

## **MAT 5407 Statistical Data Analysis**

**Prerequisites:** Math 207, Math 353, or the equivalent.

Development and application of statistical techniques. Topics include both descriptive and inferential techniques including simple and multiple linear regression.

**Text:** The Statistical Sleuth: A Course in Methods of Data Analysis by Ramsey/Schafer, 3<sup>rd</sup> ed. ISBN-10: 1-133-49067-0

**Software:** Minitab statistical software will be required for this course. You can rent copies of Minitab through at [www.onthehub.com/minitab](http://www.onthehub.com/minitab).

### **Learning Objectives:**

Upon successful completion of this course, the student will be able to:

- model and analyze problems using one-sample, two-sample, and paired t-tools
- model and analyze problems using non-parametric alternative to the above t-tools
- model and analyze problems using simple linear and multiple regression
- model and analyze problems using one-way and two-way Analysis of Variance (ANOVA)
- model and analyze problems using logistic regression

### **Academic Integrity:**

Honesty and integrity are basic virtues expected of all students at Mississippi College. The Mississippi College Undergraduate Catalog lists the policies and penalties for plagiarism and cheating.

### **Learning Environment:**

The method of instruction may include lecture, group problem solving, individual problem solving, demonstrations, computer lab assignments, quizzes and examinations. Each student is expected to have a copy of the text, writing materials, and an open mind. Group work is allowed on homework. On tests, quizzes, and outside assignments, the work must be the student's own, and no cheating will be tolerated. Students are encouraged to see the professor for extra help when needed.

### **Absences:**

A student will automatically receive a course grade of F immediately upon accumulating 8 absences in a MW or TR class (excused or unexcused).

### **Assessment:**

Assessment of the student's progress will be made through examinations as well as through take home problem sets and class feedback. There will be approximately 2 examinations (worth 200 points each), and 2 problem sets (worth 100 points each). Additionally, each graduate student will be required to turn in a take-home exercise worth 100 points. A comprehensive final will be given at the end of the semester that is worth 300 points. You are expected to take the tests at the

assigned times. Make-up tests will be given only with prior notification of absence and professor approval.

### **Students with Disabilities:**

If you have a documented disability please contact the Office of Counseling and Disability Services. Students are responsible to obtain appropriate documentation and information regarding accommodations from the Office of Student Counseling and Disability Services (SCDS). Student Counseling and Disability Services are located in 400 Alumni Hall. You can contact their office as follows: [Scds@mc.edu](mailto:Scds@mc.edu) or at 601-925-7790. The Student Counseling and Disability Services website can be accessed by going to <https://www.mc.edu/offices/counseling/>. Further instructions and explanations regarding disability services can be accessed through the Disability Handbook (<https://www.mc.edu/offices/counseling/application/files/5115/7868/8987/DSHandbook2020.pdf>).

### **Early Alert System:**

Mississippi College has adopted the practice of finding students early in the semester who may be exhibiting behaviors that could ultimately have a negative impact on their academic progress. These behaviors are often called “red flag” behaviors and include, but are not limited to, excessive absences, poor test grades, and lack of class participation or evidence of non-engagement. Identifying these behaviors early gives the instructor the opportunity to raise the “red flag” on behalf of a particular student so that the student can take the appropriate action to redirect his/her progress. The system alerts the student, the student’s advisor, and the Office of Student Success.

These messages are intended to help a student recognize an area of concern and to encourage him/her to make some choices to improve the situation. When a student receives an Early Alert message, the student should quickly make an appointment to talk with his/her professor about the situation. Also, students can make full use of the Office of Student Success to set academic goals and connect to campus resources.