MATH 231 - BASIC STATISTICS
Fall 2020 Syllabus, Section 005, CRN 3869

Times and Location
TTh 8:30am-10:20am (8/24 to 12/14)

Instructor Information
Felice Shore, Ph.D.
Either 'Felice' or 'Dr. Shore' is fine
Email: fshore@towson.edu
Office: Zoom
Office Hours: Tuesdays & Thursdays 12:30-1:30 ; Wednesdays 10:00-11:30
Office Phone: 410-704-4450
Office voicemail comes to my email, so I see it quickly

MATH 231 Dates of Major Exams
Exam 1: Friday, October 2, 2-4pm
Exam 2: Friday, November 13, 2-4pm
Final Exam: Saturday, December 12, 10:15am-12:15pm
PUT THESE DATES ON YOUR CALENDAR NOW.

MATH 231 Required Materials
Through Direct Access you will immediately have access to your online course materials for a free period through 11:59pm on August 30, 2020, the University’s drop/add deadline. After the free access period, your bursar account will be charged $42.99. If you decide you do not want to purchase the materials through Direct Access, you will have the ability to 'opt out' of the Direct Access Program through a link in Blackboard. As long as you opt out by 11:59pm on August 30, your bursar account will not be charged.

If you are repeating MATH 231, and previously purchased access to the Lock materials on WileyPLUS, you can request that Wiley extend that access - for free - by clicking on this link: https://www.wileyplus.com/wp-access/. You must also 'opt out' of the Direct Access program by 11:59pm on August 30, through a link in Blackboard, or you will be billed for the materials by the TU Bookstore.

• Statistics: Unlocking the Power of Data, 2nd edition, by Robin H. Lock et al. (Wiley, 2017), including access to the associated WileyPLUS online platform. There are five authors all named Lock, and thus the text is sometimes referred to as “Lock5.” If having a physical book is important to you, you may purchase or rent a new or used copy of the Lock text. [Note: Even if you purchase a physical copy of the text, you will still need to purchase access to the WileyPLUS online platform. This online access will be purchased via the Direct Access program, and billed directly to your TU student account (unless to you elect to opt out, which I strongly recommend against). Direct Access is managed by the TU Bookstore, so please contact them if you have any questions.

• Webcam: Even though the Coronavirus pandemic means we can’t have normal face-to-face class, we would like to build community within our class as much as possible. I want you to see my face, and each other’s. It’s helpful when I’m attempting to hold a discussion if I can “read” your faces. For this reason, the expectation is that during our online live class meetings – for which we will be using Zoom – you have your webcam turned on. You are welcome to use a virtual background, as long as it’s not distracting.

• Smartphone with a working camera: Your smartphone will be used in two ways:
  • As a means of scanning your written work, so it can be uploaded to Blackboard
  • For exams, you will join a Zoom session from your smartphone, with the camera pointed at your work space, allowing me to proctor you taking the exam. See note on Exams and Quizzes below.

If for any reason, you believe you should be exempt from the webcam and/or smartphone expectations, please reach out to me ASAP.

• Calculator: A calculator is recommended, but not required for this class. It does not need to be a graphing calculator, but it should have square root and parentheses. Use of online calculators is not permitted on exams (although you are permitted to use the calculator utility provided within Microsoft Windows).

• Spiral bound course packet, purchased at the TU Bookstore

Course Description
A non-calculus based introduction to statistics with emphasis on applications. Topics include categorical and quantitative data collection through sampling and experimental design, data description and displays, confidence intervals and hypothesis tests for one- and two-samples, and matched-pairs design; normal and t-distributions; correlation and simple linear regression. Emphasis on interpretations of results throughout. Substantial use of a computer package as a learning and computational tool. Prerequisite: qualifying score on Math Placement exam or MATH 100 (recommended) or MATH 102 or higher. Core: Mathematics. Lab/Class fee will be assessed.
MATH 231 Course Objectives

All course activities have been designed in keeping with recommendations from the 2016 GAISE report. The course uses a simulation-based-inference approach which treats the logic (and concepts) of statistical inference as paramount.

Core 3 Learning Goals

This University Core course is designed to meet the following four learning goals.

1. Construct and evaluate logical arguments.
2. Apply and adapt a variety of appropriate strategies to solve mathematical problems.
3. Recognize and apply mathematics in contexts outside of mathematics.
4. Organize and consolidate mathematical thinking through written and oral communication.

