

MA480-QL Intro to Statistics

Syllabus

COURSE INFO

Instructor: Caren Alexander

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Office Hours: by appointment

First day of class: Monday June 3rd, 2024

Final Exam: Tuesday August 6th, 2024, by 8pm

COURSE DESCRIPTION

This course supports the development of quantitative literacy. As such, the course is about learning the concepts and principles of statistics and then being able to choose among various statistical methods when presented with a brand-new problem. The actual calculations required in applying statistical methods is done using a calculator or computer program.

COURSE MATERIALS

Access Code

The MyMathLab access code for the course is required and is available through Canvas with the First Day access unless you opt out. Access is also available for purchase at the bookstore, but more expensive. There is no textbook for the course, eText is included with the Access Code.

Formula Sheet

The formula sheet is allowed to be used during testing and is in the Course Resources on Canvas.

Calculator

Only the Desmos Scientific calculator (<https://www.desmos.com/scientific>) will be allowed during tests, no personal calculators. A link is provided in the Course Links Module. Students can use StatCrunch, which is included with MyMathLab for computations as well. Tutorials are provided on Canvas.

COURSE CONTENT

- Handle data sets, construct and interpret tables, graphs, and schematic representations of mathematical relations
- Translate verbal descriptions into mathematical form
- Compute statistics and evaluate the significance of observations
- Probability laws and empirical data

- Measures of center and variability
- Normal distributions
- Sampling distributions
- Hypothesis testing and confidence intervals
- Linear regression analysis
- Analysis of categorical data
- One-way analysis of variance

COURES OBJECTIVES

1. Recognize and analyze sampling methods and the importance collecting data.
2. Develop the ability to organize, summarize, and represent data in ways that enable us to see important characteristics.
3. Apply methods of descriptive statistics to summarize or describe relevant characteristics of data.
4. Identify, interpret, and calculate probability values.
5. Select and use discrete or continuous probability distributions.
6. Use basic methods of testing claims about population parameters by selecting sample data to estimate values of population parameters as well as conducting tests about population parameters.
7. Analyze paired data to determine correlation and identify a linear regression equation to predict values.
8. Use statistical methods for analyzing categorical data that are separable into different cells.
9. Identify and apply methods of one-way analysis of variance to conduct a hypothesis tests.

COURSE ACCESS

Canvas

All additional course materials as well as deadlines will be in Canvas. Official communication will be done through Canvas announcements. Canvas will also be used for submitting individual submissions of group problems and participation in discussions. You will also be able to find the weekly Zoom meetings that are available to receive additional help.

MyMathLab

All previews, homework, quizzes, and tests for this course are available in MyMathLab only. A user account is required for every student and needs to be activated through Canvas. You won't need an access code unless you opt out of the First Day access provided at a reduced cost. Instructions can be found under Course Information.

NO EXTENSIONS for missed assignments due to failure to activate your account or opt out of First Day access.

Browser

It is recommended to use Mozilla Firefox or Google Chrome to avoid any browser issues with Canvas or MyMathLab.

Respondus Monitor

All testing will be completed using Respondus Monitor. A sample test is available in MyMathLab to test it out before the first test and avoid any issues on the test day. It will give you the opportunity to familiarize yourself with Respondus Monitor by answering a couple questions. You will need to download the necessary program for Respondus Monitor, which can be completed through the Sample Test assignment.

COURSE GRADE

Your grade in the course is determined by the points earned throughout the semester.

