STA 2122 INTRODUCTION TO APPLIED STATISTICS

Fall 2017

COURSE INFORMATION:

Class Meeting Time/Place: MoWe 2:00PM - 3:15PM in OSB 0108
Class URL: http://campus.fsu.edu
Credit Hours: 3
Class Number: STA 2122-0016

INSTRUCTOR: Mr. Peng Zhao

E-mail: peng.zhao@stat.fsu.edu / pz15@my.fsu.edu
Office: 208 B, Oceanography/Statistics Building
Office Hours: M 1:00-2:00 pm or by appointment

TEACHING ASSISTANT: Miss Keqian Min

E-mail: keqian.min@stat.fsu.edu / km17g@my.fsu.edu
Office: Room 308, Biology Unit 1
Office Hours: To be decided

PREREQUISITE:

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

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.

COURSE OBJECTIVES:

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

(1) Analyze and address problems drawn from real world scenarios by applying appropriate mathematical, statistical, logical, and/or computational models or principles.

(2) Interpret and evaluate data and information as presented in a variety of modes (such as tables, graphs, and charts), using appropriate technology. They will also be able to

clearly communicate a summary of their findings to peers. The above two competencies will be assessed in the L.S. Quantitative Assessment for STA 2023, 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) Describe the goals of various statistical methodologies conceptually.

(6) Apply statistical techniques in the context of business processes, everyday life, and further studies in their discipline.

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

REQUIRED MATERIALS:

A textbook is not required for this class, however, you will need to read each set of class notes carefully after we cover them in lecture and before the quiz that follows.

Class notes: You will need to print out class note Class notes from our university learning management system (http://campus.fsu.edu) STA2122 FALL17 DOCS website and bring them to class on a regular basis, so please budget some money for printing. The current estimate of your printing costs for the entire term is $80.00 (about 400 pages @ 20 cents/page). me

Writing materials: Notepaper and sharpened pencils.

Calculator: TI-84 Plus or equivalent.

GRADING:

Quizzes:

(1) There will be 5 quizzes throughout the semester. The quizzes are not cumulative. I will drop the lowest quiz grade. Each quiz will be equally weighted.
(2) On quiz days you will need to bring a calculator and a pencil to write with. You may also bring one A4 (8.5''*11'', both sides) handwritten notes for reference.
(3) If you miss a quiz you need to email TA or talk to TA within one week of the missed quiz or in advance to schedule a time to make it up. You can only make up a quiz with a valid documentation. If you do not communicate with TA in time

you will receive a penalty of 10% per day for that quiz, with 20% as the minimum.

(4) If you disagree with a grade you obtained on a quiz you have one week to contact TA about a re-grade. Otherwise the grade you received is final.

Attendance:

(1) Attendance will be taken randomly throughout the semester.
(2) If you have an excused absence, you must show me or TA the documentation within one week of the missed class or in advance.
(3) If you miss one and don't show me or TA the documentation in time, you will miss 2 points on the final grade.
(4) Attendance will be taken on first day of class. Absentees will automatically drop the class according to university policy.

Final Exam:

(1) The Final Exam will take place on Wednesday, 10:00 – 12:00 noon, Dec. 13, the location is (**to be decided**).
(2) The Final Exam is cumulative.
(3) You will need to bring a calculator and a pencil to write with. You may also bring one A4 (8.5''*11'', both sides) handwritten notes for reference.

Assessment:
(1) Quiz 44%
(2) Final Exam 44%
(3) Attendance 12%
(4) Rounded UP to the next higher whole number

Grade	A	A-	B+	B	B-	C+
Score	93-100	90-92	87-89	83-86	80-82	77-79
Grade	C	C-	D+	D	D-	F
Score	73-76	70-72	67-69	63-66	60-62	0-59

EMAIL:
(1) Please check your @my.fsu.edu email every day

(2) Always include your full name, course code and section number when you email us — if we need to know this information in order to answer your query, and you have not provided it, you may not get a response
(3) Send test-related questions at least 24 hours before the test is due to begin
(4) Be aware that email sent from outside the FSU domain may not get through to us, so if you email us and you don't get a response within two days, please try to meet us in person before class, or after class, or during office hours

COURSE POLICY:

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.

Missed Attendance Checks:
Student who cannot attend the class when attendance check happens, tell TA 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.

First day attendance is mandatory per university regulations. Thereafter attendance may be taken at unannounced times. We fully expect you to be present at every class meeting. Drop/Withdrawal deadlines are given in the University's academic calendar at http://registrar.fsu.edu/registration_guide/fall/academic_calendar/.

Missed Quizzes:
Either drop or make up one quiz within one week or in advance. Students have one chance to make up missed quizzes and students should have an acceptable document. But students cannot retake a quiz. Other situations will be considered on a case-by-case basis.

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.

Liberal Studies for the 21st century:
Quantitative and Logical Thinking
The Liberal Studies for the 21st Century Program at Florida State University builds an

educational foundation that will enable FSU graduates to thrive both intellectually and materially and to support themselves, their families, and their communities through a broad and critical engagement with the world in which they live and work. Liberal Studies thus offers a transformative experience. This course has been approved as meeting the Liberal Studies requirements for Quantitative and Logical Thinking and thus is designed to help you become a critical analyzer 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.

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.

(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/

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.)

COURSE SCHEDULE:

Week	Monday	Wednesday	Week	Monday	Wednesday
1	Syllabus; Introduction Aug. 28	Summary Statistics Aug. 30	2	Labor Day. No classes. Sept. 4	Normal distribution Sept. 6
3	Normal distribution Sept. 11	Quiz 1 Sept. 13	4	Central Limit Theorem Sept. 18	Central Limit Theorem Sept. 20
5	Central Limit Theorem July 25	One Sample Inference July 27	6	Quiz 2 Oct. 2	One Sample Inference Oct. 4
7	One Sample Inference Oct. 9	One Sample Inference Oct. 11	8	One-way ANOVA Oct. 16	Quiz 3 Oct. 18
9	One-way ANOVA Oct. 23	One-way ANOVA Oct. 25	10	Two-way ANOVA Oct. 30	Simple Linear Regression Nov. 1
11	Quiz 4 Nov. 6	Simple Linear Regression Nov. 8	12	Regression Inference Nov. 13	Regression Inference Nov. 15
13	Multiple Linear Regression Nov. 20	Thanksgiving Day Holiday Nov.22	14	Quiz 5 Nov.27	Chi-square Test of Independence Nov.29
15	Chi-square Test of Independence Dec.4	Non-parametric Tests Dec.6	16	Final Exam Week.	Final Exam Week.