MATH 201
ELEMENTS of STATISTICS and PROBABILITY

Mondays and Fridays 8 – 10:25AM **A213** *5 UNITS*
Office Hours: BY APPPOINTMENT 10:30 – 11:30AM
Instructor Caren LeVine
Internet

- **Email:** celevine@mail.ltcc.edu
- **Moodle Homework, Quizzes, and Resources:** http://cccmoodle.org/
- **Lecture Notes:** http://www.ltcconline.net/greenl/courses/201/201.htm
- **Video Examples:** http://www.ltcconline.net/greenl/courses/201/CamtasiaStatCrunch/index.htm
- **Interactive Applets:** http://www.ltcconline.net/greenl/java/index.html#Statistics

Textbook: Instead of a traditional textbook, this class will use an open textbook that can be found at: http://cnx.org/content/col11562/latest/. Printed versions are for sale in the college bookstore.

Course Description This course will cover data analysis including probability, distributions, sampling, hypothesis testing, confidence intervals, regression analysis, and nonparametric analysis.

Student Learning Outcomes

1. Design and implement an unbiased study that will produce sound statistical results.
2. Generate and interpret statistics graphs from data that arise from surveys and experiments.
3. Implement the rules of probability.
4. Apply confidence intervals and test hypotheses to make conclusions about data that come from practical applications.
5. Perform regression analysis to make informed predictions about relationships between quantitative variables.

Prerequisite A grade of C or better in Math 154A or an equivalent class or a satisfactory score on the assessment test.

Grading Policy Your letter grade will be based on your percentage of possible points.

A 90 -- 100%	C 70 -- 79%
B 80 -- 89%	D 60 -- 69%

Quizzes (Online):	100 points
Homework (Online):	100 points
Quizzes (In Class):	100 points
Exam 1: May 1	100 points
Exam II: June 1	100 points
Project 1: Apr 24	100 points
Project 2: Jun 12	100 points
Final Exam: Jun 22 (8:00 – 10:25AM)	200 points

Exam Policy Students are to bring calculators, pencils or pens, and paper to each in class exam. A single one-sided piece of 8 ½ x 11 paper can be used on Exams and Quizzes. Grading will based on the progress towards the final answer, and the demonstration of understanding of the concept that is being tested, therefore, work must be shown in detail. There are no make-ups for Exams. With a valid proven medical excuse, the missed Exams will not be counted toward the grade. The final exam cannot be taken late.

Homework and Quiz Policy Homework and Computer Quizzes are delivered and taken online via the Moodle. It is strongly recommended that you keep a journal of the written responses to the homework and quiz questions. This will help you prepare for the projects, in-class exams and final exam. Homework are Quizzes are due at 11:59 PM on Sundays, but it is required that you work on your homework and quiz

before Friday's class so that you can ask your instructor questions during class and succeed on the in class quizzes. Time extensions will not be given, but students will be able to work on "late" assignments for no credit but plenty of learning. Homework and quizzes can be taken repeatedly before the due date and only the highest score will be counted towards your grade.

Flipped Days: This is a partially flipped classroom in that you will be preparing for the upcoming class by reading the Chapter in the online book and watching online lectures in order to prepare for the upcoming class. You will be responsible for reading the chapter and watching the videos before you arrive in class for the class meeting that has that chapter scheduled. I will pre-assign one or more students to present a short lecture (about 15 minutes) on the scheduled chapter at the beginning of class. After the student-led lecture, there will be a short quiz. **All students must be prepared for the quiz**. The quizzes are designed to be very easy for those who took copious notes on the chapter.

In-Class Presentation: You will be assigned one In-Class Presentation, this may be with a partner who solo. You are responsible for preparing a short lecture on the material of the Chapter you are assigned. This presentation will be no longer than 15 minutes. On the day of your presentation you do not take the in-class quiz. Instead, you will be graded based on 10 points on your presentation. Please refer to the In-Class Presentation rubric for the grading process and what is expected. **Failure to present on the day you are assigned will result in a zero for that day's quiz.**

Projects Two projects will be created for this class. For Project 1, students will collect quantitative data and use a computer to display each of the charts discussed in class. For Project 2, students will conduct a survey and construct a confidence interval and perform a hypothesis test. Each project will include the results and a narrative describing data collection, assumptions made, background information, how the data was analyzed, and conclusions. Unless specifically stated, all results must be computed using a computer and the computer generated results must be included with the project. The projects should be typed, double spaced, and have 12 point font. Students are to work in pairs or trios. A 15% penalty will be incurred on any student who cannot work with another student. Rubric for the Project Grades. I will be happy to look at a rough draft of your paper if you email it to me at least 3 days before it is due. After receiving feedback, you can ask more questions, but only one rough draft of the paper will be reviewed by me.

