MATH 250 Statistical Methods I, Section 11 — Fall 2020

Instructor Information	Mukesh Kumar, Ph.D. RSS 357, Department of Mathematics College of Charleston, Charleston, SC	*E-mail*: kumarm@cofc.edu Phone: (843)-953-1016 http://kumarm.people.cofc.edu/

Classes Synchroized Online Meeting on Zoom, TR 12:15-1:30 pm.

Office Hours Online meeting on Zoom TR 1:30-2:30 pm or by appointment. I'm happy to meet with you!

Textbooks Neil A. Weiss, *Introductory Statistics* (10th Edition), Pearson Addison Wesley, (MyLab Statistics).

Prerequisite MATH 105 with a C- or better or MATH 111 or MATH 120 or permission of instructor.

Course Description This course is designed to develop quantitative skills along with critical and interpretive judgment. The course focuses on both methodology and applications in statistics. It provides student a solid background for advanced courses in statistics or methodological tools to use in their research disciplines, by approaching real world problems and analyzing real data.
Topics covered based on Weiss's textbook includes Descriptive Statistics: Organizing Data (Chapter 2), Descriptive Measures (Chapter 3), Probability Concepts (Chapter 4), Discrete Random Variables (Chapter 5), The Normal Distribution (Chapter 6), Sampling Distribution of the Sample Mean (Chapter 7); Inferential Statistics: Confidence Intervals for One Population Mean (Chapter 8), Hypothesis Tests for One, Populations Mean (Chapter 9), Inferences for Two Population Means (Chapter 10), Inferences for Population Proportions (Chapter 12), Inferences for Population Standard Deviations & Chi-Square Procedures (Chapters 11 & 13), Regression, Correlation and ANOVA (Chapters 14-16). In addition, a statistics software package(R software) will be used to perform various statistical procedures.

Technology **MyLab Statistics:** In this course MyLab statistics will be used for online submission of homework assignments, tests, and final exam. Students should purchase digital access to MyLab Statistics with e-text option from the bookstore or Pearson website:
https://www.pearson.com/store/p/introductory-statistics/P100002458175?viewAll=true
Calculator: TI-83 or TI-84 calculator is required. Please bring your calculator to every class.
Statistical Software: Students will learn how to use a statistical package (R software) for statistical computations.
Zoom & OAKS: We will primarily use ZOOM and Online Academic Knowledge System (OAKS) through MyCharleston for this course. Online classes will be held via Zoom TR 12:15-1:30 pm. All lecture notes and course announcements will be posted on OAKS, which can be accessed through MyCharleston. If you experience technical difficulties regarding hardware or software, please contact CofC Helpdesk (843-953-3375).

Course specific Student Learning Outcomes By end of the course, students will be able to
1. Summarize data by using methods of descriptive statistics.
2. Choose appropriate inferential procedures and apply them to make inferences about populations.
3. Understand the capabilities and limitations of statistical methods.
4. Use appropriate technology, such as R/Minitab, to perform various statistical procedures.
5. Interpret results and draw conclusions from statistical analysis.

These outcomes will be assessed in tests and final exam.

General Education Student Learning Outcomes Students are expected to display a thorough understanding of the topics covered. In particular, upon completion of the course,
1. Students will model phenomena in mathematical terms;
2. When given a question, students will apply models and establish conclusions;

3. Students will demonstrate an understanding of the supporting theory apart from any particular application.
These outcomes will be assessed on a quiz.

UNDERGRADUATE MATH PROGRAM LEARNING OUTCOMES

Students are expected to display a thorough understanding of the topics covered. In particular, upon completion of the course, students will be able to:
1. Model phenomena in mathematical terms;
2. Derive correct answers to challenging questions by applying the models from the above learning outcome; and
3. Write complete, grammatically and logically correct arguments to prove their conclusions.
These outcomes will be assessed in the final exam.

GRADING

Your overall grade will be calculated according to the formula given below:

Assessments	Percentage
Final	20%
3-Test	45%
Homework	25%
Project	10%

There will be weekly homework(25%), three tests(15% each), a final exam(20%), and an independent project(10%) in this course.
Students will complete and submit their homework(25%) online on MyLab Statistics. There is a firm policy on late submission: each day late will result in a loss of 10% of the possible points up to three days, after that the late submission is not accepted.
There will be three tests; Test 1 (September 22), Test 2 (October 20), Test 3 (November 19). The final exam is scheduled on December 10th (Thursday) from 1-3 pm.
Project (10%): Students will complete a statistical software (R/Minitab) based project that will involve the deeper learning of a topic related to the course.

