

#### DEPARTMENT OF STATISTICS

# STA 2122 INTRODUCTION TO APPLIED STATISTICS



#### 3 credit hours

#### **Course Information**

Class Meeting Time and Location:

Section 31: Monday & Wednesday: 3:35p.m. - 4:50 p.m. in OSB 0110
Section 34: Monday & Wednesday: 6:45p.m. - 8:00 p.m. in OSB 0110

Final Exam: Wed. Dec. 11th at 10:00 am to 12:00 pm

## **Instructor Information**

Instructor: Donghang Li Email: dl14h@my.fsu.edu

Office: OSB 426

Office Hours: Thursday 4:00 to 5:00 p.m. or by appointment

#### **Course Description**

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

**Credit Hours: 3** 

**Special Note:** Subsequent credit for STA 5126 is not permitted. 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.

#### **Required Materials**

- Lecture Notes will be provided online. You may print them out by yourself and bring them to the lecture. Textbook is NOT required for this class, however, you will need to read each set of class notes carefully after each lecture.
- TI-84 calculator or equivalent.
- Textbook: Not required. Simply follow the filled-in Class note

#### **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.

# **Email & Communication**

- ~ please check the Class Log on the course website every day to keep yourself informed about what happens in class
- ~ please check your @my.fsu.edu email every day for emails from me
- ~ please check the announcements on the course website every day
- ~ please always do the above three before you email me
- ~ if you email me with an enquiry that was already addressed in the Class Log, in a class email, in a course announcement or in one of our syllabus documents, you may not get a response
- ~ if you email me, please send from your @my.fsu.edu account
- ~ send assessment-related questions at least 24 hours before the assessment is due to begin
- ~ be aware that email sent from outside the FSU domain may not get through to me, so if you send an email and you don't get a response within two working days, please try to meet me in person before class or after class or during office hours
- ~ in general, if you email me and you don't get a response within two working days, and if you are still attending classes and are not confined off-campus, please talk to me in person before class or after class or during office hours

#### **Grading**

- 1. Attendance (10%):
- There will be 5 **random** attendance checks throughout the semester.
- 2. Quizzes (50%) and LSQA (Liberal Studies Quantitative Assessment) (10%):
- Approximately every 2-3 weeks there will be a quiz or LSQA, which lasts for 50 mins. You may prepare a one-page handwritten cheat sheet 8½"x11" for the quiz. Quiz paper won't be returned. However, you can check your quiz during office hour, or by appointment.
- There will be 3 quizzes in total, only 2 quizzes with the highest score will be graded, each quiz will be worth 25%.
- Students have questions about the quiz grade should inform instructor within 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.

- 3. Exam (30%):
- There will be **one** final exam. Final exam will last 2 hours. You can use your calculator and bring two pieces of handwritten cheat sheets 8½"x11" to the final exam.
- Final exam will be on **Dec. 11<sup>th</sup> (Wednesday**) at 10:00 am to 12:00 pm. Location will be announced before the final exam week.
- 4. Extra credit (5%):
- Extra credit might be given if you solve an extra credit problem in quiz.

Graded Assessment	Percentage
Attendance	10%
Quizzes & LSQA	60%
Final exam	30%
Extra credit	5%
Total	105%

#### **Test Question Security & Academic Honesty**

The following pledge and affirmations will be printed on most assessments (wording may vary slightly). We regret to say that if you do not sign the pledge and affirmations, we will not grade your paper and your grade will be zero. Please bear in mind that academic dishonesty and question disclosures reduce the worth of the academic qualification that you are working toward.

I pledge that I will never disclose the questions herein to anyone, and I will not discuss them with anyone other than my course instructor or my recitation TA. I understand that if I break this pledge at any time, the grade that I earn on this paper will be reduced to zero and my overall numerical course grade will be calculated, or re-calculated, accordingly, and my course letter grade will be demoted if necessary.

I affirm that I did not receive help with this assessment and I affirm that I did not help anyone with this assessment.

# Receiving a grade of "Incomplete"

A request for a grade of "Incomplete" will

- ~ NOT be granted if you have completed all of the coursework, including the final exam.
- ~ be granted only if both of the following conditions are satisfied:
  - (1) you have completed the LSQA and all of the quizzes, and
  - (2) your overall average excluding the final exam is a passing grade.

#### Overall course grade

Letter	Num. grade	Letter	Num.	Letter	Num.	Letter	Num.	Letter	Num.
			grade		grade		grade		grade
FSU doe	es not award A +	B+	87-89	C+	77-79	D+	67-69		
A	93+	В	83-86	C	73-76	D	63-66	F	<60
A-	90-92	B-	80-82	C-	70-72	D-	60-62		

#### Penalties for missed quizzes and exams

Without any reason, if you miss a quiz or exam, you will receive zero mark for that quiz. You may make up your quiz with reasonable excuse and documents are required. However, make-ups usually need to be done within one week. Also, no make-ups are allowed after the final teaching week.

#### **Grading Appeal Policy**

During the course of the term, if you believe that a paper was improperly graded, please come to my office hours to see your paper and discuss with me.

## **Excused Absence Make Up Policy**

If provided with eligible documents, students missed any quizzes may be made up in my office during my office hours. If you miss any lecture, you may come to my office to ask specific questions or get help from your classmates.

#### **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.

# **Sexual Misconduct and Title IX Reporting**

As an instructor, I am obliged to report all instances of sexual misconduct that I become aware of; I cannot hold such information confidential. If you would like to discuss your situation in confidence, you may contact the Victim Advocate Program (<a href="https://dos.fsu.edu/vap/">https://dos.fsu.edu/vap/</a>), the University Counseling Center (<a href="https://counseling.fsu.edu/">https://counseling.fsu.edu/</a>), or University Health Services (<a href="https://uhs.fsu.edu/">https://uhs.fsu.edu/</a>).

#### **Final Exam Rescheduling Policy**

You may not take the final exam before final exams week. Individual students who need to reschedule the final exam for a different time during final exams week will need to

- (i) talk to me about it first and get my permission to reschedule,
- (ii) fill out the "Request to Reschedule Final Examination" form at <a href="https://artsandsciences.fsu.edu/students/undergraduate/forms-requiring-deans-approval/rescheduling-final-examination">https://artsandsciences.fsu.edu/students/undergraduate/forms-requiring-deans-approval/rescheduling-final-examination</a> and take it to the Dean of Arts and Sciences office at 010 LON to get it approved, and
  - (iii) bring the approved form back to me by the last day of classes.

If you experience a documented emergency that prevents you from observing the above deadline, contact me as soon as you are able to, and we'll take it from there.

#### **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.

#### **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/Academics/Academic-Honor-Policy)

#### AMERICANS WITH DISABILITIES

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/

**Tentative Pacing Schedule, STA 2122, Fall 2019** 

week	Monday	Wednesday				
1	Syllabus	Summary statistics				
2	Labor Day	Summary statistics				
	No class					
3	Normal Distributions	Normal Distributions				
4	Central Limit Theorem	Central Limit Theorem				
5	Quiz 1	One-sample Confidence Interval				
6	One-sample Confidence Interval	One-sample Confidence Interval				
7	One-sample Confidence Interval	One-sample Hypothesis Tests				
8	One-sample Hypothesis Tests	Quiz 2				
9	One-way Anova	One-way Anova				
10	LSQA	Simple Linear Regression				
11	Simple Linear Regression	Simple Linear Regression Inference				
12	Veteran's Day	Simple Linear Regression Inference				
	No class					
13	Quiz 3	Chi-square Tests				
14	Chi-square Tests	Thanks giving				
		No class				
15	Chi-square Tests	Review				