Introduction to Probability and Statistics

MAT 033.I1

Spring 2021

Number of Credits: 4

Days Class Meets: Mondays and Wednesdays

Meeting Times: 9:00 am – 11:00 am

Location: Zoom

Instructor: Jamie Shepherd

Contact Email: shepherjamiel@jccmi.edu

Office Hours: Monday and Wednesday 8:30-9am, 11-11:30am or by Appointment

Online: MyStatLab ID: shepherd58191

Remind: www.remind.com (ID:@jcmat133a)

Course Descriptions

As an alternative pathway to college-level mathematics, this course introduces fundamental algebraic concepts within an underlying framework of statistics and mathematical modeling based on real-world data. Major concepts and themes include: problem solving and experimental design; unit analysis and error in measurement; dimensional analysis and scientific notation; representing data and coordinate graphing; introduction to basic descriptive statistics and probability theorems; basic geometric principles (area, volume, perimeter); arithmetic operations on numbers, ratios, summations, and percents; solution of formulas; modeling relationships (linear regression); solving equations and inequalities; and function arithmetic and graphing. Appropriate technology includes a graphing calculator.

Prerequisite(s)

Course placement by exam.

Course Objectives

Students successfully completing MAT 033 will be able to…

1. Create, interpret, and apply graphical displays of data (histograms, bar & pie charts, dot plots, and stem & leaf displays).
2. Compute, interpret, and apply descriptive measures (mean, mode, median, range, variance, and standard deviation).
3. Use algebraic processes to manipulate formulas, simplify basic algebraic expressions and solve linear equations and inequalities.
4. Demonstrate understanding of functions, independent and dependent variables, number theory, sets, and mathematical notation.
5. Demonstrate understanding of concepts of equations by finding and interpreting appropriate graphs, *x*- and *y*-intercepts, and specific function characteristics.
6. Generate and interpret regression models to fit data.
7. Make, interpret, and compute with measurements in scientific notation.

8. Use appropriate technology (i.e., graphing calculator) to enhance understanding of objectives.
9. Demonstrate knowledge and awareness of statistics in scientific arguments and current events.

Required Materials - Part of Access from Bookstore

- MAT 133 **Coursepack** *Fa20 – Sp21 (this is the same course pack needed for 133)*
- **MyStatLab** ("MSL") Student Access Code (http://www.mystatlab.com) – See Info Sheet on JetNet

Required Materials – Not part of Access from Bookstore

- Computer with **webcam**, **microphone**, and consistent **internet access** (webcam may be external)
- **Scan-to-PDF Technology**: Free mobile apps or stand-alone scanner for submitting PDF files
- 3-Ring Binder, Pencils, Pens, Highlighters, Erasers, Ruler/Straight Edge
- Access to an Internet-connected computer.

Optional Materials – Not part of Access from Bookstore

- **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 for free online within MyStatLab and does not need to be purchased separately.
- Dry Erase Markers, Dry Erase Board

Follett Access

- Please review the cost of your required materials to determine the best option for you to purchase your materials.
- For more information on the Follett ACCESS Program, you can view the view the frequently asked questions.

If after reviewing the costs, you choose to opt out, you may do so here: www.jccmi.edu/optout. Please note your opt out selection is for your entire semester schedule. You cannot opt out and opt in to individual courses. And you must opt out by the due date for your first class.

Class Starts On:	Opt Out Date:
May 10, 2021	May 13, 2021

If you have questions about materials, please contact the Jackson College Follett bookstore at jackson@bkstr.com. For account billing questions, please contact the Jackson College Cashier at jccashier@jccmi.edu.

Grading Procedure

Category #1: Homework: There will be frequent assignments to be completed outside of class. These worksheets are provided in the back of your coursepack. You will turn in some homework as a quick homework check quiz and others will be uploaded via a pdf scanner such as Adobe Scan.

Category #2: MyStatLab (MSL) Assignments: These assignments must be done outside of class time on a computer with internet access at MyStatLab (reachable through http://www.mystatlab.com). Assignments will be given due dates, announced in class. Check MyStatLab and with your instructor for due dates.

