CHATTAHOOCHEE TECHNICAL COLLEGE
Mountain View Campus

School of Related Arts & Sciences
General Studies Program
Course Info

MAT 198 – Introduction to Statistics

Summer 2008

CRN # 10022

I. GENERAL INFORMATION

Instructor Info

Name: B. Thompson
Office: 207
Phone: 770-509-6328
Email: bthompson@chattcollege.com

Office Hours:

Monday & Wednesday:	Tuesday & Thursday:
12:10 – 12:50 PM	9:00 – 10:05 am
3:05 – 3:30 PM	3:05 – 3:35 PM
	5:00 – 5:50 PM
	8:05 – 8:30 PM

Class Info

MyMathLab Course ID: thompson99235
Meeting Times: Tuesday & Thursday, 6:00 – 8:05 PM
Last day of class: Thursday, September 04
Final Exam date: Tuesday, September 09

Important dates

Drop/Add: July 01 – 03

Last Day to Withdraw and receive a "W": August 06

Last Day to Withdraw and receive a "WP" or a "WF": August 27

Holiday: Monday, September 01

II. MATERIALS – REQUIRED

A. MyMathLab Access Code

The MyMathLab Student Access Kit is required.

It comes packaged with the new textbooks sold on the Mountain View Campus. If purchasing the textbook at another location, please check to ensure that the MyMathLab Student Access Kit is also included.

The MyMathLab Student Access Kit can be purchased separately either at the Marietta or Mountain View campus bookstores; as an option, the MyMathLab Student Access Kit can also be purchased online. More details on that will be provided on the first day of class.

B. Textbook

A textbook is required.

Students should choose to use either of the following.

1. An online PDF version

The PDF version of the textbook is available online, at no additional cost, when using your MyMathLab account.

2. Or a traditional printed textbook

Students wishing a traditional printed textbook should purchase the following.
Elementary Statistics plus MyMathLab Student Access Kit Package, 10th Edition,
by Mario F. Triola, ISBN 0321421213

C. Graphing Calculator

A **graphing calculator** is required for this course.

Students may elect to use either the **TI-83** or the **TI-84** model. Students choosing to use other types of calculators are responsible for learning how to use them and for determining whether or not their calculator contains all the features needed for this course.

III. MATERIALS – STRONGLY RECOMMENDED

- A notebook or writing paper, and different colors of pens/pencils are needed for the class.
- A binder for handouts and notes.

IV. COURSE DESCRIPTION

Topics include: descriptive statistics, probability distribution, inferential statistics, linear regression, and non-parametric methods. The emphasis is on techniques and applications.

CREDIT: 5 Hours

PREREQUISITES: MAT 190 or 191 with a grade of C or better

V. COURSE OBJECTIVES AND GOALS

As a result of this course, students will be able to do the following.

a. Analyze statistical problems using critical thinking skills such as deciding on appropriate statistics to measure any suitable tests to be performed.
b. Use the course-required calculator when appropriate.
c. Give the basic definitions of descriptive and inferential statistics: population, sample, variable, data, parameter, statistic, random sample, discrete and continuous numerical data.
d. Construct a frequency or relative frequency table, a histogram, stem and leaf display, or box plot.
e. State the mean, median, mode and range for a set of data.
f. Determine the quartiles and the inter quartile range for a set of data.
g. Determine and compute methods of dispersion.
h. Apply Chebyshev's theorem by using the standard deviation.
i. Determine relative standing – z-scores.
j. Compute the regular or conditional probability of an event from a frequency or contingency table.
k. Compute the probability of the compound event A and B or the event A or B.
l. Compute a binomial probability.
m. Find the expectation and the standard deviation for a discrete probability distribution and for a binomial distribution in particular.
n. Use the standard normal distribution to determine probabilities and to estimate binomial probabilities.
o. Compute the standard error of the mean, and interpret the Central Limit Theorem.
p. Determine the confidence interval for a population mean and proportion.
q. Estimate the confidence level between two population parameters.
r. Conduct a test of hypothesis for a population mean and proportion.
s. Make inferences concerning multinomial experiments (goodness-of-fit tests) and concerning contingency tables (tests of independence).
t. Write the regression line equation for a set of data with significant linear correlation and make predictions based on the regression line.

VI. EXPECTED STUDENT OUTCOMES

Upon successful completion of this course students should be competent in the following areas.

a. This course will improve the student's ability to understand and communicate, both orally and in writing, techniques for summarizing and representing data, the basic concepts of probability, and the basic concepts of estimation and hypothesis testing in various situations. Students will improve their listening skills by taking part in class discussion and in small group activities.
b. This course will improve students' problem solving and critical thinking skills. This is achieved by assessing students in a variety of ways that allow them to demonstrate individual and group problem-solving skills.

