

## ISyE 3770 Syllabus and Course Outline

### Statistics and Applications

**Instructor:** Dr. Tuba Ketenci; email: [tuba.ketenci@isye.gatech.edu](mailto:tuba.ketenci@isye.gatech.edu).

**Teaching Assistant:** TBD; email: TBD.

**Class:** M, TU, W, TH, 15.30-17.40 pm. May 11, 2020 - Jun 16, 2020

**Course Textbook:** Applied Statistics and Probability for Engineers by Montgomery and Runger, 7th Edition, online book with WileyPLus code.

Here is the link to purchase the book, and you can see the picture of the book in the class canvas site under Files folder, Textbook file:

<https://www.wiley.com/WileyCDA/Section/id-830693.html>

**Course Objectives:** Provide an introduction to probability, probability distributions, point estimation, confidence intervals, hypothesis testing, and linear regression. This course is cross-listed with MATH 3770 and CEE 3770.

**Course Outcomes:** Students should be able to:

1. Solve problems involving discrete and continuous random variables, probability distribution functions (discrete and continuous), conditional probability, joint probability, expectation, variance, conditional expectation, conditional variance, independence, laws of large numbers, and basic Poisson processes.
2. Analyze and display sampling data, evaluate statistics, and estimate distribution parameters;
3. Draw conclusions about population parameters from experimental data by using proper statistical techniques;
4. Use proper statistical techniques (namely hypothesis testing) to draw sound statistical conclusions;
5. Use computer software (e.g., Microsoft Excel) to apply statistical methods to solve problems.

### **Prerequisites**

MATH 2401 or 2411; MATH 24X1 or MATH 2605; MATH 2551/2561 or MATH 2X51.

**Schedule:** Schedule is posted online (see the link below), and there might be some adjustments. It is the students' responsibility to check the schedule before getting ready for any assignments. Since this class is in a flipped format (online and in-class sessions), it is students' responsibility to know what is happening and when. Exams will be done in class, and students are responsible for bringing the devices needed to take the assessments. Students are also responsible for downloading the required software needed for the tests.

<https://www.dropbox.com/s/0l90lmlcatsf7ee/Summer%202020%20Online%20ISYE%203770%20Course%20Schedule.xlsx?dl=0>

**Mode of Instruction:** The class content will be delivered in an online format; all the lectures, slides, past exams, etc. are posted to the class canvas site. Exams and final exams will be taken online through the canvas site on **the designated class time**.

**All the assignments are due at the end of the class time on the listed date in the schedule.**

**Meeting Times and Virtual (On-Line) Hours:** Dr. Ketenci will be available every Tuesday for an office hour from 3.30 pm to 5.40 pm on BlueJeans. You can find the link in your emails. Attendance is not mandatory. Students are expected to keep up with the pace by the schedule posted on the Home Page of this course. In the schedule, specific videos and reading materials are presented week by week.

**System Requirements:** Each student needs to have access to the internet. Fast access to the internet (DSL, etc.) is strongly recommended. The computer should have speakers, and a microphone is needed if the student would like to participate in virtual office hours. Students will have access to videos, etc. via Canvas.

**Communications:** Communications between the instructors and students and among students are maintained in the discussion board and email in Canvas. Students are expected to check canvas daily. The communication is open all the time. The instructors will do their best to reply within 24 hours on weekdays. Please understand that there is no reply/posting from instructors on weekends.

### **Class Materials:**

The schedule is under Home Page, Getting Started Menu.

Slides that go with the videos and sample exams can be found in the Files.

Homework is under Modules Page.

Links to the videos are under Pages.

All the assessments can be reached through the Assignment page.

**Grading:** Students are responsible for checking the posted grade. No adjustment of any grade posted will be made according to guidelines set below. Letter Grade Minimum Target Averages: A: 90%; B: 80%; C: 70%; D: 60%

### **Assignments and Grade Components**

Quizzes (total of 5): 20%; Participation (total of 4): 10%; Exams (total of 2): 40%; Final Exam: 30%. No Curving!

**Homework:** Homework will be posted as WileyPlus review questions on Canvas. Some homework questions may be used on quizzes and exams. Homework is not graded or collected. The homework assignments are meant to be a practice tool; I strongly encourage you to do all of the problems. Homework completion rate in WileyPlus gradebook will be used to decide rounding student's grades to the next letter if a student needs 1 point to increase the letter grade (e.g., from B to A for the student with 89, 88.8 will not be rounded).