Category #3: In Class Participation and Forums

- **In-Class Activities:** There will be frequent partner and group-based in-class activities. These may be turned in for credit or scored during class (either for participation or correctness). Students may be able to choose their own partner/group or may have a partner/group assigned by the instructor. For students that are unable to attend the live sessions there is a companion exercise that must be completed for each live session. This companion session is easy to complete after you have watched the live sessions and worked on the problems/activites that were assigned to live participants.
- **Forum:** Posting and replying to classmates in JetNet will be required on a weekly basis. *Forum posts* are expected to show thought about subject, in order to do this it is expected that every posts is at least 100 words. Forum replies are expected to be thoughtful high quality responses that add to the conversation. No one wants to read "wow, that is interesting!" or "I agree!"

Category #4: Quizzes: There will be regular quizzes given either through JetNet or proctored during class time. These will be shorter and give more frequent opportunities to assess your understanding of the content prior to higher-stakes exams in Math 133.

Grading Scale

GPA	GRADE RANGE	GRADE CALCULATION
4.0	90-100%	
3.5	85-89%	Homework – 30%
3.0	80-84%	MyStatLab – 15%
2.5	75-79%	Forums and In-Class Participation – 15%
2.0	70-74%	Quizzes – 40%
1.5	65-69%	
1.0	60-64%	
0.5	55-59%	
0.0	0-54%	

Attendance Policy

Just as in a traditional classroom course, regular class participation and keeping up with assignments **is required**. It is my experience that students that regularly attend and participate in synchronous class sessions are significantly more successful in the course. Therefore, students are expected to attend and participate fully in all class meetings, arriving on time and staying until the end.

Participation in the course will require:

1. Regularly showing your face via webcam
2. Talking and working with others (including your instructor) through an online platform (such as Zoom or BigBlueButton) in both whole class sessions and "breakout" rooms.
3. Contributing to class and group discussions
4. Sharing your screen and/or work with your groupmates and/or the class.

In compliance with Federal Title IV funding requirements, as well as college initiatives, I will be taking and submitting attendance every day of class to assure compliance with college policy and federal regulations. **Missing class 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 class attendance and participation may impact your academic progress; the accountability lies with you.

Absence Policy

If absence us unavoidable the student is responsible for doing the following:

1. Contact your instructor regarding your absence as soon as possible to find out what you missed and what you need to do before the next class. (Having a peer contact in the class is very helpful for finding out this information as well!)
2. Watch the recording of class – if available.
3. Turn in all assignments that were given in class as well as those that were due as "homework" on time. I recommend free apps (available for Android and iOS devices) such as CamScanner or GeniusScan.

Please remember that office hours are not a replacement for class time.

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 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 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

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.

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.

Classroom Behavior Policy

The following are expectations that we can all share:

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).

Please silence mobile phones and other electronic devices and come 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.

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.

If you have an accessibility need in any of our classes please e-mail the Center for Student Success at JCCSS@jccmi.edu or visit the Center for Student Success web page. 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.

Where to Get 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. At the very least, write down names and contact information for your peers and call on each other when needed. 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.
- **Jackson College's Center for Student Success (CSS):** Free online tutoring in is available at http://www.jccmi.edu/Success/Tutor/.
- **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. **In a recent semester, students that utilized SI study sessions experienced an increase of over 17% in their pass**

rates, compared to those who did not. Even if your section does not have an SI Leader, you are encouraged to attend SI Sessions for your course. For times and locations of SI sessions, go to https://www.jccmi.edu/supplemental-instruction/

- **YouTube Videos:** Lead Faculty Alana Tuckey has created hundreds of videos showing for this course including lectures, calculator tutorials, and more. Go to: http://www.youtube.com/user/tuckeyalanaj 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.

Important Dates:

DATE	EVENT
MAY 10, 2021	START OF SEMESTER
MAY 31, 2021	MEMORIAL DAY(NO CLASSES)
JULY 5, 2021	INDEPENDENCE DAY HOLIDAY (NO CLASSES)
AUGUST 9, 2021	END OF SEMESTER

Calendar

We will mirror and support the topics and calendar for Math 133.