



Introduction to Probability and Statistics

MAT 133.01

Spring 2022

Course Information

- **Number of Credits:** 4
- **Live Class Session Meeting Days:** Tuesdays and Thursdays
- **Live Class Session Meeting Times:** 9-11 AM
- **Location/Venue:** (McDivitt Hall 248 – if an emergency arises, [Zoom](#))

Instructor Information

- **Instructor:** Alana Tuckey
- **Contact Phone:** 734-386-0523
- **Contact Email:** tuckeyalanaj@jccmi.edu
- **Office Hours:** <http://bit.ly/ScheduleAJT>
- **MyStatLab:** [Registration Instructions](#)
- **Remind:** <https://www.remind.com/join/echhb6e>

Course Description

This course is an introduction to experimental design, data representation, basic descriptive statistics, probability theorems, frequency distributions and functions, binomial and normal probability distributions and functions, probability density functions, hypothesis testing, statistical inference, chi-square analysis, linear regression, correlation and application of the above in making informed, data-driven decisions in real-world contexts. Both graphing calculators and computer-based statistical software (Microsoft® Excel) will be used. If the prerequisite is more than two years old the recommendation is the course placement assessment be taken or the prerequisite be retaken to ensure the success of the student.

Prerequisite(s)

A 2.0 in MAT 033, 131 or higher, or course placement by exam. (Note: Math 039 is NOT an acceptable prerequisite for Math 133)

Course Objectives

Students will be able to:

- Perform a hypothesis test involving means and proportions.
- Create, interpret, and apply graphical displays of data (histograms, bar charts, circle graphs, dot plots, and stem and leaf displays)
- Compute, interpret, and apply descriptive numerical measures (mean, mode, median, range, variance, and standard deviation)
- Compute and apply a linear regression line and Pearson product moment correlation coefficient.
- Compute, interpret, and apply probabilities involving discrete, binomial, normal, and t-distributions.
- Compute and apply confidence intervals for means and proportions.
- Use appropriate technology (such as a graphing calculator) to enhance the understanding of previous objectives.
- Knowledge and awareness of statistics in scientific issues and current events

Math 133 General Education Outcomes: The course goals and objectives incorporate specific General Education Outcomes (GEOs) established by the JC Board of Trustees, administration, and faculty. These goals are in concert with four-year colleges and universities and reflect input from the professional communities we serve. GEOs guarantee students achieve goals necessary for graduation credit, transferability, and professional skills needed in many certification programs. The GEOs and course objective addressed in this class is **GEO 3** – Demonstrate Computational Skills and Mathematical Reasoning.

Required Materials

- **MAT 133 Coursepack (FA21-SP22)** Note this is covered by a fee for the course!
 - **Store Pick-up:** Course packs are available in the [Jets Store](#) for pickup, they are open Monday-Friday 9am-5pm.
- **MyStatLab** (“MSL”) – If you are participating in the [JC Textbook Program](#), look for an email from BibliU about this in your JC email. You will also need a course ID found in [MyStatLab Registration Instructions](#)
 - **Optional Textbook:** Statistics: Informed Decisions Using Data 6th edition, Author: Michael Sullivan III, Publisher: Pearson, ISBN 13: 978-0-123-578018-3 **Textbook**

Zero: This textbook is available digitally within MyStatLab and does not need to be purchased separately.

- **Scan-to-PDF Technology:** Free mobile app or stand-alone scanner for submitting PDF files. Some potential apps: [Adobe Scan](#), [CamScanner](#), [Genius Scan](#), [Office Lens](#), etc.
- Computer (for accessing online homework and StatCrunch), Tape Measure, M&Ms and Skittles (for projects)

Recommended Materials

- 3-Ring Binder(s), Pencils, Pens, Highlighters, Erasers, Ruler/Straight Edge, Whiteboard Markers

Grading Scale

GPA	Grade Range	Grade Calculation
4.0	90-100%	
3.5	85-89%	
3.0	80-84%	MyStatLab = 10%
2.5	75-79%	Classwork = 20%
2.0	70-74%	Project = 20%
1.5	65-69%	Midterm Exam = 25%
1.0	60-64%	Final Exam = 25%
0.5	50-59%	
0.0	0-49%	

Grading Procedure

Category #1: MyStatLab (MSL) Assignments These assignments (quizzes, homework, etc.) must be done on a computer with internet access at MyStatLab (reachable through <http://www.mystatlab.com>).

