course work – specifically assignments and midterm – during the term well enough that they could reasonably be expected to earn a passing mark in the course.

## Assessment Policies

### Late Submissions:

- Assignments will be accepted up to two days late with a 25% penalty assigned to each 24-hour period after the deadline. Assignments more than 48 hours late will not be graded and will be given a grade of zero.

### Missed Assessments:

- **Missed Assignment:** The time window to complete these assessments are generous and, in general, a sickness lasting a couple of days will not be enough of a reason to ask for alternative accommodations and/or extension. It is expected that you will use the whole time-window in its entirety to complete the assessment and not leave it for the last couple of days.
- **Missed Quiz/Midterm:** If you miss a quiz or the midterm for any reason (including self-isolation, short-term absence declaration, or other legitimate reasons), [submit proper documentation \(22\)](#) and contact the instructor within 48 hours of the missed assessment (within 24 hours of the missed assessment for short-term absences) so that you can be informed how/if you will be accommodated.

### Remarking:

- You may appeal the grading of an assessment by sending an email request to the instructor within one week of the date the assessment was returned.

## Tips for Success

- Lecture and tutorial attendance is strongly recommended.
- A list of textbook homework problems are available on [LEARN \(23\)](#).
  - Completing problems from the course notes/textbook independently is necessary to develop and self-assess your understanding of the material.
  - Students should critically compare their work with available solutions and against the solutions of fellow classmates.
  - As course concepts are introduced, students should solve related problems from the course notes/textbook in a timely manner to assess and solidify their understanding.
  - For most students, working on these problems regularly and diligently is essential to success in the course.
- It is essential to ask for clarification promptly. You can ask questions during/after lectures and tutorials, on Piazza, or during office hours.
- I highly recommend these [educational resources \(24\)](#) related to time management, study skills, and stress management, among other topics.
- Reach out to me if you are having any trouble. I want you to succeed and I will do my best to support you in any way I can.

## Assignment Screening

No assignment screening will be used in this course.

## Notice of Recording

If public health requires that we switch to remote teaching, then the lectures may be recorded and posted on LEARN. For more information, see the Student Notice of Recording in the Course Information folder on LEARN.

## Administrative Policy

**COVID-19 Precautions and Contingency Planning:** Students must adhere to all [University of Waterloo COVID-19 \(25\)](#) mandatory safety precautions. Do not come to class or other in-person activities if you are experiencing COVID-19 symptoms or are required to self-isolate. To help you decide if you should isolate, you can use the [provincial self-assessment tool \(26\)](#). In the scenario where we must transition back online the following contingencies will be used:

On-campus activity	Online replacement
Lectures	Pre-recorded videos posted to LEARN, along with slides
Tutorials	Synchronous Teams meeting with instructor and/or TA available
Quizzes	Timed Crowdmark assessment at originally scheduled date and time (see schedule above)
Assignments	No change
Midterm Exam	Timed Crowdmark assessment at originally scheduled date and time (see schedule above)
Final Exam	Timed Crowdmark assessment at the time scheduled by the Registrar's office

- **Short-term (e.g., one-week) cancellation of in-person classes:** We will follow the above plans.
- **Long-term cancellation of in-person classes:** We will follow the above plans.
- **Cancellation of in-person (midterm or final) examinations:** We will follow the above plans.



**Intellectual Property and Copyright Notice:** The lecture slides, course notes, and assessments provided to you are all under the copyright of the current and previous course instructor(s). These materials are made available for the personal use of students registered in the current offering of this course. Students may not distribute or reproduce these materials for commercial or non-commercial means. Failure to abide by these conditions is a breach of copyright and an academic offence (see [Policy 71 \(27\)](#)).

