MAT 033.PL2 – Algebra for Statistics
Course Syllabus (Fall 2017)

Instructor: Vincent Maltese

Class time: Wednesday, Friday   7:30 – 9:48 AM

Required Materials:

MAT 033 Course Pack *Fall 2017 - Spring 2018* (*included in your course fees*) & **3-ring binder**

TI-84 Calculator (Note: Calculator will be supplied for use during class and during open lab hours to be determined.)

Please note:
- ✓ There is no "textbook" for this course, aside from the course pack. The probability and statistics portions of the course are based on Sullivan's 5th Edition of *Statistics: Informed Decisions Using Data*. Purchasing this text is unnecessary.

Strongly Suggested Materials: multi-colored highlighters, pencils, eraser, ruler, sticky notes

Course Description: 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: A 2.0 in MAT 030 within 2 years, or course placement by exam.

Course Requirements:

Core 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.

Homework:
- ○ These assignments must be done outside of class time and will be assigned with each unit.
- ○ Homework due dates will be announced in class.

In-Class Work, Quizzes, etc.: There may be in-class work submitted in class (turned in for credit). These may be individual or group assignments, closed or open notes at the instructor's discretion

Projects: There will be two *required* projects for this course that expand on concepts covered and require students to use real-world data and tools. These projects are required of all students taking the course.

Exams: Each of the examinations may have cumulative review questions. The final exam is cumulative for the entire course. Students may create a 1-page (both sides) note sheet for use on each exam, and all previous exam note sheets may be used on the final exam. Exams **may not be made up** except under previously arranged, well-documented, unavoidable circumstances (ultimate determination made by the instructor).

> **NOTE:** The final exam takes place during the *last week* of the course and CANNOT be taken early.

Course Policies:

Absence Policy: Students are expected to attend all class meetings, arriving on time, and staying until the end. A variety of in-class activities involve other students and group participation, as well as handouts. If absence is unavoidable the student is responsible for obtaining any missed lecture notes and assignments from another student, or from the instructor.

Grading Information: A 2.0 or "C" is a passing grade. Only courses with passing grades count toward graduation. Other colleges transfer in only courses with passing grades. Many financial aid sources, including most employers, require passing grades. Additionally, earning less than a 2.0 in this class will result in you being unable to participate in the next course in the sequence (MAT 133). This will prevent access to any further programs of study and completion of any associate's degree.

Grading Scale:

Percentage	Grade
90 – 100%	4.0
85 – 89%	3.5
80 – 84%	3.0
75 – 79%	2.5
70 – 74%	2.0
65 – 69%	1.5
60 – 64%	1.0
55 – 59%	0.5
0 – 55%	0.0

Grading Weights:

- Assigned Homework: 15%
- In-Class Work: 15%
- Exam 1 (*Unit 1*): 10%
- Exam 2 (*Units 2-3*): 15%
- Exam 3 (*Units 4-5*): 15%
- All Projects: 10%
- Cumulative Final Exam (*Units 1-7*): 20%

Intermediate Grading: To comply with college policy and federal regulations you will receive three intermediate grades during the semester. The grades assigned are letters with the following meanings:
- **V: <u>Verifies</u>** that you are participating and your work so far has been acceptable
- **H:** You may require **<u>Help</u>** in order to complete the class successfully. If you receive an H grade, you likely will also be contacted by your Jackson College Navigator.
- **Q:** Means that you **<u>Quit</u>** participating in the course. If you receive a Q grade, you will automatically be withdrawn from the course. A Q grade is normally assigned if you have not submitted work (classwork, exams, participation, etc.) for two weeks and have not contacted your instructor regarding your absences, or that you are not participating because you lack the required materials for the course.

Extra Credit: Math Department policy is that no "extra credit" be part of any MAT course at JC. There will be no opportunities for any *extra* credit beyond the scope of the above requirements.

Incomplete Policy: (*Excerpt from JC Policy*) "Students may receive an "I" if, at least 90 percent (or as otherwise designated within the course syllabus), of the coursework is completed with an average grade of 2.0 to meet the objectives as specified in the course syllabus. … The grade of "I" is not awarded to students who did not attend, or seldom attended, or to those who simply are not pleased with their final grades." https://www.jccmi.edu/wp-content/uploads/2015/11/1003.pdf

Academic Honesty Policy: **You are *encouraged* to talk to each other, but all your submitted work must demonstrate your own understanding.** In other words, "group-work" is a great way to learn material, but anything you submit for a grade must be done by you – reflecting your own thought processes, not those of anyone else. If I suspect you of academic dishonesty, I will follow JC's Academic Honesty Policy and take appropriate action up to and including assigning a **failing grade** for the assignment, quiz, project, report, exam, or the course itself (whichever I deem necessary). The policy can be seen here: https://www.jccmi.edu/wp-content/uploads/1004.pdf

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, refrain from using any tobacco products, 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.

Getting Help

Office Hours: There are no regularly scheduled office hours. Students should let the instructor know as soon as they are having difficulty so an appointment can be made.

Each Other: Your fellow classmates are perhaps the single best resource you have. Get to know each other, write down names and contact information for your peers, and rely on each other! **Starting a study group** is probably the **_best way_** to maintain strong study habits and improve your learning.

MAT 033 – Tentative Course Schedule

The following provides a *tentative* course schedule for topics covered. This is subject to change as needed – be sure to attend class to note any required adjustments.

12-Week Class Session	Dates	Topic / Activity
1 – 4	Sep. 20, 22, 27, 29	Unit 1: Numbers, Operations, Formulas & Units
5	Oct. 4	**Exam 1 (Unit 1)**
6 – 8	Oct. 11, 13, 18	Unit 2: Statistical Data Collection
9 – 12	Oct. 20, 25, 27, Nov. 1	Fractions and Probability
13	Nov. 3	**Exam 2 (Units 2 & 3)**
14 – 16	Nov. 8, 10, 15	Unit 4: Exact Linear Relationships
17 – 18	Nov. 17, 29	Unit 5: Correlation and Approximate Linear Models
19	Dec. 1	**Exam 3 (Units 4 & 5)**
20 – 21	Dec. 6, 8	Unit 6: Tabular and Graphical Displays
22 – 23	Dec. 13, 15	Unit 7: Summarizing Data Numerically
24	Dec. 20	**FINAL EXAM**