Category #2: Classwork

- **In-Class Activities & Assignments:** There will be frequent group-based in-class activities and assignments. These may be scored for credit (participation, correctness or both). These may be individual or group assignments, closed or open notes at the instructor's discretion.
- **Homework:** There will be frequent assignments to be completed outside of Class Sessions, including worksheets, watching videos, filling out coursepack notes, etc.

Category #3: Projects These activities and worksheets will use StatCrunch. They may also involve groupwork, active participation, and working with applets. They will be discussed in Class Sessions

Categories #4 & #5: Midterm & Final Exams The Midterm Exam (Ch 1-6) and Final Exam (Ch 1-11) are **proctored**, closed-book tests that must be taken in class.

- **Note Sheets:** You will be able to use the “Exam Notes Packet” from the coursepack during both Exams. You may also make pages of notes on 8.5 by 11 paper to use on the exams (2 sheets of paper for the midterm, 4 sheets for the final exam – front and back of sheets is fine)
- **Timing:**
 - These exams are proctored in class on the day in the schedule (with the caveat that the date may need to change if there are issues).
 - The Final Exam is taken on the last day of class for the course and cannot be taken early so do NOT schedule travel plans during that week or you will receive a ZERO on the final.
 - Exams not taken by the due date will receive a grade of zero except under extreme, well-documented circumstances arranged *in advance* of the due date with the instructor.

Extra Credit Policy

There will be no opportunities for extra credit. Your grade calculation is based solely on your performance on course assignments listed above.

Attendance Policy

Regular participation in class and keeping up with assignments is required. It is my experience that students that regularly attend and participate in the Class Sessions are significantly more successful in the course.

In compliance with Federal Title IV funding requirements, as well as college initiatives, I will be monitoring student participation on a regular basis and officially reporting student activity throughout the term to assure compliance with college policy and federal regulations. It is imperative that you log in to the course and actively participate within the first couple of days of the term to validate your enrollment in the course. After that, not actively participating in class (i.e. not completing assignments) may result in you being withdrawn from the course. Being withdrawn from a course can have an impact on financial aid, billing, athletic eligibility, and housing status. As a college student you are responsible for how your participation impacts your academic progress; the accountability lies with you.

Absence Policy

Students are expected to attend all class meetings, arriving on time, and staying until the end. Please remember that office hours are not a replacement for class time. If you cannot attend a Class Session, you are responsible for doing the following:

1. Watch a video of an online Live Class Session over the same material. These will be posted on JetNet.

2. Watch the necessary lecture videos to be prepared for the next Class Session
3. Turn in all assignments on time.
4. Contact the instructor or your peers about any questions you have

Classroom Behavior Policy

We know what a person thinks not when he tells us what he thinks, but by his actions. - Issac B. Singer

We are each responsible for our work, our learning, and the consistency of our performances.

- The regular in-class collaborations, online homework, and examinations will require consistent effort on your part. Generally speaking, mathematics is much like a foreign language – it requires regular effort and consistent practice to understand and master.

We are each respectful of everyone in the class (including ourselves).

- Come to class sessions prepared (and on time) to work together and ask/answer questions.

We will communicate with each other promptly regarding problems or concerns.

- Regular, direct communication solves many more problems than it causes. Please do not hesitate to contact me for any reason, and I will do the same with you.