The final course grade will be determined based on the following scale:

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Score (in %) $\geq$	90-100	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	57-59	0-56

COURSE POLICIES

The course policies are given below:

- **Tests and Final exam**: All exams will be administered online via MyLab Statistics.
- **Extra Credits**: In tests and final exam, I will provide an extra bonus question of 5 points (in tests) and 10 points (in final exam) to improve your grade. Students may try to score these extra credits to improve their grades, but no extra time will be given to attempt the bonus questions.
- **Grades**: Grades for all assigments will be available under Grade Book on OAKS. Students should check their grades and encourage to discuss their progress with instructor. Also the final grade will be posted on MyCharleston.
- **Missed Exam**: **No missed exam will be made up**. If a student misses a exam without a valid reason, the grade will be zero. If a student misses a exam with a valid reason, then for the final course grading the points for the missed exam will be assigned based on the percentage score in the cumulative final exam. A valid reason means that the student has a valid Absence Memo from the Office of Student Affairs or some other documentation from the campus office, for example stating that the student is traveling for an extracurricular activity (with documentation), etc. In these cases the student should notify the instructor ASAP (before the exam) that he/she will be missing the exam.

- **Missed/late homework submission**: Late assignment will be accepted only up to three missed days. There will be a 10% deduction for each missed days. If you cannot turn in an assignment due to illness or some other valid reason, the same policy as for missed exams applies. With an *absence letter* as documentation, I will mark the assignment as excused.

Attendance policy

Regular attendance is required and expected. Students with 4 or more unexcused absences will receive a grade of WA (Withdrawal for Excessive Absences) without any warning. More information can be found at http://studentaffairs.cofc.edu/about/services/absence.php.

Learning Disabled Students

If you have a learning disability which will effect your performance in this class, you should contact Disability Services (953-1431) and talk to me in person. I cannot make any special testing allowances without a documentation from Disability Services. Appointments with Disability Services for alternate testing must be made by the student at least three days in advance of the test date.

Academic Integrity

All College of Charleston academic integrity policies, including the Honor Code and the Code of Conduct, apply to this course. Violations of the honor code will be dealt with immediately and referred to the Office of the Dean of Students. Penalties for violating the honor code may include receiving a grade of XF and/or suspension/expulsion from the College. Refer to http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php and http://deanofstudents.cofc.edu/policies-and-procedures/honor-system.php and feel free to ask the instructor for help if you have any questions.

Classroom Disruption

Students are expected to behave in a manner consistent with a positive collegiate learning environment. Any student who disrupts the class to the point where the ability of the instructor to teach or the ability of the students to learn is impaired will be asked to leave and will be referred to the Office of the Dean of Students for further action. Please see http://deanofstudents.cofc.edu/policies-and-procedures/classroom-disruption.php for the Colleges policy on classroom disruption.

Inclement Weather

If the College of Charleston closes and members of the community are evacuated due to inclement weather, students are responsible for taking course materials with them in order to continue with course assignments consistent with instructions provided by faculty. In cases of extended periods of institution-wide closure where students have relocated, instructors may articulate a plan that allows for supplemental academic engagement despite these circumstances.

Important Dates

Last day to add/drop: August 31, Monday
Last date due for midterm grading: October 20, Tuesday
Last day to withdraw (W): October 28, Wednesday
Last day of classes: December 3, Thursday

Important advice

Your performance will depend heavily on how much effort you put into understanding the concepts. At a minimum you should
-Attend all lectures.
-Review each lecture and aim at understanding.
-Attempt all exercises by yourself, if facing a problem, schedule time with me to discuss problems.
-If you feel that it is a difficult course to pass, please schedule an appointment with me to discuss your problems.

Disclaimer

The information given in this syllabus is subject to change (with notification) at the discretion of the instructor. The instructor will notify students about any changes *via.* email, announcement in the classes, and on the course web page.