**Quizzes:** Short 1-5 questions with subquestions computerized quizzes will be given. No partial credits! If students make calculations or rounding mistakes, it is not an option to ask the instructor to correct it. No makeup quizzes will be given for any reason. No extensions. No exceptions. If you have an official Georgia Tech accepted-reason for missing a quiz, you must produce appropriate documentation justifying your absence prior to and no later than one week from the date of the quiz. If you are authorized to miss a quiz, the quiz component of your grade will be based upon the average of the quizzes that you did take. You need to install LockDown Browser in order to take the online quizzes through WileyPlus Page. **You can take the quiz wherever you want during the class time. If you happen to take the quiz on paper, you can only use your notes on paper. Scientific calculators are allowed during quizzes and exams.**

None of the quizzes will be dropped!

**Exams:** There will be **two exams – and a final exam**. Students are allowed to bring only scientific calculator, pencil, eraser, and GATECH ID. The cheat sheet will be given during the exam and it can be found under Files on the course Canvas page.

There will be no make-up exams for any reason! If you have an official Georgia Tech accepted-reason for missing an exam, you must produce appropriate documentation justifying your absence prior to and no later than one week from the date of the exam. If you miss an exam due to an Institute-approved absence, the exam component of your grade will be based upon the average from the exam that you did take. Any student missing more than one exam is at risk for satisfactory completion of this course.

There will be absolutely NO consideration for exam score adjustments after 24 hours of the grade for that exam being posted to Canvas.

**Participation:** There will be 4 discussion board questions where you need to answer a question, each is 2.5 points, and the total is going to be the students' participation grade. Please note that both quantity and quality are important considerations when it comes to participation. For example, a message which says simply, "I agree," does not constitute participation because it does not add anything of substance to the discussion.

### **Re-grade Policy**

DO NOT submit re-grades for partial credit. If you have strong reasons to believe that there was a mistake in the grading of your exam, you can request a written request for re-grading by submitting a Grade Readjustment Form within three days of my handing back the graded assignment or test. The form is available at the Getting Started

menu. Re-grades involve re-grading the entire assignment, and if no mistake is found, 5 points will be deducted from your overall assignment grade. Do not write on the original exam. The exam will not be re-graded if the procedures outlined here are not followed.

The instructor will not answer any question during the last weeks of class such as

- Can I do something extra to increase my grade?
- Can we sit together and calculate my grade?
- Can I retake exam 2 or quiz 2?...

**Attendance:** Attendance is NOT a formal requirement. However, in order to do well in this class, you need to listen to the online lectures, take notes, and participate in discussions. It is your responsibility to keep up with readings and lecture notes as exams and quizzes will be based both on online lectures and reading the content. DO NOT ask me whether we covered anything important on a day you missed. All classes are important. **If the pace of the course is too fast for you to follow, it is your responsibility to communicate the issue with the instructor.**

### **Email**

All emails to the instructor must have [ISyE 3770] in the subject line. Failure to place this in the subject line could cause your email not to be read. The instructor does not answer conceptual questions via email. Please schedule office hours or attend TA's in-class office hours.

18-hour rule: During the 18-hour period before exams, the instructor will not be responding to emails asking for clarification on concepts, topics, homework problems, or anything already discussed in class.

### **Miscellaneous**

Students are responsible for all announcements made via email, in class, and those posted to the canvas. **Students are responsible for all changes in the schedule that are posted on the class website.**

All grades will be posted on the canvas. Please check it often to ensure your grades are correct. All graded requirements that have not been picked up after two weeks of the grade being posted to Canvas will be discarded.

Student-Faculty expectations <http://www.catalog.gatech.edu/rules/22/>

### **HONOR CODE**

All students are expected to be familiar with the Honor Code and are bound by its requirements. You must observe the Honor Code with respect to examinations, assignments, and all other aspects of this course. In particular:

Exams and Quizzes: Exams are individual assignments. You may not consult or collaborate with anyone (human) or anything (non-approved materials including textbooks, cell phones, laptops, additional cheat sheets, etc.) while taking an exam.

Submission of your exam is an acknowledgment that you have complied with the Honor Code. Buzzards are REQUIRED for all exams; have Buzzcards out on your desk during the exam.

Any student found violating the honor code WILL be reported to the Office of Student Integrity, no exceptions. I have a zero-tolerance policy when it comes to cheating, so, DON'T CHEAT.

<http://www.policylibrary.gatech.edu/student-affairs/academic-honor-code>

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

**Please note: This syllabus provides a general plan for the course, and deviations may be necessary.**