
	DEPARTMENT OF STATISTICS STA 2122 INTRODUCTION TO APPLIED STATISTICS 3 credit hours	 QUANTITATIVE AND LOGICAL THINKING
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Instructor: Ms. Radha Bose Email: bose@stat.fsu.edu Office Location: Rm 210C OSB Office Hours: Every week, I will announce my office hours for the next week. If you cannot make my announced hours, I will try to meet you at a different time, please email me to set up an appointment.	Classes meet Aug 27th to Dec 7th MON & WED at 11:15am—12:05pm in HCB 0101 FRI recitations: see below Final Exam WED Dec 12th at 10:00am—12:00pm location to be announced Course website (Canvas): https://fsu.instructure.com/.
<p>The following documents, located in the Syllabus Documents module on our course website, are part of this syllabus, please be sure to read them too: Make-up Policies, Tentative Pacing Schedule, Expectations.</p>	

FRIDAY RECITATIONS

SECTION	START	END	ROOM
STA 2122/0002	8:00 AM	8:50 AM	HCB 0314
STA 2122/0003	9:05 AM	9:55 AM	HCB 0309
STA 2122/0004	10:10 AM	11:00 AM	HCB 0309
STA 2122/0005	11:15 AM	12:05 PM	HCB 0212
STA 2122/0010	12:20 PM	1:20 PM	HCB 0214
STA 2122/0007	1:25 PM	2:15 PM	HCB 0312
STA 2122/0011	1:25 PM	2:15 PM	HCB 0214
STA 2122/0006	1:25 PM	2:15 PM	HCB 0210
STA 2122/0012	2:30 PM	3:20 PM	HCB 0312
STA 2122/0008	2:30 PM	3:20 PM	HCB 0213
STA 2122/0013	3:35 PM	4:25 PM	HCB 0312
STA 2122/0009	3:35 PM	4:25 PM	HCB 0213

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 us (instructor & TAs).

~ The presence of your name on your section roster after drop/add ends indicates that you have read and understood all of the information in the documents posted in the Syllabus Documents module on our course website, you have had your questions about it answered, and you accept and will abide by our policies.

~ Please understand that we deal with hundreds of students each term, and in the interests of fairness, we will not do for one student what we cannot do for all students who are likely to request the same.

~ 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**

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.

COURSE OBJECTIVES

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.

The above two competencies will be assessed in the Liberal Studies Quantitative Assessment for STA2122, 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.

COURSE DESCRIPTION

Prerequisite: A grade of "C-" or better in MAC1105 College Algebra (or equivalent).

Special Note: No credit given for STA2122 if a grade of "C-" or better is earned in STA2171, STA3032 or QMB3200.

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

A textbook is not required for this class. However, you will need to read each set of *completely filled in* class notes carefully after we cover them in lecture and before the quiz/LSQA that follows. We will fill in the class notes during lectures.

Class notes: You will need to print out class notes from our course 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 the course website but 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

https://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 reading the Class Log on our course website, coming to office hours to get any missed notes, and managing any make-ups appropriately (see the Make-up Policies document).

~ If you miss lecture, you may get the notes from your recitation TA or Radha during our office hours. We will let you copy down notes two times only, so do not make a habit of missing class. We will not re-teach entire lessons, but after you have studied the material that you copied down and attempted the relevant exercises, we will help you with specific questions you may have.

~ **If you miss a Friday recitation**, see the Make-up Policies **and** email your recitation TA immediately **and** go to her/his office hours ASAP (do not wait for a response to your email, just go to the office hours ASAP).

~ **If you miss the final exam**, email Radha immediately 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.

EMAIL & COMMUNICATION

~ please check the Class Log on our 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 us

~ please check the announcements on our course website every day

*~ please always do the above three **before** you email us*

~ if you email us 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 us, please send from your @my.fsu.edu account

~ always **include your name and your recitation TA's name** when you email Radha, 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

~ 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 us, so if you send an email and you don't get a response within two working days, please try to meet us in person before class or after class or during office hours

~ in general, if you email us 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 us in person before class or after class or during office hours

ASSESSMENT AND GRADING

WE WILL ALLOW ABSOLUTELY NO MAKE-UPS, NO EXTRA CREDIT ASSIGNMENTS, AND IN GENERAL, NO OPPORTUNITIES FOR GRADE IMPROVEMENT, AFTER THE LAST DAY OF CLASS, SO PLEASE DO YOUR BEST DURING THE TERM.

We reserve the right to impose a penalty on your assessment grade if you violate any of the guidelines below.

Guidelines	Activities (10%)	Liberal Studies Quantitative Assessment (LSQA) (10%)	Quizzes (50%)	Final Exam (30%)
Signing in	You will be asked to sign the roster at every activity, the LSQA, every quiz and the final exam. Please make sure you sign the roster before you leave the classroom <i>every time!</i>			
Type of work	Group	Individual		
Time allowed	45 mins	45 mins: please come to class 5 mins early, we will begin giving out papers 5 mins before the period starts	2 hours	
Communication in class	is permitted and encouraged	is not permitted		
Communication with persons outside of the classroom	is not advised	is not permitted		
During the LSQA, the quizzes and the 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.				
Number of times you may take the assessment	ONE			
Materials that you need to bring	the filled-in class notes and worked exercises, scratch paper, calculator, writing materials	calculator, writing materials, notesheet(s)* and a watch to keep track of time because you may not look at your phone You MUST bring your own calculator — sharing of calculators is not permitted. You may not use someone else's calculator during the LSQA, the quizzes or the final exam — not even after they have turned in their paper.		