**Mental Health Support:** The Faculty of Math encourages students to seek out mental health support if needed.

- On-campus Resources:
  - Campus Wellness <https://uwaterloo.ca/campus-wellness/> (28)
  - Counselling Services: [counselling.services@uwaterloo.ca](mailto:counselling.services@uwaterloo.ca) 519-888-4567 ext. 32655
  - [MATES: \(29\)](#) one-to-one peer support program offered by Waterloo Undergraduate Student Association (WUSA) and Counselling Services: [mates@wusa.ca](mailto:mates@wusa.ca)
  - [Health Services \(30\)](#): located across the creek from the Student Life Centre, 519-888-4096.
- Off-campus Resources:
  - Good2Talk (24/7): Free confidential help line for post-secondary students. Phone: 1-866-925-5454 (Ontario and Nova Scotia only)
  - Here 24/7: Mental Health and Crisis Service Team. Phone: 1-844-437-3247 (Waterloo Region only)
  - OK2BME: set of support services for lesbian, gay, bisexual, transgender or questioning teens. Phone: 519-884-0000 extension 213 (Waterloo Region only)
  - EMPOWER ME 1-833-628-5589 for Cdn./USA other countries see: [http://studentcare.ca/rte/en/IHaveAPlan\\_WUSA\\_EmpowerMe\\_EmpowerMe](http://studentcare.ca/rte/en/IHaveAPlan_WUSA_EmpowerMe_EmpowerMe) (31)
    - EMPOWER ME in China:
      - China North 108007142831
      - China South 108001402851

**Diversity:** It is our intent that students from all diverse backgrounds and perspectives be well served by this course, and that students' learning needs be addressed both in and out of class. We recognize the immense value of the diversity in identities, perspectives, and contributions that students bring, and the benefit it has on our educational environment. Your suggestions are encouraged and appreciated. Please let us know ways to improve the effectiveness of the course for you personally or for other students or student groups. In particular:

- We will gladly honour your request to address you by an alternate/preferred name or gender pronoun. Please advise us of this preference early in the semester so we may make appropriate changes to our records.
- We will honour your religious holidays and celebrations. Please inform of us these at the start of the course.
- We will follow AccessAbility Services guidelines and protocols on how to best support students with different learning needs.

**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 co-ordinated within the [Office of Indigenous Relations. \(32\)](#)

## Generative AI

This course includes the independent development and practice of specific skills, such as mathematical proofs and the fitting, interpretation, and assessment of linear models in real applications. Therefore, the use of Generative artificial intelligence (GenAI) trained using large language models (LLM) or other methods to produce text, images, music, or code, like Chat GPT, DALL-E, or GitHub CoPilot, is not permitted in this class. Unauthorized use in this course, such as

running course materials through GenAI or using GenAI to complete a course assessment is considered a violation of [Policy 71 \(33\)](#) (plagiarism or unauthorized aids or assistance). Work produced with the assistance of AI tools does not represent the author's original work and is therefore in violation of the fundamental values of academic integrity including honesty, trust, respect, fairness, responsibility and courage ([ICAI \(34\)](#), n.d.).

You should be prepared to show your work. To demonstrate your learning, you should keep your rough notes, including research notes, brainstorming, and drafting notes. You may be asked to submit these notes along with earlier drafts of their work, either through saved drafts or saved versions of a document. If the use of GenAI is suspected where not permitted, you may be asked to meet with your instructor or TA to provide explanations to support the submitted material as being your original work. Through this process, if you have not sufficiently supported your work, academic misconduct allegations may be brought to the Associate Dean.

In addition, you should be aware that the legal/copyright status of generative AI inputs and outputs is unclear. More information is available from the Copyright Advisory Committee: [\(35\)https://uwaterloo.ca/copyright... \(36\)](#)

Students are encouraged to reach out to campus supports if they need help with their coursework including:

- [Student Success Office \(37\)](#) for help with skills like notetaking and time management
- [Writing and Communication Centre \(38\)](#) for assignments with writing or presentations
- [AccessAbility Services \(39\)](#) for documented accommodations
- [Library \(40\)](#) for research-based assignments

## 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 \(41\)](#) 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 \(42\)](#). 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 \(43\)](#) 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 \(44\)](#). For typical penalties, check [Guidelines for the Assessment of Penalties \(45\)](#).

**Appeals:** A decision made or penalty imposed under [Policy 70, Student Petitions and Grievances \(46\)](#) (other than a petition) or [Policy 71, Student Discipline \(47\)](#) 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 \(48\)](#).

**Note for students with disabilities:** [AccessAbility Services \(49\)](#), 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.