VII. TIME SPENT ON THIS COURSE

Time estimated for completing this course consists of many components, some of which are: time spent both in and out of class, student's comfort level with knowledge from previous mathematics courses, and other factors such as effort, attitude, and ability to learn this type of material. **Students should plan to spend a minimum of ten (10) hours outside of class, per week working on this course and more hours, if need be.**

VIII. FOOD AND DRINK IN THE CLASSROOM

The following is a CTC policy.

- Food is not permitted in the classroom. Students who need to bring food into the classroom need to get authorization from the Student Services office.
- Drinks are permitted providing they are in sealable, twist top, non-spill containers. They must be kept away from the equipment and/or computers.
- Each class is responsible for keeping their room clean of bottles left behind; failure to adhere to this will result in the loss of the privilege of bringing drinks into this classroom.

IX. STOPPED ATTENDING

Faculty are required to submit a list of students who have stopped attending. The definition of "stopped attending" for this class is a student who has missed two consecutive weeks.

It is the student's responsibility to contact the instructor if he/she is to be absent from class or has missed class. It is the instructor's decision as to whether to allow the student to return to class or to submit the student as "stopped attending" if the student misses the above defined number of classes.

Students submitted as "Stopped attending" are not eligible to be reinstated in the course; they will receive a grade of F for this course, unless the student withdraws from the course using the appropriate withdrawal procedure.

X. WORK ETHICS:

The mission of Georgia's Technical colleges is to provide the necessary skills for students to be successful employees in their chosen career. To be successful employees must possess both strong occupational skills and good work habits. CTC is committed to incorporating these good work habits into every facet of education. The ethics grade will be a separate grade attached to the academic grade.

Weekly Topics:
1. Attendance
2. Character
3. Teamwork
4. Appearance
5. Attitude
6. Productivity
7. Organizational Skills
8. Communication
9. Cooperation
10. Respect

XI. BEHAVIOR:

One mission of CTC is to provide technical and adult education programs for the people of Georgia. To fulfill this mission, CTC must provide opportunities for intellectual, emotional, social, and physical growth. CTC students assume an obligation to act in a manner compatible with the fulfillment of the mission.

Disruptive behavior of any kind and offensive statements regarding one's race, sex, creed, national origin, physical disability, or mental disability are not appropriate and will not be tolerated. These statements may be considered a violation of the standards of conduct as stated in the current catalog.

Talking in class, arriving late, leaving early, taking frequent or extended breaks are examples of disruptive behavior that impact the concentration of other students in the classroom. These actions may also be considered a violation of the standards of conduct as stated in the current catalog.

XII. ACADEMIC DISHONESTY:

Any student found to have committed the following misconduct is subject to disciplinary sanctions.

Acts of dishonesty, including but not limited to the following:

- Cheating, plagiarism, or other forms of academic dishonesty.
- Furnishing false information to any Technical College office, faculty member or office.

XIII. COURSE POLICIES

A. CLASSROOM

1. **Cell phones:**
   - Cell phones are to be placed in "Silent" mode before class begins.
   - Answering of telephones and/or checking mail is not permitted in the classroom. Failure to do so may result in confiscation of the device for the remainder of the class.
   - Students who need to answer emergency calls need to leave the room to do so. Anyone expecting an emergency call should sit near the door in order to cause a minimum of disruption to their classmates.
   - See Code of Conduct for additional information.
2. **Cell phones and Palm Pilots may not be used as calculators.**
3. **Laptops and Headsets may not be used during class time.** The only exception is that laptops may be used for MyMathLab **class work** only. Failure to follow this policy will result in loss of in class laptop privilege.
4. **Students may not leave the room during a quiz, test, or final exam. Nor may they check their cell phones during those times.** Students, who feel they may need to leave the room, should discuss it with the instructor ahead of time, in order to receive permission to take the evaluation in sections during that class period.

B. ATTENDANCE

1. **Attendance** will be taken everyday both at the beginning and at the end of class. **Roll may be checked by use of a sign-in sheet.**
2. Students are expected to attend every class session in its entirety. It is understood that unusual circumstances may arise which warrant special consideration. It is the student's responsibility to discuss such cases with the instructor.
3. If a student misses roll, he or she must see the instructor by the end of that class to remove the absence.
4. Each tardy will count as 1/3 of an absence. Similarly, leaving early also counts as 1/3 of an absence.
5. Any form of nonparticipation, such as sleeping, reading other material, etc., counts as an absence.
6. Habitually leaving the classroom and/or leaving the classroom for extended periods of time are noted as an absence.
7. Students are responsible for any missed work and assignments. Student may go to the learning center for help on material missed.