Incomplete Policy

A student may request an incomplete from the instructor, who will follow the JC Incomplete Policy. An incomplete may be granted only if the student can provide documentation that his or her work up to that point is sufficient in quality, but lacking in quantity, due to circumstances beyond the student's control. Furthermore, a written plan for making up the missing work within one semester must be completed by the student. Final determination of whether an incomplete will be given is the instructor's decision. Note: An "Incomplete" grade is not a way to avoid a failing one.

Academic Honesty Policy

Academic Honesty is defined as ethical behavior that includes student production of their own work and not representing others' work as their own, by cheating or by helping others to do so.

Plagiarism

Plagiarism is defined as the failure to give credit for the use of material from outside sources.

Plagiarism includes but is not limited to:

- Submitting other's work as your own
- Using data, illustrations, pictures, quotations, or paraphrases from other sources without adequate documentation

- Reusing significant, identical or nearly identical portions of one's own prior work without acknowledging that one is doing so or without citing this original work (self-plagiarism)

Cheating

Cheating is defined as obtaining answers/material from an outside source without authorization.

Cheating includes, but is not limited to:

- Plagiarizing in any form
- Using notes/books/electronic material without authorization
- Copying
- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical
- Allowing your work to be submitted by others

Please note: Students that do the following are considered to be in violation of JC's [Academic Honesty Policy](#) and [consequences](#) will follow.

- Posting course materials to sites such as Chegg or CourseHero is considered academically dishonest. If the MAT 133 materials are posted there, I will ask the Dean's office to [request the student's personal information](#) from the site.
- MAT 133 answers or solutions that are found from computer programs or software, unless specifically allowed.

Accessibility

Jackson College understands that cultivating a broadly diverse community is crucial to our educational mission and to our foundational commitment to leadership and service. Jackson College is fully committed to ensuring our courses are accessible to everyone including those with disabilities. We are currently working to increase accessibility and usability of our course materials in order to meet or exceed the requirements of Section 508 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1991 and Web Content Accessibility Guidelines (WCAG) 2.0. For more information about Jackson College's efforts to ensure accessibility please visit the [Jackson College accessibility web page](#).

Support

At the Center for Student Success (CSS), we are committed to providing all students the opportunity to achieve academic success by providing a variety of support services free of charge to Jackson College students. This includes, but is not limited to, peer and faculty tutoring, mental health referral, temporary assistance with transportation, various workshops/seminars, and the TRIO program.

In addition, the CSS staff is committed to adapting the College's general services to meet the individual needs of otherwise qualified students with disabilities, for the purpose of providing equal access to all programs and facilities.

Oasis Center

During a student's college experience, one might encounter situations that impact their learning environment. When these situations occur, support from the Oasis Center is available to provide short-term assistance. If the situation requires ongoing support, the Oasis Center staff can provide that level of support or will assist the individual in securing an outside agency to provide it.

For more information visit the Jackson College Oasis Center webpage <https://www.jccmi.edu/the-oasis-center/>

Health Center

Jackson College has partnered with Henry Ford Allegiance Health to offer healthcare to Jackson College students and employees. The Jackson College Health Clinic (JCHC) is located on Central Campus in the Justin Whiting Hall, Room 111. The caring and professional staff at the JCHC provides quality healthcare, including annual exams (physicals, program physicals and sports physicals), acute and chronic illness care and preventative health care (It's Your Life).

For more information visit the Jackson College Health Clinic webpage <https://www.jccmi.edu/health-clinic/>

Dental Clinic

Community members may utilize Jackson College Dental Hygiene Clinic, which offers dental hygiene services while helping students gain experience. Students work under the supervision of license dental hygiene instructor and dentist as they offer preventative services.

For more information visit the Jackson College Dental Clinic webpage <https://www.jccmi.edu/dental-hygiene/dental-hygiene-dental-clinic/>

Academic Advising

Student success navigators serve not only as academic advisors but as a student's academic, financial and total resource advocate or coach.

Students will have an assigned navigator to meet with for advising and any questions they may have. Navigators will serve as the “go-to” person to help students throughout the college experience.