Assignments	Points
Preview (10 quizzes @ 5 points each)	50
Homework (10 assignments @ 10 points each)	100
Quizzes (10 quizzes @ 10 points each)	100
Tests (4 tests @ 100 points each)	400
Final Exam	250
Discussion (10 @ 4 points each)	40
Problem (10 Problems @ 6 points each)	60
Total points possible	1000
Syllabus Quiz	2
Honor Code	1
Knowledge Mastery	2
Practice Tests (5 tests @ 4 points each)	20

Points earned	Grade
880-1000	A
750-879	B
620-749	C
500-619	D
Below 500	F

Preview

There is a Preview Assignments for each Group Problem that is required before you can attempt the weekly Homework Assignments. It is important to work through them to gain the basic understanding needed for the remaining assignments that it goes with. It serves as an introduction for new concepts and is completed in MyMathLab. No credit will be given for late completions.

Homework

The homework exercises are done using a computer program named MyMathLab. Homework assignments must be completed no later than 11:59 PM on the day specified in your course schedule to receive full credit. Any work submitted after the deadline will receive half-credit automatically.

Quizzes

Like the homework, quizzes are taken on-line. Each quiz can be taken two times (the highest grade will count). **Do not hit the BACK button on your browser when taking a quiz.** This will end your quiz and you will not be able to get back into it. If you think your computer or network connection is not reliable, you should take your quizzes in the UAB Math Learning Lab (if available). Quizzes have a 30-minute time limit. They are open-book. **Students are strongly advised to not wait until the last minute to complete practice and quizzes.** Problems occurring at the last minute are the responsibility of the student. Quizzes must be completed no later than 11:59 PM on the day specified in your course schedule to receive full credit. Any work submitted after the deadline will receive half-credit automatically.

Tests/ Final Exam

There will be four 50-minute tests and a 120-minute final exam. The final exam will be comprehensive. The tests and final exam must be completed with Respondus Monitor. You can use the Desmos scientific calculator or StatCrunch during testing as well as the printed-out Formula Sheet and two pieces of blank paper. Students found using anything besides the permitted items during testing will receive a zero on the test and will be reported to the University Academic Integrity Office. **All tests will be available for one week and must be taken by 8 PM on the day specified by the course schedule.**

Practice Tests

The way you prepare for the tests is by completing the homework and quiz assignments for understanding. Also, you will have a practice test available for each test and the Final Exam in the course. There is no make up for missed practice tests.

Discussions

Weekly discussion participation is required for the course. They will be available over multiple days and students are expected to make a post and leave two comments on the post of other students. However, more posts are encouraged and will be needed for good group interaction to solve the problems assigned for the discussion. Posting solutions to problems in the discussion is forbidden and will be penalized with no credit. Participation is important for learning and improving communication skills. Therefore, there is no makeup for missed discussions.

Problems

Each discussion is accompanied by a problem to be solved. Each student is required to submit a solution to the problem with their own work. Solutions will be submitted on Canvas and in a separate assignment from the discussion. Instructions on how to submit can be found in the Course Information Module under Canvas Assignment Info.

Honor Code and Syllabus Quiz

Both assignments should be completed before any other assignments in Canvas. The Syllabus Quiz will be completed to ensure that you have read and understand the contents of this document. It will contain important aspects of the course and its structure. By completing it, you certify that you have read and understand the syllabus. The Honor Code will be used for you to certify that you will abide by the UAB Honor Code and that failure to do so can result in severe penalties.

Knowledge Quiz & Mastery

At the beginning of the semester, you will take a Knowledge Quiz containing questions about Math skills needed for this course that you should have to be successful. The quiz will determine how many questions of the mastery that you will need to complete. The quiz should be taken without any resources to show you which topics you need a little bit more practice with and which you will receive automatic credit for.

Bonus Points

You will have the opportunity throughout the semester to earn Bonus points in the course. These will include the syllabus quiz, honor code, practice tests, and the knowledge mastery for a total of 25 points.

Make-ups

There is no make-up for any assignments. This is because they can and **should be completed ahead of time** or participation is important. However, you can complete the homework and quiz assignments late for half credit. Otherwise, you can use the bonus points to replace missed points.