* you may use ONE 8½"x11" self-planned self-handwritten back-and-front original sheet of notes during the LSQA and each quiz
 * you may use TWO 8½"x11" self-planned self-handwritten back-and-front original sheets of notes during the final exam
 Each sheet must be labeled with your name and the assessment for which it is used, for example, "Jane Doe Quiz 3". The sheet(s) will be collected with your question paper.
 Please do not bring typed up sheets, photocopies of any sort, 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.

<p>Materials that are <u>not</u> permitted</p>	<p>nothing</p>	<p>course materials such as class notes, extra exercises, activity papers, etc; cell phones and other remote communication devices; extra note sheets You may not use a phone for any purpose whatsoever, not even as a calculator. Your phone must be stored out of view and be silent for the entire period.</p>	
<p>Earned grade</p>	<p>For <u>each activity</u> you will earn one of the three grades below. Absent — 0% Present — 50% Present and Participating — 100% <i>Coming to class more than 15 mins late, or leaving class more than 15 mins early without completing the assigned work, counts as lack of participation, so you will receive 50% if you do so.</i></p>	<p>Graded question by question. Graded papers will not be returned to you. If you wish to see your paper, please visit your recitation TA's office hours.</p>	<p>Graded question by question. Graded papers will not be returned to you. If you wish to see your paper, contact Radha.</p>

If you are present for an activity but fail to sign in your attendance, you will get a zero grade. Since we deal with large numbers of students, it will be difficult for us to recall if you were present or not, so please do not ask us to give you credit for an activity if you failed to sign in.

<p>Please note that possession of an activity paper will not serve as proof that you were present because we freely give out the activity papers and we do not keep track of them.</p>		
<p>Types of question</p>	<p>Questions that require you to perform an activity, or work through exercises, which will aid your understanding of statistical concepts. Activities may be cumulative in nature.</p>	<p>The LSQA, all of the quizzes and the final exam will include a few 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. The LSQA questions and quiz questions may be cumulative, so you will need to be up-to-date with all of the material covered up to that point. The final exam <i>will</i> be cumulative.</p>
<p>How to answer the questions</p>	<p>Follow the instructions provided with the activity. Discuss the material with your group members and other classmates. Ask your recitation TA for clarifications or help if necessary.</p>	<p>For each question, follow the instructions provided and, unless otherwise stated,</p> <ul style="list-style-type: none"> ~ 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. <p>You may not ask your recitation TA, or anyone else inside or outside of the classroom, for help.</p>
<p>During the LSQA and the quizzes, you will be given a paper only if your name is on the section roster, and you will be asked to sign the roster. This means that you MUST attend the section in which you are enrolled. If you attend a different section then you will not be given a paper.</p>		

Test Question Security & Academic Honesty

The following pledge and affirmations will be printed on the LSQA, every quiz and the final exam (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.

Missing Grades

- ~ be sure to attend the recitation section in which you are enrolled to avoid missing grade issues
- ~ please do not attend a recitation led by a different TA than the one assigned to your section
- ~ check your grade on the course website **every week** 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, **alert your recitation TA immediately via email**, it is important that you alert us via email so that there will be a record of the fact that you reported the matter
- ~ if you report a missing grade within two weeks after the assessment took place, we will do our best to locate your missing grade
- ~ **if you report a missing grade more than two weeks after the assessment took place, we 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 grade calculations on the course website at all, we only use the grade center to store and display individual assessment 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 Activity percentages, this is your Activity Average,
- (ii) calculate the average of your Quiz percentages (omit the lowest one), this is your Quiz Average,
- (iii) overall numerical course grade = $0.1 \times \text{Activity Average} + 0.1 \times \text{LSQA percentage} + 0.5 \times \max(\text{Quiz Average}, \text{Final Exam}) + 0.3 \times \min(\text{Quiz Average}, \text{Final Exam})$,
- (iv) round your overall numerical course grade UP to the next higher whole number before matching it to a letter grade from the table below.

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 by your recitation TA, go to their office hours to see your paper and discuss it with them. If the matter is not resolved after that discussion, then email me (Radha) and ask me to re-grade your paper – I must receive your email within two weeks after the grades for that paper are posted on the course website.

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

AUDITING

If you are auditing this course you will need to show me your approved audit registration form.

After I see your form, I will add you to the course website.

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 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.

In order to meet your needs in this class, your TA and I will both need to know that you require special accommodations, so **please email your accommodations letter to both your TA and me in the same email** ASAP. It is not appropriate for me to disclose your disability-related information to your TA, and it is not appropriate for your TA to disclose your disability-related information to me, that is why we need you to send the letter to both of us in the same email. That way each of us will know that the other has been informed that you are a student with a disability and then we can coordinate our actions to serve you better.

Special accommodations will be provided as soon as possible after I get your letter. **We cannot provide special accommodations in the classroom**, so you must take your quizzes, the LSQA and the final exam at the SDRC testing center. You must take them on the same day as the other students take them in class but the time of day is up to you, and you will not come to class on those days. If you need to take one of these assessments on a different day, please talk to me (Radha) about it first. Please do not schedule one of these assessments for a different day without first clearing it with me (Radha). If you choose to take one of these assessments in the classroom, or in our office hours, or at some other location, then you will not receive special accommodations and you must comply with the rules that the other students follow.

You may choose to complete the activities in class or at the SDRC testing center. Please note that some activities are designed to be group efforts, so you may not fully grasp the learning objectives if you do them on your own. In my experience, however, students with disabilities have always elected to complete the activities in class and have not had significant problems doing so. Classmates are generally co-operative and willing help.

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/>