MATH 231 Grading Scheme / Policy

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points Per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93% - 100%</td>
</tr>
<tr>
<td>A-</td>
<td>90% - 93%</td>
</tr>
<tr>
<td>B+</td>
<td>87% - 90%</td>
</tr>
<tr>
<td>B</td>
<td>83% - 87%</td>
</tr>
<tr>
<td>B-</td>
<td>80% - 83%</td>
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<tr>
<td>C+</td>
<td>77% - 80%</td>
</tr>
<tr>
<td>C</td>
<td>70% - 77%</td>
</tr>
<tr>
<td>D+</td>
<td>67% - 70%</td>
</tr>
<tr>
<td>D</td>
<td>60% - 67%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60%</td>
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</tbody>
</table>

10% WileyPLUS online homework
10% Quizzes (Covering multiple sections, usually a full chapter)
15% Other assigned work
5% Video check-ins
100% TOTAL

*Note that Chapters 5 and 6 are included in the final exam, but not assessed in a “midterm” exam.*

Note on Quizzes & Exams: These are explained in more detail separately below. However, note that for both of these types of assessments - and possibly others that will be done synchronously - just as in face-to-face classes, the teacher can monitor their students, and students can see others working around them. During these times, you will sign into Zoom from your phone, keep microphone off, but video on, and set it up to show your workspace (your paper, your hands, your laptop, at least some of your face.) Acceptable views are shown in the Tech Skills Assignment. If for any reason, this requirement is a problem for you, you need to tell me about it now (not at the time of an assessment). Alternatively, you can reach out to Math 231 coordinator, kschumm@towson.edu to discuss the matter.

Exams (total of 60% toward course grade): Exams (two midterms and a cumulative final exam) will be administered online, from within Blackboard. All MATH 231 students will take exams at the same time; see ‘Dates of Major Exams’. These common exam times are outside of the normal class meeting time. Exam times were published at the start of the semester (see near top of this syllabus), and students are responsible for making sure they are free at those times. If you think you have a legitimate reason for not being able to take the exam at the published time, you must speak to me about that right away.

Quizzes ; 10% toward course grade: There will be five quizzes - roughly one per chapter, with some adjustment for chapters that are extra long (e.g. Ch 2) and extra short (e.g. Ch 5). These are intended to be formative. Questions are similar to those that will appear on exams, and will be a mix of short answer (multiple choice or matching, etc.) and brief response. Questions will assess both procedural skills and conceptual understanding. The lowest quiz score will be dropped. In general, make-ups are not offered; they may be granted in extenuating circumstances.

WileyPLUS (WP) online homework (10% toward course grade): These assignments are accessed on the WileyPLUS platform. Online homework assignments can be submitted up to 1 day late with a 10% penalty. After that there is a 20% penalty. At the time of the exam, the online homework results for the chapters covered on the exam will be copied into the Blackboard gradebook, and the associated assignments will be effectively closed for further grading (though they are still accessible to you in WP). Homework scores will be transferred to Blackboard in three “units” - Unit A: Chapters 1&2, Unit B: Chapters 3&4, and Unit C: Chapters 5&6. All assignments within a given unit will count equally, and the lowest assignment score will be dropped from each unit. The three unit grades will contribute equally to the final WP grade.

Other Assigned Work (15% toward course grade): This category will include all other assignments, including short problem sets, investigative activities or tasks, and possibly discussion board posts, all of which will be completed and submitted outside of class. This category may

MATH 231 Evaluation

Your final grade will be based on your success in meeting the goals and objectives of this course as demonstrated throughout the semester and in the course assignments and examinations. The breakdown is shown here, but the individual components are elaborated upon in the following section.

17.5% Exam 1 – Chapters 1 & 2
17.5% Exam 2 – Chapters 3 & 4
25% CUMULATIVE Final Exam – Chapters 1-6
also include occasional graded in-class tasks. Each graded assignment will be weighted according to its individual point worth, most worth between 5 and 12 points, commensurate with its expected length and/or significance relative to others in this grade category. You can expect between 120-160 points of assignments in this category by the end of the semester. To give you some some idea for how grading will be done for things in this category, the work assigned may:

- Ask you to upload information to a data collection site; requires relatively little time. These will typically be assigned as 2-3 points, and just uploading info with appearance of being correctly done will earn you full points.
- Be a response to a discussion prompt, with follow up comments on someone else’s post. This would be graded out of 5 points, where 2 points given for initial response, 1.5 points for follow up post, and the other 1.5 points based on substance of those responses.
- Be collected and graded primarily for completion and neatness*, secondarily for accuracy; purpose mainly to provide formative feedback; typical point-worth 8-12 pts.