- **If a student misses 1 test** (not including the Final Exam), the Final Exam grade will be used to replace the missed test grade if the student formally makes a request to do so. The student must complete a **Test Replacement Form** under the Course Resources on Canvas no later than 5:00pm on the last day of classes. **Note that only one missed test grade may be replaced with the Final Exam grade. All students are expected to complete the Final Exam.**
- *A student missing a test due to university related business or government mandated activities is required to notify the instructor **no later than one week prior to the missed test date in order to be able to take the test prior to the scheduled test date.** If a student does not communicate with the instructor one week prior to the missed test date, the student will be required to use the Final Exam grade to replace the missed test grade.*

COURSE POLICIES

Grade Review

Official student grades are maintained in the Math Department grade database (a.k.a. MADDIE). To access your grade record, go to www.uab.edu/mathematics and click on *Student Resources* then *Check grades*. You will need to enter your BlazerID and password. You can also access it through Canvas or MyMathLab.

Students are asked to review all grades for accuracy immediately after they are posted, which happens once a day by 11 AM. **All questions involving practice grades, quiz grades, test grades and participation points must be resolved before the final exam.** Once the final exam is taken the course is complete, and no further review of in-term grades is permitted.

Generative AI Use is Prohibited

The use of generative AI is strictly prohibited in this course. Academic misconduct is present in academic work wherever AI assistance has been used when unauthorized. Such behavior is considered deceitful and a violation of UAB's shared commitment to truth and academic integrity. Deceit constitutes academic misconduct and is subject to review according to UAB's Academic Integrity Code.

Tutoring

Please visit Resources on the Math Department website and see the times for MA 180 at <https://www.uab.edu/cas/mathematics/resources> .

Email

Information about the course (changes to assignments, reminders, schedules, etc.) will be distributed to students using their [BlazerID](#) email address or Canvas. Each student is required to access their UAB email account daily, as these communications represent official university business. This is a requirement for all UAB students. For UAB email account assistance, send an email to userservices@uab.edu, or call 934-3540.

Disability support Services (DSS)

UAB is committed to providing an accessible learning experience for all students. If you are a student with a disability that qualifies under Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act, and you require accommodations, please contact Disability Support Services for information on accommodations, registration and procedures. If you are registered with Disability Support Services, please contact DSS to discuss accommodations that may be necessary in this course. Disability Support Services can be reached at 934-4205 or www.uab.edu/dss or in the Hill Center Suite 409.

Title IX Statement

UAB is committed to providing an environment that is free from sexual misconduct, which includes gender-based assault, harassment, exploitation, dating and domestic violence, stalking, as well as discrimination based on sex, sexual orientation, gender identity, and gender expression. If you have experienced any of the aforementioned conduct we encourage you to report the incident. For more information about Title IX, policy, reporting, protections, resources and supports, please visit <http://www.uab.edu/titleix> for UAB's Title IX Policy, UAB's Equal Opportunity, Anti Harassment Policy and Duty to Report and Non-Retaliation Policy.

Academic Misconduct

UAB Faculty expects all members of its academic community to function according to the highest ethical and professional standards. You are expected to be aware of, and rigorously adhere to, the UAB code of conduct with regard to academic honesty and inter-personal relations.

Academic dishonesty and misconduct includes, but is not limited to, acts of abetting, cheating, plagiarism, copying homework, fabrication, and misrepresentation. Candidates are expected to honor the UAB Academic Code of Conduct as detailed in the most current *UAB Student Catalog*.

Add/Drop and Course Withdrawal

Drop/Add: Deadlines for adding, dropping, or withdrawing from a course and for paying tuition are published in the [Academic Calendar](#) available online. Review the [Institutional Refund Policy](#) for information on refunds for dropped courses.

Withdrawal: To avoid academic penalty, a student must withdraw from a course by the withdrawal deadline shown in the academic calendar and receive a grade of W (withdrawn). Failure to attend class does not constitute a formal drop or withdrawal.

Syllabus: This syllabus is subject to changes announced in class.