Florida State University
Department of Statistics

STA2122 Introduction to Applied Statistics
FALL 2020 Section 20&21

Instructor: Kai Deng
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Office Hours: Join via Zoom link on course website.

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

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

Course Description
- **The class will be taught remotely, asynchronously**.
- **Credit Hours:** 3.
- 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 in the field of natural sciences. This course emphasizes understanding of data and interpretation of statistical analyses. Meanwhile, students are required to think of data and report the results of analyzing in context.

Materials
- Lecture Videos: Watching the lecture videos is equivalent to attending class and listening to lectures. We acknowledge that the lecture videos are not short, but remember that class time would have been 50 or 75 mins - not short either. On the bright side, however, you may pause the video at any time and return to it later - you would not have been able to do that with live lectures. Therefore, we fully expect you to watch the lecture videos in their entirety. Pause whenever you need to, but always be sure to return and finish watching the video.

  Notes: Recorded lectures are FSU properties and only available to students enrolled in your class. Students are not allowed to share the recorded lectures to any other people outside the class. Copyright of the recorded lectures are reserved by the instructors and FSU.

- Lecture notes: the notes will be posted on canvas along with lecture videos.
- Textbook (optional): *Introduction to the Practice of Statistics*, by Moore McCabe Craig , 9th edition. Publisher: W.H.Freeman
- Calculator: TI-84 Plus or equivalent.

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 solve them with statistical tools.

The above two competencies will be assessed in the Liberal Studies Quantitative Assessment for STA 2122, which includes a written summary of results.

(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.

Grading

- Online quizzes + Final exam:
    1. Average percentage grade of quizzes+LSQA > percentage grade of final exam quizzes+LSQA: 70%, final exam: 30%
    2. Average percentage grade of quizzes+LSQA < percentage grade of final exam quizzes+LSQA: 60%, final exam: 40%
- Assessments that are not submitted will receive a grade of zero. When a makeup is submitted, the zero will be replaced with the earned grade.

Letter	Grade	Letter	Grade	Letter	Grade	Letter	Grade
A	≥ 93	B	83-86	C	73-76	D	63-66
A-	90-92	B-	80-82	C-	70-72	D-	60-62
B+	87-89	C+	77-79	D+	67-69	F	≤ 59

(**Remark:** The final grade will be rounded up.)

Notes:

(1) Some extra points will be given in quizzes.

(2) Grade curving depends on the performance of all the students in my two sections at the end of the semester.

(3) I just check the completeness of your homework, so you can get full points as long as you finish it and turn it in on time.

(4) If you are not satisfied with your grades of quizzes, try to make a higher grade in final exam so that the proportion of final exam is increased and you will get a higher final grade.

(5) We will provide some practice in activity classes which will help you better understand the course materials and familiar with the question types which possibly appear in quizzes.

Email & Communication

Please turn on the course notifications in Canvas by going to Account/Notifications/ and checking the Notify me right away option for all of the items under Course Activities. You may expect a response to your email within two work days.

Grade review policy

Come to my office hours to discuss the grade within one week after the grades are made available on Canvas, or email me about the grade within two days after the grades are made available on Canvas. If no complaints are voiced within that time frame, then it is assumed that the grade is accepted, and subsequent requests for a grade review will not be granted.

Note on Technology-dependent Assessments

This course is heavily technology-dependent. While we will do our best to work with you on technology issues, please be aware that if you take an assessment but we can find absolutely no record of the fact, then we will not be able to give you credit for it. Please DO NOT USE SAFARI when you take assessments on Canvas – please use Chrome or Firefox.

Sexual Misconduct and Title IX Reporting

As an instructor, I am obliged to report all instances of sexual misconduct that I become aware of to the University's Title IX Director; I cannot hold such information confidential. If you would like to discuss your situation in confidence, you may contact the Victim Advocate Program (`https://dos.fsu.edu/vap/`), the University Counseling Center (`https://counseling.fsu.edu/`), the Employee Assistance Program (`https://eap.fsu.edu/`), University Health Services (`https://uhs.fsu.edu/`), or pastoral counselors.

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 `https://artsandsciences.fsu.edu/students/undergraduate/forms-requiring-deans-approval/resche`

`duling-final-examination` and get it approved by the Dean of Arts and Sciences office, and
(iii) let me have the approved form 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`.)

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.

Americans With Disabilities Act

Students with disabilities needing academic accommodation should:
(1) register with and provide documentation to the Office of Accessibility Services; and
(2) request a letter from the Office of Accessibility Services to be sent to the instructor indicating the need for accommodation and what type; and
(3) meet (in person, via phone, email, skype, zoom, etc. . .) with each instructor to whom a letter of accommodation was sent to review approved accommodations.
This syllabus and other class materials are available in alternative format upon request. For the latest version of this statement and more information about services available to FSU students with disabilities, contact the:

Office of Accessibility Services
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
`https://dsst.fsu.edu/oas/`

Pacing Schedule

Dates/Holiday	Day 1	Day 2	Day 3	Assessment
Week 1 (Aug 24-30)	Syllubus + Introduction	Introduction	Summary Statistics	Quiz 1
Week 2 (Aug 31-Sep 6)	Summary Statistics	Summary Statistics	Summary Statistics	Quiz 2
Week 3 (Sep 7-13)	Normal Distribution	Normal Distribution	Normal Distribution	Quiz 3
Week 4 (Sep 14-20)	Central Limit Theorem	Central Limit Theorem	Central Limit Theorem	Quiz 4
Week 5 (Sep 21-27)	One-sample Confidence Intervals	One-sample Confidence Intervals	One-sample Confidence Intervals	None
Week 6 (Sep 28-Oct 4)	One-sample Confidence Intervals	One-sample Hypothesis Tests	One-sample Hypothesis Tests	LSQA
Week 7 (Oct 5-11)	One-sample Hypothesis Tests	One-sample Hypothesis Tests	One-way Anova	Quiz 5
Week 8 (Oct 12-18)	One-way Anova	One-way Anova	One-way Anova	Quiz 6
Week 9 (Oct 19-25)	Simple Linear Regression	Simple Linear Regression	Simple Linear Regression	Quiz 7
Week 10 (Oct 26-Nov 1)	SLR Inference	SLR Inference	SLR Inference	Quiz 8
Week 11 (Nov 2-8)	Chi-Square Tests	Chi-Square Tests	Chi-Square Tests	None
Week 12 (Nov 9-15)	Chi-Square Tests	Multiple Regression	Multiple Regression	Quiz 9

Week 13 (Nov 16-22)	Multiple Regression	Multiple Regression	Multiple Regression	None
Week 14 (Nov 23-29)/ Thanksgiving	Extended topics	Holiday break	Holiday break	None
Week 15 (Nov 30-Dec 6)	Review session	Review session	Office hours	None
Week 16 (Dec 7-Dec 13)	Final exam: Date and Time TBD.			