*Neatness: ALL submitted assignments must have a heading that includes name, date, and assignment name or description. These will be submitted electronically, uploaded to assignments area in Bb. They must be uploaded as either Word doc or a pdf, oriented properly (not needing instructor to rotate or otherwise manipulate). Do NOT submit jpgs. Use a scanner app to turn any document into a pdf, per tech skills assignment.

Note: "Other Assigned Work" category will also house extra credit opportunities.

Video check-ins (5% toward course grade): There will be one of these for every text section, e.g., 1.1, 1.2, etc. These will range in point worth between approximately 5 and 10 points, so they will not all weigh the same toward this component’s grade. Their point-worth is roughly based on length of videos. These are intended to keep you on track watching videos as assigned before the class session that ‘unpacks’ that course content.

Note on Grade Category Maximum: My grading scheme provides 'flexibility' to acknowledge that students have occasional personal crises or academic crunches that prevent them from doing everything expected all of the time to their best ability. Leniency is provided through bonus point opportunities on quizzes and video check-ins as 'buffer' against mishaps, and through extra credit offerings or bonus points in the 'Other assignments' category. Although these leniencies will allow you to earn over 100% on a single quiz, video-check, or assignment, your overall grade in any of those categories will be capped at 100%.

MATH 231 Key Dates

- Monday, August 24 - First day of classes
- Sunday, August 30 - Last day to drop a course with no grade posted to academic record; last day to add
- Monday, September 7 - Labor Day holiday (TU closed)
- Friday, October 2, 2-4pm - Exam 1, Chapters 1&2
- Monday, November 2 - Last day to withdraw with a grade of 'W'; last day to change to Pass or Audit grading option
- Friday, November 13, 2-4pm - Exam 2, Chapters 3&4
- Wednesday, November 25 - Sunday, November 29 - Thanksgiving holiday (TU closed)
- Monday, December 7 - Last day of classes
- Saturday, December 12, 10:15am - 12:15pm - Cumulative final exam, Chapters 1-6

MATH 231 Remarks and Policies

1. Student well-being: In general, if you are having a personal crisis that is affecting your schoolwork, please talk to me. I am willing to work with you where warranted, but I can’t work with you if I don’t know you are having an issue.

2. Each student is expected to follow the policies and obey the rules and regulations of Towson University and should expect these rules and regulations to be enforced.

3. How Class Will Be Conducted: Our class will be conducted remotely this semester. Students are expected to sign into class via a Zoom session at each of our regularly-scheduled class times. We will be using the flipped model of instruction, which means you will learn the basics of new concepts by watching a lecture video before class. Then during class we will be able to explore these concepts in greater depth by discussing some of the main points, working through examples, doing activities (including small group activities) and investigations, and answering any questions you may have. The lecture video assignments for each class period are of varying length: most are under 35 minutes, although a couple are just over an hour (but broken up into chunks each). Most days, class will not last the full 1 hour, 50 minute period, but will be closer to an hour and a half.

4. Student Workload Expectations: Federal and State regulations require that students are expected to spend at least two hours outside of the classroom working on course-related activity for every one in-class hour. For this class, that means the expectation is that you will spend at least eight to twelve hours per week outside of the four “hours” of classroom time for success in MATH 231.

5. Keep on top of things!
   a. Your road map in this course is the Cumulative Assignment Document (CAD), which is on Bb, in Course Information area right under the syllabus. Every task you need to do for this class is listed there based on the class day referenced. It is typically updated in the hours after each class to let you know what you should do based on that day’s class, and before the next one. You must consult the CAD after each class well before next class to know what’s expected.
   b. Pay attention to your grades in Bb. Grades for individual assignments, quizzes, exams, etc. are posted on Bb, with formulas being used per syllabus to predict overall course average as accurately as possible given the absence of grades
realized later in the course. The grade in WileyPlus is only for WP homework, and only accurate if you have not missed assignments. It does not include Os for missing assignments. The effect of WP grade in your overall course grade will only be noted at Exam time. (see above).

6. Communication: I will communicate with the entire class via announcements in Blackboard, and with individual students via their Towson University email. You are expected to check both of these regularly, and are expected to respond as appropriate. Please set your Blackboard notification preferences so that you will receive my announcements in a timely manner - sometimes they will contain information that you will want to have promptly.

