

MAT 201 Section 2
Elements of Statistics and Probability

Spring 2015

TIME AND LOCATION: Tuesday and Thursday 6:00-8:25PM in E106

INSTRUCTOR: Wynn Walker

E-MAIL: walker@ltcc.edu

OFFICE HOURS: outside of the Math Success Center

Monday and Wednesday 3:30-4:30 PM

Tuesday and Thursday 4:00 PM – 5:30 PM

OR BY APPOINTMENT

TEXTBOOK: Instead of a traditional textbook, this class will use an interactive multimedia online learning system. Printed versions are for sale in the college bookstore.

REQUIRED SOFTWARE AND ADDITIONAL RESOURCES: You will need to go to the website <http://cccmoodle.org/> in order to access the assignments and additional information relevant to this course. On the moodle website, you will have an account (you will be provided a login but will need to change the default password which is set to *changeme* to something else the first time that you log in). In your account, you will be able to access the weekly homework and online quizzes as well as additional information relevant to the course. In addition, there are lecture notes written by Dr. Larry Green available at <http://www.ltconline.net/green/courses/201/201.htm> as well as fantastic videos that he has also developed which are available at <http://www.ltconline.net/green/courses/201/CamtasiaStatCrunch/index.htm> and interactive applets available at <http://www.ltconline.net/green/java/index.html#Statistics>.

COURSE DESCRIPTION: This course will cover data analysis including probability, distributions, sampling, hypothesis testing, confidence intervals, regression analysis, and nonparametric analysis.

PREREQUISITE: A grade of C or better in MAT 154A, or appropriate skills demonstrated through the Math assessment process.

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.

GRADING POLICY: Your final letter grade will be based on the usual grading scale:

A 90-100%, B 80-89%, C 70-79%, D 60-69%, F 0-59%

The following items will make up the course grade:

Quizzes (Online):	50 points
Homework (Online):	150 points
Quizzes (In Class):	100 points
<u>Exam 1:</u>	150 points
<u>Exam II:</u>	150 points
<u>Project 1:</u>	100 points
<u>Project 2:</u>	100 points
<u>Final Exam:</u> June 23.....	200 points

You may check your grades at any point in the quarter in your moodle account.

IN CLASS QUIZZES: There will be given short quizzes every day starting at 2 minutes after the class begins and ending 5 minutes after class begins. In addition to the short quizzes given daily, there will also be five longer in class quizzes scheduled throughout the quarter. Quizzes cannot be made up.

COMPUTER QUIZZES: There are also weekly quizzes that you will take in moodle. The quizzes are designed to help you prepare for exams, and will be made up of problems that are very similar to the problems from your homework assignments. The quizzes may be taken as often as you would like before the due date/time.

ATTENDANCE AND CLASS PARTICIPATION POLICY: Students must attend all classes and arrive on time. At the beginning of each class a very short quiz will be given which will end at exactly five minutes after the class begins. I may drop a student if they miss the first class meeting if there are students who are on a waiting list to enroll in this class. Also, I may drop a student from the class whenever their total absences exceed two more than the number of times that a class meets per week. Regarding class participation, from time to time groups of people will be called up to the board to share their answers to problems worked on during class. I feel that this active engagement process is essential in order to successfully learn math.

HOMEWORK AND ONLINE QUIZZES: 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, midterm and final exam. **Homework and Quizzes are due at 11:55 PM on Tuesdays, but it is required that you work on your homework and quiz before the quiz so that you can ask your instructor questions during class and succeed on the in class quizzes.** Those who have attempted the homework and quiz for the week and have received at least 50% on each will be allowed to bring in a 3x5 note card to the in class quiz. 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.

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. I will be happy to look at a rough draft of your paper if you can bring or email it to me at least 24 hours 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.

EXAM POLICY: Students are to bring a pencil and blank scratch paper to each exam. Grading will be based on progress towards the final answer, and the demonstration of understanding of the concept that is being tested. The more you show me with steps and detail, the better your chances for partial credit. You can use one 3x5 notecard front and back, for exams and the final.

MAKE-UP POLICY: There are no make-ups for quizzes. No exams may be taken after their scheduled time. If a student will be unable to take an exam at the scheduled time, he or she must take the exam prior to the scheduled time. Students must contact the instructor in advance of the examination in order to arrange a time to take any exam early. THE FINAL MUST BE TAKEN AT THE SCHEDULED TIME.

