STA 2122 INTRODUCTION TO APPLIED STATISTICS

Department of Statistics

Florida State University

Fall 2018

Instructor: Sida Liu **Email: sl15r@my.fsu.edu**

Class time: MoWe 6:45 PM -- 8:00 PM (Section 35)

TuTh 6:45 PM --8:00 PM (Section 36)

Lecture Classroom: OSB 110

Office: 104 E, OSB

Office Hours: Th 1:00 PM - 2:30 PM or by appointment

Credit Hours: 3

Course Information

Class Notes: The course is mainly taught by notes. You can find the notes on Canvas.

Textbook: (Optional) The Basic Practice of Statistics, 7th ed. by Moore Notz Fligner, Publisher: W.H.Freeman

TI-83/84 Calculator (or other calculator with statistical functions) (**Required**): Learning to use a calculator to complete basic statistical functions will fulfill the Liberal Studies

Technology Requirement. Please bring your calculator to every class. Cell phones are not an acceptable calculator for quizzes or exams.

Canvas: Please check the Canvas site regularly for announcements, notes, and current grades. Note it is your responsibility to ensure that your grades are inputted correctly into Canvas. Please notify me within **3** days of missing or incorrect grades from the date the quiz or exam was turned in.

Grading

Grading Scale: Grade cutoffs will be established at the end of the course, but will not be stricter than the following cutoffs. Round your overall course grade **UP** to the next higher whole number before matching it to a letter grade

Letter	Percentage	Letter	Percentage	Letter	Percentage
FSU does not award A+		B+	>=87	C+	>=77
A	>=93	B	>=83	C	>=73
A-	>=90	B-	>=80	C-	>=70
D+	>=67	F	<60		
D	>=63				
D-	>=60				

Grading Components

Attendance (10%): Students earn 2% for each time they are present in an attendance check. Students need to be present for 5 random attendance checks to receive full credit. There would be more than 5 attendance checks through the term.

Quizzes (50%): There will be 3 quizzes during the semester. Only two quizzes with the highest score will be graded. Each quiz will be worth 25%. Students may not work together on quizzes, but students are permitted to bring in one 8.5''x11'' note sheet (both sides). Extra credits may be earned. **Students have questions about the quiz grade should inform instructor with 3 days of grade posted online.** If students do not contact instructor about grade with 3 days, the grade will be final and would not change.

LSQA (10 %)

Final Exam (30%): Final exam will be given on **Dec 12th at 10:00am- 12:00pm**. It will be worth 30%. Generally, it will cover all the knowledge in the class. Coverage will be posted in the future. Students may bring in two note sheets. Extra credits may be earned.

Grade appeal policy:

Students have questions about the quiz grade or LSQA should inform instructor within 3 days after grades are posted online. If students do not contact instructor about grade within 3 days, the grade will be final and would not change.

Attendance Policy and Make-ups

- First day attendance policy and Attendance Expectations

"The University requires attendance on the first day of class. Being absent on the first day without first alerting me as the instructor will result in you being dropped from the class."

- Missed Attendance Checks:

Student who cannot attend the class when attendance check happens, tell me before or within 24 hours after the class with acceptable document. Excused absences include documented illness, deaths in the family, documented crises, jury duty, religious holy days, and official University activities. Other situations will be considered on a case-by-case basis.

- **Missed quizzes**:

Either dropped or make up. Students should inform instructor within 2 days of missing the quiz. Students should submit acceptable documents for missing quiz within 5 days. Students should contact instructor to make up quiz within 2 weeks during office hour (make up due date are listed in pacing schedule). Instructor **will not** hold make up outside office hour.

The last day of class is absolute deadline for contact, document submission and make-up of all assessments barring the final exam.

Religious holidays:

Students shall, upon notifying their instructor within the first two weeks of the semester, be excused from class to observe a religious work-restricted holy day of their faith. Students should submit a self-written-and-signed letter at least one week before the holiday informing me that they will be absent due to the religious holiday. Face-to-face communication is not accepted.