C. GRADING POLICIES – WP (Withdraw Passing) Grade:

To receive a grade of WP a student must have achieved a 60 or better on at least one of the tests.

D. GRADING POLICIES – Final Grade:

The final grade will consist of five major components:

1. **Homework**
   Homework is to be submitted using MyMathLab. Homework should be completed by the beginning of the next class. Check the MyMathLab schedule for deadlines.

2. **Quizzes**
   The lowest quiz grade will be dropped. Generally the quizzes will cover concepts from the last few classes. Quizzes may also contain questions from the reading material for the current class; there could also be questions from the syllabus. See schedule for dates and other details.

3. **Tests**
   The lowest test grade will be dropped. Tests will cover recently covered sections. See schedule for dates and other details.

4. **Comprehensive Final Examination**
   There will be a final comprehensive examination. See schedule for the date.

5. **Bonus Points Based on the Homework**
   Bonus points are earned based on how much homework and/or Review Problems are **completed in MyMathLab.**

   Snapshots of your work will be taken as follows.
   - First Bonus Point: homework completed as of ten minutes before class time of the first test; see schedule for date.
   - Second Bonus Point: homework completed as of ten minutes before class time of the second test; see schedule for date.
   - Third Bonus Point: homework completed as of ten minutes before class time of the third test; see schedule for date.
   - Fourth Bonus Point: review problems completed as of ten minutes before final exam; see schedule for date.

   These bonus points will be computed as follows: take four percent of the total of the above snapshots.

   Thus up to four bonus points will be added to the final grade.

All quizzes, tests, and final exam are timed.

Students arriving late will be allowed to start a quiz, test, or final exam providing no one has already left the classroom.

In order to gain credit for a problem, students should show work even if the problem is a multiple choice or true/false question.

Students may not share calculators, etc. during a quiz, test, or final exam.

NOTE: To receive credit for MAT 198, a student must score at least 60 on each of the following course components:

Average of the three Tests
Comprehensive Final Examination

Grading Breakdown is as follows:

Homework Average (MyMathLab only):	5%
Quiz Average:	5%
Test Average:	60%
Comprehensive Final Examination:	30%

In addition, up to four bonus points will be added to the final grade. See information on using MyMathLab in the homework section for details.

E. CTC GRADING SYSTEM

The student must have an A, B, or C (a 70 average or above) to pass this class. The student will earn one of the following grades:

Grade		Standard
A:	(90 – 100)	Excellent
B:	(80 – 89)	Good
C:	(70 – 79)	Satisfactory
D:	(60 – 69)	Poor
F:	(0 – 59)	Failing
W:		Withdrawal
WP:		Withdrawal Passing
WF:		Withdrawal Failing

F. EXEMPTION:

Students meeting the following criteria may be exempt from the final examination.

- Student achieves a 95 or better average of all 3 tests.
- Student behaves in a manner befitting the CTC Code of Conduct.
- Student has not accrued more than three absences.

G. MAKE-UP:

No make-ups of quizzes or tests will be given; thus the missed quizzes and tests will count as zero. However, the **lowest quiz and also the lowest test grade will be dropped**. This applies to all students regardless of their attendance or reason.

Students, who miss the final examination due to an emergency, should contact their instructor within 24 hours of the exam to discuss the possibility of a make-up.

H. MyMathLab

Make sure you use the correct course ID for this class. Failure to do so may result in your needing to purchase another access code.

The MyMathLab access code can be reused only with courses based on the exact same textbook. There may be a time limit with regards to this. Contact the support group at MyMathLab for details and/or questions.

If a problem occurs, see this instructor before attempting to use another Course ID or purchasing another access code.

Additional information can be found on the separate handout titled MyMathLab.

XIV. AMERICANS WITH DISABILITIES (ADA):

An individual with a disability who may require assistance or accommodation in order to participate in or receive the benefit of a service, program or activity, or who desires more information may contact the Counselor for Disability Services at (770) 528-4529.

