MAT 133-81/CIS 203-81/PSY 144-81 Course Syllabus for Spring/Summer 2013

Instructor:	Edwin C. Fogarty
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MyMathLab Course Code:	fogarty43093
Office Hours:	Before or after class and by appointment.

Required Materials: **Ti-83 or 84 calculator, Coursepack, MyMathLab Student Access Kit, LARGE 3-ring binder, LARGE eraser, pencils, ruler or straightedge.**

Please note: Internet access is required for this section of Math 133. Class homework must be completed on a computer with internet access.

Textbook: *Statistics: Informed Decisions Using Data 4th edition*, **Author**: Michael Sullivan, III, **Publisher**: Prentice Hall – this text is available for **rent** in the JCC bookstore.

Course Description: Emphasizes basic descriptive statistics, probability theorems, frequency distributions and functions, binomial and normal probability distributions and functions, probability density functions, hypothesis testing, statistical inferences, CHI-square analysis, linear regression and correlation.

Prerequisite: A 2.0 in MTH 033, 131 or higher, or course placement by exam. (Note: Math 031 is NOT an acceptable prerequisite for Math 133)

Math 133 Corse Course Objectives: Students will be able to:

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

Math 133 Associate Degree Outcomes**:** All courses at Jackson Community College address one or more of the institutionally defined Associate Degree Outcomes (ADOs). Math 133 contributes to the following outcomes.

ADO 3: _Proficient_ - Demonstrate computational skills and mathematical reasoning

- Demonstrate an understanding of descriptive statistics (mean, mode, median, quartiles, range, variance, standard deviation, IQR).
- Demonstrate an understanding of probabilities – discrete, binomial, normal, Student's- T, classical, and empirical.
- Demonstrates an understanding of confidence intervals.
- Demonstrate an understanding of statistical displays (histograms, bar charts, pie charts, boxplots, stem-and-leaf plots)
- Demonstrates an understanding of the language of statistics in real-life contexts – Type I or II errors, confidence intervals, transforming claims into statistical hypotheses.
- Demonstrate an understanding of statistical displays (histograms, bar charts, pie charts, boxplots, stem-and-leaf plots)
- Demonstrates an understanding of the language of statistics in real-life contexts – Type I or II errors, confidence intervals, transforming claims into statistical hypotheses.
- Demonstrate an understanding of the Least Squares Linear Regression line and Pearson Product Moment Correlation coefficient.
- Demonstrate an understanding of statistically testing hypotheses.
- Acquires and applies a broad range of statistical skills and concepts as well as technology to facilitate efforts to visualize, interpret, and solve statistical problems.
- Uses graphic calculator and/or computer statistical systems to support mathematical reasoning and problem solving.
- Understands the role of statistics in interpreting the world – bias, misleading graphs, correlation/causation, statistical error, central limit theorem.

ADO 7 Demonstrate Problem Solving

- Demonstrates an understanding of bias, correlation/causation, evidence supporting arguments.
- Understands multiple factors affecting assumptions and conclusions in hypothesis testing
- Articulates and defends conclusions in hypothesis testing.
- Uses expanded vocabulary in hypothesis testing.

Course Requirements:

Online Homework:
- These assignments must be done outside of class time on a computer with internet access at **MyMathLab** (reachable through http://www.coursecompass.com).
- There is a homework assignment roughly for each lecture in the course.
- Homework is due at exam time. For example, exam 1 is over chapters 1-4 so the online homework for those sections is due on the date of the exam.
- **You have an unlimited number of tries to do the homework before you submit it** (up until the due date). Thus, all of your homework should receive full credit, if you keep trying until you get a perfect score.
- There are videos available on http://www.youtube.com/user/tuckeyalanaj to help you navigate completing homework assignments, using the help features, and more.

**Projects:** There will be two projects required for this course. These are done entirely outside of class and will require the use of a computer, the internet, Excel, and possibly YouTube. You can use school computers to complete the projects if necessary.

**Exams:** Due to the nature of the course, every exam will have questions that relate to previous exams. The final exam is cumulative for the whole course. You will be allowed two pages of notes for each exam of your own creation and your calculator. All previous note sheets may be used on the final exam. There will also be instructor-given tables and sheets on all exams. Please note that **exams may not be made up** except under extreme circumstances (which are determined by the instructor – **contact me immediately!!**) Make-ups must be taken before the corrected exams are passed back to the class (usually the next class period) or a zero will be given for that exam.

**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 a class results in being unable to participate in the next level of courses in a discipline which requires this course as a pre-requisite. Registering for the next course sequence without passing the pre-requisite course may result in you being dropped from that class.

Grading Scale:		Grading Policy:
90 -100%	4.0	
85 - 89%	3.5	
80 - 84%	3.0	Online Homework: 15%
75 - 79%	2.5	Projects: 15%
70 - 74%	2.0	Exams: 50%
65 - 69%	1.5	Cumulative Final Exam: 20%
60 - 64%	1.0	
50- 59%	0.5	
0-49%	0.0	

**Grades:** To review your online homework grades, you will be able to check a spreadsheet available under the "Gradebook" link in MyMathLab. If you want to know your overall course grade ask me by email and I will reply with your current grade.