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.

CELL PHONES: Cell phones and all other electronic devices must be turned off while class is in session. For any student whose cell phone goes off during a quiz or exam a 5% penalty will be applied to their quiz or exam score.

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 a 0 for that assignment. Also, I may refer any student who is caught cheating for further disciplinary action. Please don't cheat in this class. If you are having difficulty with the course, please contact me.

TUTORING: Free tutoring is available in the Math Success Center (MSC). The MSC is located in the Tutoring and Learning Center (TLC) in A201.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES: If there is anyone in this class who has need for test-taking or note-taking arrangements through the Disabilities Resource Center, please feel free to come and discuss this with me. Students with disabilities who may need accommodations for this class are encouraged to notify the instructor and contact the Disability Resource Center (DRC) early in the quarter so that reasonable accommodations may be implemented as soon as possible. Students may contact the DRC by visiting the Center (located in room A205) or by phoning 541-4660, ext. 249 (voice) or 542-1870 (TTY for deaf students). All information will remain confidential.

HOW TO SUCCEED IN A MATH CLASS: I am often asked how to successfully pass a math class, and here is my advice:

- I) Come to every class session. Be prepared, and plan on participating.
- II) Do your homework. Remember that what I assign is what I consider a bare minimum. If you need more practice, do it. MyMathLab has dozens of extra problems for each section as well as sample chapter exams.
- III) Read the book.
- IV) Make use of available tutors and my office hours. You will find tutors who know the subject matter in this course at the Math Success Center (MSC).
- V) Do math every day. Math is just like everything else: if you don't practice, you become rusty.

Tentative Lecture Schedule and Homework Assignment Due Dates for MAT 201

The following is a tentative schedule. If things change (it is very likely), I will let you know. The Sections refer to the sections in the paper copy and online text book.

Week 1 *Chapter 1: Sampling Data , Chapter 2: Descriptive Statistics*

Apr 7: Introductions, start Chapter 1

Apr 9: Finish Chapter 1, Start Chapter 2

Week 2 *Chapter 2: Descriptive Statistics*

Apr 14: **Quiz on Chapter 1**, Finish Chapter 2

Apr 16: Discuss Project 1, Start Chapter 3

Week 3 *Chapter 3:Probability,Chapter 4:Discrete Random Variables, Project1*

Apr 21: **Quiz on Chapter 2**, Finish Chapter 3

Apr 23: Chapter 4

Week 4 *Chapter 5:Continuous Random Variables, Chapter 6: The Normal Distribution*

Apr 28: **Quiz on Chapter 3 and 4**, start Chapter 5

Apr 30: Finish Chapter 5; start Chapter 6, [Project 1 Due](#)

Week 5 , *Chapter 6: The Normal Distribution, Exam 1*

May 5: Finish Chapter 6, Review for Exam 1

May 7: [Exam 1](#) (Chapters 1-5)

Week 6 *Chapter 7: The Central Limit Theorem, Chapter 8: Confidence Intervals*

May 12: Chapter 7

May 14: Finish Chapter 7, start Chapter 8

Week 7 *Chapter 8 (continued), Chapter 9: Hypothesis Testing: 1 Sample*

May 19: **Quiz on Chapters 6 and 7**, finish Chapter 8,

May 21: Start Chapter 9

Week 8 *Chapter 10: Hypothesis Testing: 2 Samples*

May 26: Finish Chapter 9

May 28: Chapter 10, Project 2 Discussion

Week 9 *Chapter 11: Chi-Square Tests, Project 2*

Jun 2: Chapter 11

Jun 4: **Quiz on Chapter 9 and 10**
 [Link to Test for Homogeneity](#)

Week 10 *Chapter 12: Linear Regression and Correlation,*

Jun 9: Chapter 12, Review for Exam II

Jun 11: [Exam II](#): (Chapters 6-10)

Week 11 *Chapter 13: F Distribution and ANOVA, Exam 3*

Jun 16: More on Chapter 12, Chapter 13, [Project 2 Due](#)

Jun 18: Chapter 13; Review for Final Exam

Week 12

Jun 23: (6:00 – 7:50PM): [Final Exam](#) (Comprehensive)