7. Recording class sessions: Since I hope to use breakout groups regularly, the format of those sessions does not lend itself to making a useful recording for students. That said, I may record some class meetings - or parts of class meetings - that will be predominantly whole-group. Please speak to me ASAP if you are uncomfortable with that.

8. Calculator: Students are required to have a scientific calculator in class and available for use on exams (or, alternatively, may use the calculator utility built into Microsoft Windows; no online calculators for exams).

9. Late work: See section on WileyPLUS online homework for a discussion of the lateness policy on those assignments. Late 'other' assignments will only be accepted after the due date with specific approval from me, and most likely with a penalty.

10. Late or missed video-check/Quiz/Exam: In general, these assessments (both low and high stakes) cannot be made up without a documented excuse or student/instructor agreement ahead of time. In the case of an unexpected missed quiz (of any kind) or exam, student must be in touch (in person or email) with instructor immediately following missed timeframe (or as immediate as reasonable, given circumstances) to arrange make up, if warranted.

11. Professionalism is expected from all of my students:
   a. The student attends every class, arriving on time and staying through the end of class, keeping their webcam on and their microphone muted unless they are called upon (or in breakout groups).
   b. The student conducts him/herself during class in a mature manner that does not distract others, including instructor.
   c. The student participates in class activities and discussions in a mature manner.
   d. The student demonstrates reasonableness/flexibility in changes to the schedule or syllabus.
   e. The student communicates with the instructor and peers in a constructive, professional manner.
   f. The student demonstrates a commitment to learning.
   g. The instructor reserves the right to ask a student who demonstrates any disruptive behavior to leave the class session for that session if the situation warrants it, student will be reported to University Administration.

12. Working with others: Some assignments may be challenging. Unless otherwise directed, I encourage you to work together with classmates to complete daily homework and graded assignments. However, all work submitted is expected to be yours. Do NOT copy the work of another. Success in this course is dependent upon your doing assigned homework tasks and participating in any discussion about them during class sessions.

13. Department of Mathematics Commitment to Diversity: Towson University values diversity and fosters a climate that is grounded in respect and inclusion. Everyone participating in this course is expected to treat all others in accordance with this vision and policy. TU's diversity tenets include sex, sexual orientation, race and ethnicity, color, nationality, gender identity or expression, mental/physical ability, religious affiliation, age, and veteran status. If you feel these expectations have not been met, please contact the Math Department’s Diversity representative, Dr. Goode at egoode@towson.edu.

14. Support for Course Success: If you do not understand a concept covered in class, please reach out for help right away, so you don’t fall behind. I am available during my office hours, by appointment, and via email. In addition, there is a student support program specifically for MATH 231, called “PLTL” short for “Peer-led Team Learning”. (Note: The math tutoring center operated by the Teaching and Learning Center does not cover MATH 231.) Beginning the 3rd or 4th week of class, daily drop-in hours for extra help in Math 231 will be available. Take advantage of that! You will receive correspondence about this program via your TU email address.

15. Take Ownership: My job is to help you learn, and I will try to do so creatively and enthusiastically. But the responsibility for learning is yours. Learning new concepts can be difficult, and it is impossible to do without time, energy, and struggle, no matter how helpful your professor is! You are expected to take responsibility for your own learning.

Academic Integrity Policy

The academic integrity policy for this course is consistent with the TU Academic Integrity Policy. The policy can be reviewed here: https://www.towson.edu/about/administration/policies/documents/policies/03-01-00-student-academic-integrity-policy.pdf. (https://www.towson.edu/about/administration/policies/documents/policies/03-01-00-student-academic-integrity-policy.pdf)

Students with Disabilities Policy

This course is in compliance with Towson University policies for students with disabilities. Students with disabilities are encouraged to register with Accessibility & Disability Services (ADS), 7720 York Road, Suite 232, 410-704-2638 (Voice) or 410-704- 4423 (TDD). Students who suspect that they have a disability but do not have documentation are encouraged to contact ADS for advice on how to obtain appropriate evaluation. A memo from ADS authorizing your accommodation is needed before any accommodation can be made.

https://www.towson.edu/accessibility-disability-services/
Attendance / Absence Policy

Students are expected to attend all classes. Consistent attendance offers the most effective opportunity for students to understand concepts, materials and expectations of those courses in which they are enrolled. To view the policy in full, please visit https://nextcatalog.towson.edu/syllabi/commontext/attendance/ (http://catalog.towson.edu/syllabi/commontext/attendance/).