Florida State University

Department of Statistics

STA2122 Introduction to Applied Statistics
Fall 2018 Section 22

Instructor: Jing Zeng
Office: OSB, 201A
Class Meeting Time: MWF, 8:00am-8:50am
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Office Hours: Mon, 2:20pm-3:20pm
Classroom: TUL B001

TA: Jingze Liu
Office: TBD
E-mail: TBD

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

Credit Hours: 3

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 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

- Notes: the notes will be posted on canvas prior to the class, please print it out yourself before the class.
- Textbook (optional): *The Basic Practice of Statistics, 7th ed. by Moore Notz Fligner*, by Moore Notz Fligner, 7th edition
- 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

- Homework (10%). Due date: before the class on each Monday
- Tests (80%):
  1. Average percentage grade of quizzes+LSQA > percentage grade of final exam
     quizzes+LSQA: 60%, final exam: 20%
  2. Average percentage grade of quizzes+LSQA < percentage grade of final exam
     quizzes+LSQA: 50%, final exam: 30%

  Time: 45 mins in the same classroom
- Activities (10%): in the form of pop quiz

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

Notes:

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

(2) We do not curve grade 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 structure can be changed and you will get a higher final grade.

(5) The question types of quizzes: multiple choice, fill in the black and short interpretation questions.

(6) 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.

Final exam

Time: Dec 12th, 10:00am-12:00pm. Location: TBD

Policy

(1) Late homework will not be accepted except excusal documentation presented.

(2) Your lowest grade of quizzes will be dropped at the end of the semester, but LSQA can not be dropped. So if you missed LSQA I strongly recommend you to make it up.

(3) In order to make up quizzes, you have to contact with me before the quiz or within 2 days after the quiz. All the make-ups will be scheduled on make-up days near the end of the semester (for details, refer to the *pacing schedule*).

- If you miss quizzes **once or twice, you don't need to provide any documentations**. You can choose to attend either make-up days if you just miss once but need to attend both days if you missed twice. And still you have to contact with me when you are absent from quiz.
- If you missed quizzes **more than twice, you have to submit documentation for ALL absences**. And you can just make up only two of them.

(4) You will obtain activity points as long as you show up and finish the practice in class. Making up for activites will be accepted **only if excusal documentation is provided**.

(5) Retaking the tests you have attended is not allowed.

(6) You may use ONE self-planned self-handwritten two-sided $8\frac{1}{2}'' \times 11''$ original sheets of notes for each quiz. Please do not bring typed up sheets, or photocopies of any sort of materials.

(7) Prepare a calculator: TI-84 Plus or equivalent are strongly recommended, of course more basic calculator is also allowed.

(8) If you wish to appeal the grade, then you have to contact with me to make an appointment or come to my office hours after the grades are posted. And if no complaints are voiced within one week, then it is assumed that the grade is accepted.

(9) I hope that all the students can come to every class not just because of attendance points, all the content in quizzes will be covered by our lecturing classes. And make the most of my office hours, feel free to ask questions or go over your passed quizzes, I am pleasant to help.

Acceptable excusal documentation

(1) Religious holidays: write a letter, date and sign it, and give it to me before the holiday; letters presented after this deadline will not be accepted and your absence will count as a without documentation case.

(2) Health matters related to self or immediate family members: doctors note must be dated at most 5 calendar days before or after the date of absence

(3) Crises for which we receive a notification letter from the Dean of Students Department

(4) Events where you represent FSU, such as FSU sports teams, FSU music groups, etc

(5) Traffic accident or any other event where law enforcement was called in

(6) Death in the family and other documented crises

(7) Jury duty or any other court appointments

(8) Military-related matters

(9) Vehicle breakdown or bus delay

(10) Other: please talk to me or email me about your particular situation as soon as it occurs

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/academic-resources/academic-integrity-and-grievances/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 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/`

Pacing Schedule

Week	Mon	Wed	Fri
1	**Aug 27** Syllubus + Introduction	**Aug 29** Introduction	**Aug 31** Summary Statistics
2	**Sep 3** **No class** Labor Day	**Sep 5** Summary Statistics	**Sep 7** Quiz 1
3	**Sep 10** Summary Statistics	**Sep 12** Summary Statistics	**Sep 14** Normal Distributions
4	**Sep 17** Normal Distributions	**Sep 19** Central Limit Theorem	**Sep 21** Quiz 2
5	**Sep 24** Central Limit Theorem	**Sep 26nd** Central Limit Theorem	**Sep 28** One-sample Confidence Intervals
6	**Oct 1** One-sample Confidence Intervals	**Oct 3** One-sample Confidence Intervals	**Oct 5** Quiz 3
7	**Oct 8** One-sample Confidence Intervals	**Oct 10** One-sample Hypothesis Tests	**Oct 12** One-sample Hypothesis Tests
8	**Oct 15** One-sample Hypothesis Tests	**Oct 17** One-sample Hypothesis Tests	**Oct 19** LSQA
9	**Oct 22** One-way Anova	**Oct 24** One-way Anova	**Oct 26** One-way Anova
10	**Oct 29** One-way Anova	**Oct 31** Simple Linear Regression	**Nov 2** Quiz 4

11	**Nov 5** Simple Linear Regression	**Nov 7** Simple Linear Regression	**Nov 9** Simple Linear Regression
12	**Nov 12** **No class** Veterans' Day	**Nov 14** SLR Inference	**Nov 16** Quiz 5
13	**Nov 19** SLR Inference	**Nov 21** **No class** Thanksgiving Day	**Nov 23** **No class**
14	**Nov 26** SLR Inference	**Nov 28** Chi-Square Tests	**Nov 30** Make-up Day 1
15	**Dec 3** Chi-Square Tests	**Dec 5** Chi-Square Tests	**Dec 7** Make-up Day 2