Classroom Policies and Expectations

As was stated in the attendance policy section, it is important to come to class and to arrive on time. Attendance checks will generally be taken in the last minute of class. All of the necessary material for quizzes and exam will be touched on in lecture, and students are expected and strongly encouraged to use the notes provided on blackboard during lecture.

Purposeful disruptions in class, such as having audible conversations with friends, distracting or disruptive actions, obvious and continual use of cell phone (i.e. texting with phone well in view for much of the class period), rude or disrespectful behavior, etc. may result in being asked to leave class or losing credit for a future or previous attendance check. Students who make a pattern of coming to class late may also lose attendance credit.

COURSE OBJECTIVES

This course has been approved to meet FSU's Liberal Studies **Quantitative and Logical Thinking** requirements and is designed to help you become a critical analyst of quantitative and logical claims.

In order to fulfill the State of Florida's College mathematics and computation requirement the student must earn a "**C-**" or better in the course.

By the end of the course, students will demonstrate the ability to:

(1) Select and apply appropriate methods (i.e., mathematical, statistical, logical, and/or computational models or principles) to solve real-world problems.

(2) Use a variety of forms to represent problems and their solutions.

(3) Use descriptive statistics and graphical methods to summarize data accurately.

(4) Use inferential statistics to make valid judgments based on the data available.

(5) Select the appropriate statistical tools to analyze a particular problem.

(6) Describe the goals of various statistical methodologies conceptually.

(7) Develop a healthy skepticism toward statistical studies and their results based on a sensible consideration of the techniques employed.

COURSE DESCRIPTION:

Prerequisite: A grade of "C-" or better in MAC 1105 College Algebra (or equivalent).

Credit Hours: 3

Special Note: No credit given for STA 2122 if a grade of "C-" or better is earned in STA 2171, STA 3032 or QMB 3200.

The course covers Normal distributions, sampling variation, confidence intervals, hypothesis testing, one-way and two-way analysis of variance, correlation, simple and multiple regression, contingency tables and chi-square tests, non-parametric statistics.

The purpose of this course is to prepare students for further study and job preparation in the field of Natural Sciences. It will emphasize understanding of data and interpretation of statistical analyses. It will require students to think of data, and report the results of their analyses, in context.

Syllabus Change Policy

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.

(1) University Attendance Policy: Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

(2) Academic Honor Policy: The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida

State University." (Florida State University Academic Honor Policy, found at http://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policyhttp://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy.)

(3) Americans With Disabilities Act: Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type.

Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Student Disability Resource Center has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the:

Student Disability Resource Center 874 Traditions Way 108 Student Services Building Florida State University Tallahassee, FL 32306-4167 (850) 644-9566 (voice) (850) 644-8504 (TDD)

sdrc@admin.fsu.edu

http://www.disabilitycenter.fsu.edu/http://www.disabilitycenter.fsu.edu/

Tentative pacing schedule:

week	Monday/Tuesday	Wednesday/Thursday
1	Syllabus	Summary Statistics
2	Labor Day /Summary Statistics	Summary Statistics
3	Normal Distribution	Normal Distribution

4	**Quiz 1**	Central Limit Theorem
5	Central Limit Theorem	One-sample Confidence Intervals
6	One-sample Confidence Intervals	One-sample Confidence Intervals **(Last Day to make up quiz 1)**
7	**Quiz 2**	One-sample Hypothesis Tests
8	One-sample Hypothesis Tests	One-way Anova
9	**LSQA**	One-way Anova **(Last Day to make up quiz 2)**
10	Simple Linear Regression	Simple Linear Regression
11	SLR Inference	SLR Inference **(Last day to make up LSQA)**

12	No class/SLR Inference	**Quiz 3**
13	Chi-Square Tests	Thanksgiving No class
14	Chi-Square Tests	Chi-Square Tests **(Last day to make up quiz 3)**
15	Review	Q & A
16	**Final Exam** Dec 12	