## Reference: Links from Document

1. [https://outline.uwaterloo.ca/viewer/view/njyvqg#class\\_schedule](https://outline.uwaterloo.ca/viewer/view/njyvqg#class_schedule)
2. [https://outline.uwaterloo.ca/viewer/view/njyvqg#instructor\\_amp\\_ta\\_teaching\\_assistant\\_information](https://outline.uwaterloo.ca/viewer/view/njyvqg#instructor_amp_ta_teaching_assistant_information)
3. [https://outline.uwaterloo.ca/viewer/view/njyvqg#course\\_description](https://outline.uwaterloo.ca/viewer/view/njyvqg#course_description)
4. [https://outline.uwaterloo.ca/viewer/view/njyvqg#learning\\_outcomes](https://outline.uwaterloo.ca/viewer/view/njyvqg#learning_outcomes)
5. [https://outline.uwaterloo.ca/viewer/view/njyvqg#tentative\\_course\\_schedule](https://outline.uwaterloo.ca/viewer/view/njyvqg#tentative_course_schedule)
6. [https://outline.uwaterloo.ca/viewer/view/njyvqg#texts\\_materials](https://outline.uwaterloo.ca/viewer/view/njyvqg#texts_materials)
7. [https://outline.uwaterloo.ca/viewer/view/njyvqg#student\\_assessment](https://outline.uwaterloo.ca/viewer/view/njyvqg#student_assessment)
8. [https://outline.uwaterloo.ca/viewer/view/njyvqg#assignment\\_screening](https://outline.uwaterloo.ca/viewer/view/njyvqg#assignment_screening)
9. [https://outline.uwaterloo.ca/viewer/view/njyvqg#notice\\_of\\_recording](https://outline.uwaterloo.ca/viewer/view/njyvqg#notice_of_recording)
10. [https://outline.uwaterloo.ca/viewer/view/njyvqg#administrative\\_policy](https://outline.uwaterloo.ca/viewer/view/njyvqg#administrative_policy)
11. [https://outline.uwaterloo.ca/viewer/view/njyvqg#university\\_policy](https://outline.uwaterloo.ca/viewer/view/njyvqg#university_policy)
12. [https://teams.microsoft.com/j/meetup-join/19%3ameeting\\_MmVhNTRjN2YtYmNIOC00NTFjLWE2ZDQtNjJjMTNmZDFhZTIk%40thread.v2/0?context=%7b%22Tid%22%3a%22723a5a87-f39a-4a22-9247-3fc240c01396%22%2c%22Oid%22%3a%22eec97090-88eb-442e-a1b9-9364dd7f0771%22%7d](https://teams.microsoft.com/j/meetup-join/19%3ameeting_MmVhNTRjN2YtYmNIOC00NTFjLWE2ZDQtNjJjMTNmZDFhZTIk%40thread.v2/0?context=%7b%22Tid%22%3a%22723a5a87-f39a-4a22-9247-3fc240c01396%22%2c%22Oid%22%3a%22eec97090-88eb-442e-a1b9-9364dd7f0771%22%7d)
13. <https://acal.fast.uwaterloo.ca/course/1251/STAT/331>
14. <https://acal.fast.uwaterloo.ca/course/1251/SYDE/334>
15. <https://learn.uwaterloo.ca/>
16. [https://piazza.com/uwaterloo.ca/winter2025/stat331\\_cuggenti\\_1251](https://piazza.com/uwaterloo.ca/winter2025/stat331_cuggenti_1251)
17. <https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-33>
18. <https://www.aeseducation.com/blog/formative-vs.-summative-assessments-what-do-they-mean>
19. <https://lib.uwaterloo.ca/web/assignment-planner/math-assignment>
20. <https://odyssey.uwaterloo.ca/teaching/schedule>
21. <https://uwaterloo.ca/math/current-undergraduates/regulations-and-procedures/incomplete-procedure>
22. <https://uwaterloo.ca/math/accommodations/submission#how-to-declare>
23. <http://learn.uwaterloo.ca/>
24. <https://uwaterloo.ca/student-success/resources>
25. <https://uwaterloo.ca/coronavirus/>
26. <https://covid-19.ontario.ca/self-assessment/>
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