**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:** Verifies that you are participating and your work so far has been acceptable
- **H:** Means that you are participating, but your work shows that you may require Help in order to complete the class successfully. If you receive an H grade, you will be contacted by the Center for Student Success (located in 125 Bert Walker Hall) and offered tutoring services.
- **Q:** Means that you have quit 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.

**Important Dates:** Be sure to check out the JCC Academic Calendar for Project Success Day, Holidays with no classes, last day to withdraw, etc. at
http://www.jccmi.edu/academics/academic_calendar.htm

**Extra Credit Policy:** There will be no opportunities for extra credit. Your grade is based on your performance in class, not on extras.

**Absence Policy:** Students are expected to attend all class meetings, arriving on time, and staying until the end. We do a variety of in-class activities involving other students and group participation and therefore cannot be made up outside of class for any reason. If absence is unavoidable the **student is responsible** for obtaining the missed lecture notes from another student (or by watching the online YouTube lecture videos). Please remember that office hours are not a replacement for class time.

**Incompletes Policy:** (Excerpt from JCC Policy) "A student may request an incomplete from the instructor. The incomplete will 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."

**Academic Honesty Policy:** **You are** _encouraged_ **to talk to each other, but all your work must be your own.** 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 that of someone else. If I suspect you of academic dishonesty, I will follow JCC's Academic Honesty Policy and take appropriate action up to and including assigning a **failing grade** for the paper, project, report, exam, or the course itself (whichever I deem necessary). The policy can be seen here: http://www.jccmi.edu/studentservices/catalog/2010-2011/Chapt3.pdf

Classroom Behavior Policy: *"We know what a person thinks not when he tells us what he thinks, but by his actions."* - **Issac B. Singer**

1. Be Responsible: for your work, for your learning, for your behavior in class, etc.

The online homework and take-home assignments in particular are going to require great levels responsibility on your part. You will need to stay on top of your schedule and your life to make sure that all coursework is done in a timely fashion.

2. Be Respectful: of other students, of the instructor, of the material, of yourself…

Turn OFF your cell phones and pagers, no chewing tobacco, come on time, stay the full time, be prepared to answer questions and work together.

3. Contact me immediately if there is a problem: with the course, material, instructor, students, etc.

Where to Get Help…

Office Hours: Office hours are there for you to come get help. Please come see me if you need questions answered. Remember, though, that office hours are not a replacement for attending class.

Math Help Room: This room is located in 245 McDivitt Hall. Tutoring is available from 8:30 am to 6pm Monday through Thursday and in the morning on Fridays. Tutors are also available at the Hillsdale LeTarte Center. Ask at the front office for details.

MyMathLab: There are videos, extra problems, sample exams, lecture notes, PowerPoint lectures and much more available in MyMathLab (including online tutors). It's a great resource!

Each Other: Because of the nature of this course, there are not a lot of people who have taken 133 still on campus, so WORK TOGETHER. Get a regular study group. Write down names and numbers of your peers and call on each other when needed!

YouTube: There is a channel on YouTube with video aids for students; it includes lectures on every text section and the TI-83/84. Be sure to look for 133 Traditional or Face-to-Face videos, not the 133 Online ones (which are for online students and use Excel, DDXL, or StatCrunch). Go to http://www.youtube.com/tuckeyalanaj and click the appropriate playlist.

Day	Date	Material Covered	Topics
		MTH 133-81 Spring/Summer 2013 Daily Schedule	
		2.5 hours, twice a week	
1	5/20	3.1-3.2	Measures of Center and Spread
2	5/22	3.3-3.4	Weighted Mean, Measures of Position
3	5/29	3.5 and 4.1	Boxplots, Correlation
4	6/3	4.2-4.3	Linear Regression, Residual Plots
5	6/5	4.4	Contingency Tables **Review for Exam 1**
6	**6/10**		**Exam 1 (Chapters 1-4)**
7	6/12	5.1-5.2	Basics of Probability, Multiplication Rule **Project 1 Assigned**
8	6/17	5.3 and 6.1	Addition Rules, Discrete Distributions
9	6/19	6.2 and 7.1	Binomial Distribution, Standard Normal Distribution
10	6/24	7.2-7.3	Normal Distribution, Normal Probability Plot
11	6/26	8.1-8.2	Sampling Distributions **Project 1 Due**
12	7/1		**Review for Exam 2**
13	**7/3**		**Exam 2 (Chapters 5-8)**
14	7/8	9.1-9.2	Confidence Intervals of Proportions
15	7/10	9.3-9.4	Other Confidence Intervals **Project 2 Assigned**
16	7/15	10.1-10.2	Beginnings of Hypothesis Testing
17	7/17	10.3-10.5	Other Hypothesis Testing
18	7/22	11.1-11.2	Two Population Hypothesis Testing
19	7/24	11.3 and 11.5	More Two Population Hypothesis Testing **Project 2 Due**
20	7/29		**Review for Exam 3**
21	**7/31**		**Exam 3 (Chapters 9-11)**
22	8/5	12.1-12.2 and 13.1	Chi-Square Tests, One-Way ANOVA
23	8/7		Review for Final Exam
24	**8/12**		**Final Exam**

Please Note: This schedule is **tentative** and likely to change due to a variety of in-class factors. To know exactly what day material was covered, you must attend class and/or contact classmates or the instructor.