It is important to know your Student Success Navigator. You may find your Navigator by visiting this website <https://www.jccmi.edu/academics/academic-advising/> and click on your pathway. You should also receive an email from your Navigator at the beginning of the semester.

Help

Your fellow students and I are your best, most immediate resources for learning. Even so, there are many other sources to consider and investigate. Be creative, be resourceful, and share what you find -- we're all in this together! I strongly suggest you start up a regular study group as soon as you are able with some of your classmates. For more information on starting and maintaining a study group, check out the following link: <http://bit.ly/math-study-group>

Other sources of help:

- **Office Hours:** Meet with me during office hours. <http://bit.ly/ScheduleAJT>
- **Jackson College’s Center for Student Success (CSS):** Free tutoring in is available. Look at the [CSS Website](#)
- **Supplemental Instruction:** Some sections of the course have Supplemental Instruction (SI) Leaders assigned to them. These students will serve as peer “math coaches” for the students in that section, and will facilitate weekly study sessions. These study sessions are open to all MAT 133 students and are completely voluntary, but highly recommended.
- **YouTube Videos:** Lead Faculty Alana Tuckey has created hundreds of videos showing for this course including lectures, calculator tutorials, and more. Go to [Alana Tuckey’s YouTube Page](#) and check out any 133 playlists.
- **MyStatLab:** There are videos, extra problems, sample exams, lecture notes, PowerPoint lectures and more available in MyStatLab. It’s a great resource! In particular, the Study Plan in MyStatLab can help with studying for exams as it gives you unlimited extra problems to do for practice.

Caveat

Students are advised that some revisions to this syllabus may be necessary during the course due to school closing policies, instructor illness and other procedural improbabilities.

Calendar

** Note: Calendar timelines and assignments are an approximation and could be changed.*

Please Note: Assignment due dates are on the more detailed [Tentative Course Schedule](#). They will also be announced during Class Sessions and on Remind.

Day #	DATE	TOPIC
1	Tuesday, January 11, 2022	Course Intro
2	Thursday, January 13, 2022	1.1, 2.1
3	Tuesday, January 18, 2022	2.2, 2.3, 2.4
4	Thursday, January 20, 2022	3.1, 3.2
5	Tuesday, January 25, 2022	3.3
6	Thursday, January 27, 2022	3.4 & 3.5, Ch 3 Review
7	Tuesday, February 1, 2022	1.2, 4.1
8	Thursday, February 3, 2022	4.2, 4.3
9	Tuesday, February 8, 2022	Ch 4 Review, 5.1
10	Thursday, February 10, 2022	5.2
11	Tuesday, February 15, 2022	5.3, Ch 5 Review
12	Thursday, February 17, 2022	6.1
13	Tuesday, February 22, 2022	6.2, Ch 6 Review
14	Thursday, February 24, 2022	Review for Midterm Exam
15	Tuesday, March 1, 2022	Midterm Exam Proctored in Class
16	Thursday, March 3, 2022	7.1, 7.3, 1.3, 1.4
	Tuesday, March 8, 2022	No Class - Mid-Semester Break!
	Thursday, March 10, 2022	
17	Tuesday, March 15, 2022	7.2, 1.5
18	Thursday, March 17, 2022	Ch 7 Review, 8.1
19	Tuesday, March 22, 2022	8.2, Ch 8 Review
20	Thursday, March 24, 2022	9.1
21	Tuesday, March 29, 2022	9.2
22	Thursday, March 31, 2022	9.4, Ch 9 Flow Charts, Ch 9 Review
23	Tuesday, April 5, 2022	10.1
24	Thursday, April 7, 2022	10.2
25	Tuesday, April 12, 2022	10.3, Ch 10 Flow Chart, Ch 10 Review
26	Thursday, April 14, 2022	1.6, 11.1
27	Tuesday, April 19, 2022	11.2

28	Thursday, April 21, 2022	11.3, Ch 11 Flow Charts, Ch 11 Review
29	Tuesday, April 26, 2022	Review for Final Exam
30	Thursday, April 28, 2022	Final Exam Proctored in Class