CALCULATORS: The TI 83, TI 84+ is required for this course. There are a limited number of TI 84+ calculators available for rent for $5 at the Library. A TI 89 will also work for this course, but you will need to download the TI 84+ App to make it workable.

LEARNING DISABILITIES: If you have a learning disability, be sure to discuss your special needs with me. Learning disabilities will be accommodated and you may contact our disability resource center by email or by phone at (530) 541-4660 x 384.

TUTORING: Tutors are available at no cost in A 201 (The Math Success Center).
CELL PHONES: Cell phones must be turned off while class is in session. A 5% penalty will be given to any student whose cell phone goes off during a quiz or exam.

A WORD ON HONESTY: Cheating or copying will not be tolerated. People who cheat dilute the honest effort of the rest of us. If you cheat on a quiz, exam, or project you will receive an F for the course, not merely for the test. Other college disciplinary action including expulsion might occur. Please don't cheat in this class. If you are having difficulty with the course, please contact me.

LECTURE AND EXAM SCHEDULE (tentative and subject to change)

Week 1	*Chapter 1: Sampling Data , Chapter 2: Descriptive Statistics*
Apr 6:	Introductions, Chapter 1
Apr 10:	Chapter 2
Week 2	*Chapter 3: Probability*
Apr 13:	Start Chapter 3 Presentation #1 & In-Class Quiz
Apr 17:	Finish Chapter 3
Apr 17 :	Q&A and Discussion of Project 1
Week 3	*Chapter 4:Discrete Random Variables, Chapter 5:Continuous Random Variables, Project 1*
Apr 20 :	Chapter 4, Presentation #2 & In-Class Quiz
Apr 24:	Finish Chapter 4
Week 4	*Chapter 6: The Normal Distribution, Exam 1*
Apr 27:	**Project 1 Due**
Apr 27:	Chapter 5 Presentation #3 & In-Class Quiz
May 1:	Chapter 6 Review for Exam 1
Week 5	*Chapter 7: The Central Limit Theorem*
May 4:	Begin Chapter 7 , Presentation #4 & In-Class Quiz
May 6:	**Exam 1** (Chapters 1-5); Finish Chapter 7
Week 6	*Chapter 8: Confidence Intervals*
May 11:	Begin Chapter 8, Presentation #5 & In-Class Quiz
May 11:	Finish Chapter 8
Week 7	*Chapter 9: Hypothesis Testing: 1 Sample, Exam II*
May 18:	Begin Chapter 9, Presentation #6 & In-Class Quiz
May 22:	Finish Chapter 9
Week 8	*Chapter 10: Hypothesis Testing: 2 Samples*
May 25:	**Veterans Day Holiday**
May 29:	Chapter 10, Presentation #7 & In-Class Quiz
Week 9	*Chapter 11: Chi-Square Tests, Project 2*
Jun 1:	**Exam 2** (Chapters 6-10) Begin Chapter 11
Jun 5:	Finish Chapter 11, Presentation #8 & In-Class Quiz
	Link to Test for Homogeneity
Jun 5:	Project 2 Discussion
Week 10	*Chapter 12: Linear Regression and Correlation, Project 2*
Jun 8:	Begin Chapter 12, Presentation #9 & In-Class Quiz
Jun 12:	Finish Chapter 12, **Project 2 Due**
Week 11	*Chapter 13: F Distribution and ANOVA,*
Jun 15:	Chapter 13, Presentation #10 & In-Class Quiz
Jun 19:	Review for Final Exam
Week 12	
Jun 22:	(8 – 10:25AM): Final Exam (Comprehensive)

HOW TO SUCCEED IN A MATH CLASS

- Get to class early, get yourself settled, spend a few minutes looking at your notes from the previous class meeting, and have your materials ready when class starts.
- Read each section before it is discussed in class.
- Do some math every day.
- Spend about half of your study time working with your classmates.
- Start preparing for the exams at least a week in advance.
- Submit your homework and quizzes at least 24 hours before it is due. Computer problems always seem to occur at the worst times.
- Come to the Math Success Center.
- Get help from a tutor or from your instructor whenever you are confused. Your instructor is there to help you pass. With hard work, many hours on task, and persistence, you can achieve your goals.