

# MA418-ZN Intro to Statistics

## Spring 2021

### Instructor Information

Name: Minh Nguyen

Email: minhnt@uab.edu

Phone: 934-2154

Office Hours: Zoom by appointment

### CLASS MEETING INFORMATION

**Hybrid:** This class will be a mixture of in-person and on-campus instruction and remote learning components. Students should be available on the days and hours listed in the Class Schedule. Students will be assigned which days to attend class in person. There will be a significant amount of out-of-classroom learning activities that replace scheduled class meeting time. This course is delivered both in person and via the Canvas Learning Management System, where you will interact with your classmates and your instructor.

Teaching Time Zone: Central Time

Weekly Meetings in person or on Zoom: TR 8:00-9:15 AM

First day of class: Tuesday January 19, 2021

Last day of class: Thursday April 22, 2021

**Final Exam:** Tuesday April 27, 2021 at 8 AM

### FINAL EXAM: TUESDAY DECEMBER 8, 2020 BY 8 PM 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, however it comes with a lot of material in Canvas and MyMathLab.

#### Formula Sheet

The formula sheet is allowed to be used during testing and is located in MyMathLab. It is recommended to use the formula sheet during class and lab meetings as well as for assignments.

#### Calculator

A good calculator can be useful, but is not required for the course. Students can use StatCrunch, which is included with MyMathLabPlus or Excel for computations.

## 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

## COURSE 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. Collect sample data gathered in the community and analyze it using summary statistics.
5. Identify, interpret, and calculate probability values.
6. Select and use discrete or continuous probability distributions.
7. Apply basic methods for hypothesis testing to a collected data set and interpret the results to create possible further actions.
8. 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.
9. Analyze paired data to determine correlation and identify a linear regression equation to predict values.
10. Use statistical methods for analyzing categorical data that are separable into different cells.
11. 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 and for class meetings for this hybrid course.

### MyMathLab

All previews, practices, 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.

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.

## COURSE GRADE

Your grade in the course is determined by the points earned throughout the semester and a Pass/Fail project.

| Assignments                              | Points      |
|--|-------------|
| Preview (12 quizzes @ 6 points each)     | 72          |
| Practice(12 assignments @ 6 points each) | 72          |
| Quizzes (12 quizzes @ 6 points each)     | 72          |
| Tests (4 tests @ 100 points each)        | 400         |
| Final Exam                               | 250         |
| Problems (12 @ 5 points each)            | 60          |
| Discussions (12 @ 5 points each)         | 60          |
| Honor Code                               | 4           |
| Syllabus Quiz                            | 5           |
| Introduction Discussion                  | 5           |
| <b>Total points possible</b>             | <b>1000</b> |
| Bonus (3 @ 10 points each)               | 30          |

| 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 Practice 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.

## Practice

The practice exercises are done using a computer program named MyMathLab. Practice 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 practice, 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 60-minute tests and a 120-minute final exam. The final exam will be comprehensive. The tests and final exam can all be completed with reference to the formula sheet provided in MyMathLab. The textbook itself cannot be used. You can use your calculator or StatCrunch/Excel during testing, but no other resources. Students found using anything besides the permitted items during testing will receive a zero on the test. **For the Spring term, all testing will be available in HHB 202 during class time on the scheduled days. Optionally the test can be taken with ProctorU, but it is not recommended.** You will have two days for each test to schedule your appointment by the deadline date at 8 PM if you choose to test with ProctorU.

## Preparing for Tests

The way you prepare for the tests in the course is by completing all of the assignments in the course. Test questions will be similar to questions seen in the Practice and Quiz assignments throughout the semester. You should complete these assignments for understanding to ensure the best preparation for the tests. You also have access to the Study Plan in MyMathLab which gives you additional questions to practice.

## Make-ups

There are no make-ups for missed homework and quiz assignments. This is because they can and **should be completed ahead of time.** However, you can complete the assignments late for half credit.

- **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 **Replacement Test Grade** form no later than 12:00pm on the last day of classes and can request it from their instructor. **Note that only one missed test grade may be replaced with the Final Exam grade. All students are expected to take 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.*

## Problems and Discussions

Weekly discussion participation is required in the course. They will be available over multiple days and students are expected to post at least twice. However, more posts are encouraged and will be needed for a 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. Both assignment types will be completed in Canvas.

## Intro

There will be an introduction assignment in Canvas to get to know the other students in the course and share about your college experience.

## 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.

### **Bonus Points**

There will be an opportunity at the end of the semester for you to complete three assignments for up to 30 Bonus Points. The assignments will be completed through MyMathLab and are labeled as Bonus. See Canvas for deadlines.

### **Project**

As a 418 student, you will have an additional project to complete. It will be graded as Pass/Fail. If you receive a Fail, your course grade will automatically be lowered by a whole letter grade. The work for the project will be submitted in Canvas and you will have a couple opportunities throughout the semester to submit preliminary work and receive feedback.

## **COURSE POLICIES**

### **Cell phones and other electronics**

All cell phones, iPhones, iPads, and other electronic devices must be turned off and put away during testing. Violations will result in penalties determined by the director of Pre-Calculus Curriculum and can result in a grade of F in the course.

### **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](http://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 Plus.

Students are asked to review all grades for accuracy immediately after they are posted. **All questions involving homework 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.

### **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](mailto:userservices@uab.edu), or call 934-3540.

### **Extended Absences**

Attendance is fundamental to course objectives and to the integrity of this course. Courses in the Mathematics Department require a variety of activities that involve interaction with the instructor and/or interaction with other students. Excessive absences and missed assignments (more than 2 weeks) seriously jeopardize a student's ability to successfully complete the course. In the event of excessive absences, students should be prepared to officially withdraw from the course through the Registrar's Office. In cases involving medical hardships, military duty, or other serious personal situations after the withdrawal date for a course, the student may participate in the Academic Policy Appeal (accessed and submitted through Blazernet Links/Forms).

### **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](http://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, AntiHarassment 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.

### **UAB United: Safe Entry to Campus**

Please go to the [UAB United website](#) for guidance and resources related to our safe entry to campus in Fall 2020, including information on:

- [Testing](#)
- [Academic resources](#) and in-depth information
- [Student Affairs resources](#) to support all students (housing, dining, extracurricular activities, parking, etc.)
- [Health and safety resources and recommendations](#) for on and off-campus
- Information for [graduate students](#), [School of Medicine students](#), [Post-Docs](#) and [International Students](#)

All students should use the [Student COVID-19 Entry Checklist](#) to see what they have to do in order to enter the campus safely. **Non-compliance with the required items will result in students not being able to remain on campus or participate in any in-person classes, meetings, jobs, extracurricular activities, and events.**

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