



Liberal Studies Quantitative and Logical Thinking

Department of Statistics

STA 2122 - 15 Introduction to Applied Statistics

Classes meet: Aug 28th – Dec 8th
Mon & Wed 11: 00am-12: 15pm
HCB207

Instructor: Qiusheng Chen

Email: q.chen@stat.fsu.edu

Office Location: Room 208B OSB

Office Hour: Wed 9:30am -10:30am or a different time by appointment

University Learning Management System (ULMS): <https://campus.fsu.edu/webapps/login>

(Please check for announcement and course library before class)

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.

~ The syllabus is intended to be an agreement between you (student) and me (instructor).

~ The presence of your name on your section roster after drop/add ends indicates that you have read and understood all of the information and documents posted on ULMS at STA2122 F17

DOCUMENTS/Course Materials/Syllabus folder, you have had your questions about them answered, and you accept and will abide by our policies.

~ Bear in mind that the opportunities presented in this class are made equally available to all students in the class and it is up to each individual to make the best of them.

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.

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.

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 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.

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 notes from ULMS STA 2122 F17 Documents 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).

Writing materials: Notepaper and sharpened pencils.

Calculator: TI-84 Plus or equivalent.

ATTENDANCE, ABSENCE AND DROP/WITHDRAWAL:

~ We fully expect to see you at every class meeting. First-day attendance will be taken electronically via ULMS, however we still expect to see you in class on the first day.

~ Drop and Withdrawal deadlines are given in the University’s academic calendar at University’s academic calendar at http://registrar.fsu.edu/registration_guide/fall/academic_calendar/

~If you miss class, we expect you to keep up-to-date with the lessons, activities and announcements by getting in touch with a classmate or with me.

~IF you miss lecture, you may get the notes from me during office hour or by appointment. You could



copy down notes two times only, so do not make a habit of missing class. I will not re-teach entire lessons, but after you have studied the material that you copied down and attempted the relevant exercises, you could get helped with specific questions you may have during office hour.

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.

ASSESSMENT AND GRADING:

	Four Quizzes 60%	Cumulative Final Exam 40%
Coverage	1. Summary Statistics 2. Normal Distributions & Central Limit Theorem 3. One-sample Confidence Intervals & One-sample Hypothesis Test 4. One -way ANOVA	All topics
Time allowed	1 hour	2 hours
Communication in class or with persons outside classroom is Not permitted . During quizzes and final exam, if we believe that you or persons sitting near to you are engaging in academic dishonesty or have previously engaged in academic dishonesty, we will ask you to move to a different seat. This will be a subjective judgment on our part. In such situations you should move to the indicated seat as quickly and as quietly as possible in order to keep distraction to a minimum during testing.		
Materials that you need to bring	Calculator, notesheet*, scratch paper and a watch to keep track of time. You may Not Share your calculator. You may not use a cell phone as a calculator. *at each quiz you may use ONE self-planned self-handwritten two-sided 8.5"×11" sheet of notes *at final exam you may use TWO self-planned self-handwritten two-sided 8.5"×11" sheet of notes Please DO NOT bring typed up sheets, electronically copy-pasted collages or hard-paper cut-and-pasted collages. Please do not bring cheat sheets provided by a tutor or tutoring agency, or any other person or organization.	
Materials that are not permitted	Course materials such as class notes, exercises, etc; cell phones and other remote communication devices.	
Earned grade	Graded question by question. Graded papers will not be returned to you. Visit office hour if you wish to see your paper.	
Type of questions	All quizzes and final exam will include question types that were not previously presented in the class notes or exercises, but these question types will cover material that was definitely previously presented. This means that you should aim to learn the concepts and not just learn how to answer particular types of questions. Quiz questions	



	may be cumulative, so you need to be up-to-date with all the material covered up to that point. The final exam will be cumulative.
How to answer the questions	For each question, follow the instructions provided and, unless otherwise stated, ~ show detailed work to receive credit, ~ write your answers in the context of the "story" wherever applicable, ~ algebra, computation, logic, correct application of appropriate statistical formulas and methods, and answers given in context will be graded, not just final numerical answers.

Test Question Security

The following pledge will be printed on every quiz and on the final exam (wording may vary slightly). We regret to say that if you do not sign the pledge, we will not grade your paper and your grade will be zero. Please bear in mind that occurrences such as quiz or final exam question disclosures reduce the worth of the degree 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.

Missing Grades

- ~ check your grade on ULMS at STA 2122 F17 GRADES to make sure your latest grade has been posted, please do this even if you already know your grade
- ~ if a grade is not posted, inform me immediately via email
- ~ if you report a missing grade more than two weeks after the assessment took place, I will not be able to help you and the missing grade will have to remain as a zero grade

Overall Course Grade

We do not do our grade calculations in ULMS at all, we only use the ULMS grade center to store and display grades. Please ignore the grade totals or averages that you may see there. All grades will be recorded as percentages, and these percentages (not points) will be used in your overall course grade calculation as follows:

- (i) calculate the average of your Quiz percentages , this is your Quiz Average,
- (ii) overall numerical course grade = $(0.6 * \text{your Quiz Average}) + (0.4 * \text{your Final Exam})$,
- (iii) round your overall course grade UP to the next higher whole number before matching it to a letter grade.

Letter	Num.grade	Letter	Num.grade	Letter	Num.grade	Letter	Num.grade	Letter	Num. grade
FSU does not award A+		B+	87 – 89	C+	77 – 79	D+	67 – 69	F	≤59
A	≥93	B	83 – 86	C	73 – 76	D	63 – 66		
A-	90 – 92	B-	80 – 82	C-	70 – 72	D-	60 – 62		

**Grading Appeals**

During the course of the term, if you believe that a paper was improperly graded, go to my office hour to see your paper and discuss it with them. Grading appeal should be acted within two weeks after grades for that paper are posted on ULMS.

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 all of the quizzes, and
- (2) your overall average excluding the final exam is a passing grade.

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>.)

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/>

RELIGIOUS WORK-RESTRICTED HOLY DAYS

Students should submit a self-written-and-signed letter at least one week before the holiday informing me that you will be absent due to the religious holiday.

<http://registrar.fsu.edu/bulletin/undergraduate/information/integrity/>