XV. RESOURCES

There are several resources available to you, among them are the following.

a. Your **instructor**, who encourages you to stop by to discuss your learning experiences in this class.
b. **MyMathLab**, which can be used to improve understanding and performance. This online tool, which is based on the textbook, provides practice, with online help, and video lectures. Homework grades will be tracked through use of this tool.
c. **www.interactmath.com,** which is another online help accompanying the textbook. Homework results cannot be tracked and thus will not count as towards the homework grade.
d. **Classmates**, who form a great 3 person teaching system.
e. Students are encouraged to use the **Learning Center, which is a FREE service**. Tutors are available for help. Videos and software, corresponding to the textbook, are available for student viewing. Other websites offering instruction in math are available for students. When a student is absent from class, he or she should go to the learning center for help on material missed. If a student is referred by an instructor, he or she is required to attend the Learning Center for instructional help.

XVI. WARRANTY STATEMENT

Any graduate of Chattahoochee Technical College who is determined to be deficient in a competency identified in the state program standard shall be retrained upon the request of the employer at no cost to the employer or employee. This warranty is valid for two consecutive years following the date of graduation.

XVII. COURSE CALENDAR:

Like a foreign language, mathematics is a subject that requires practice and repetition as part of the synthesis of presented material. Preparation and regular class attendance facilitates this process.

Date	Day	Topics	Sections
Tuesday, July 01	1.	**Orientation** **Descriptive Statistics** ▪ Introduction to Statistics ▪ Types of Data ▪ Design of Experiments	1.1 1.2 1.4 (starting in the middle of page 26)
Thursday, July 03	2.	**Descriptive Statistics** Frequency Distributions Graphical Representation: Histograms	2.1 2.2 2.3
Tuesday, July 08	3.	**Descriptive Statistics** Graphical Representation: Statistical Graphs Measures of Center: Mean, Median, and Mode	2.4 3.1 3.2

Date	Day	Topics	Sections
Thursday, July 10	4.	**Quiz 1 (Day 01 - 03)** **Descriptive Statistics** Measures of Variation: Range, Variance, and Standard Deviation	3.3
Tuesday, July 15	5.	**Descriptive Statistics** Measures of Relative Standing: Z-Scores, Quartiles, and Percentiles	3.4 3.5
Thursday, July 17	6.	**Test 1 (Day 01 – 06)** **Probability** Fundamentals of Probability	4.1 4.2
Tuesday, July 22	7.	**Probability:** ▪ Addition Rule ▪ Multiplication Rule ▪ Conditional Probability ▪ Counting	4.3 4.4 4.7
Thursday, July 24	8.	**Probability Distributions:** ▪ Overview ▪ Random Variables ▪ Binomial Probability Distributions	5.1 5.2 5.3
Tuesday, July 29	9.	**Quiz 2 (Day 07 – 09)** **Probability Distributions:** ▪ Binomial Distributions: Mean, Variance, and Standard Deviation ▪ Standard Normal Distributions	5.4 6.1 6.2
Thursday, July 31	10.	**Probability Distributions** ▪ Applications of the Normal Distributions ▪ The Central Limit Theorem	6.3 6.5
Tuesday, August 05	11.	**Probability Distribution** Normal as Approximation to the Binomial	6.6
Thursday, August 07	12.	**Test 2 (Day 07 – 12)** **Inferential Statistics** Estimating a Population proportion	7.1 7.2 (Through Critical Values)
Tuesday, August 12	13.	**Inferential Statistics** Estimating a Population proportion	7.2 (Continued)
Thursday, August 14	14.	**Inferential Statistics** • Estimating a Population Mean: σ Known • Estimating a Population Mean: σ Not Known	7.3 7.4

Date	Day	Topics	Sections
Tuesday, August 19	15.	**Quiz 3 (Day 13 – 15)** **Inferential Statistics** Estimating a Population Variance	7.5
Thursday, August 21	16.	**Inferential Statistics** • Basics of Hypothesis Testing • Testing a Claim about a Proportion	8.1 8.2 8.3
Tuesday, August 26	17.	**Inferential Statistics** • Testing a Claim about a Proportion (Continued) • Testing a Claim about a Mean: σ Known • Testing a Claim about a Mean: σ Not Known	8.3 8.4 8.5
Thursday, August 28	18.	**Test 3 (Day 13 – 17)** **Inferential Statistics** Inferences about Two Proportions	9.1 9.2
Tuesday, September 02	19.	**Linear Regression**	11.1 11.2 11.3
Thursday, September 04	20.	**Non-parametric methods**	
Tuesday, September 09	21.	**Final Examination (Day 01 – 20)**	

Changes to this Course Info

This syllabus is subject to change at any time during this quarter. If that happens, the revised document will be posted and students will be notified of the change.