

	<p style="text-align: center;">DEPARTMENT OF STATISTICS STA 2122 INTRODUCTION TO APPLIED STATISTICS SECTIONS 0001-0013 3 credit hours</p>	 <p style="text-align: center;">QUANTITATIVE AND LOGICAL THINKING</p>
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<p><b>Instructor:</b> Ms. Radha Bose <b>Email:</b> <a href="mailto:bose@stat.fsu.edu">bose@stat.fsu.edu</a> <b>Office Location:</b> Rm 210C OSB <b>Office Hours:</b> 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.</p>	<p><b>Classes meet MWF:</b> Aug 26th to Dec 6th MON &amp; WED at 11:15am-12:05pm in HCB 0101 FRI meetings: see below <b>FINAL EXAM:</b> <b>WED Dec 11th at 10:00am-12:00pm</b> <b>location to be announced</b> <b>Course website:</b> <a href="http://canvas.fsu.edu">canvas.fsu.edu</a></p>
<p>The following documents, located in the Syllabus Documents module on the course website, are part of this syllabus, please be sure to read them too: <a href="#">Tentative Pacing Schedule</a>, <a href="#">Expectations</a>.</p>	

### 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.

### FRIDAY CLASS MEETINGS

STA 2122/0002	8:00 AM	8:50 AM	HCB 0312
STA 2122/0003	9:05 AM	9:55 AM	HCB 0309
STA 2122/0011	9:05 AM	9:55 AM	HCB 0209
STA 2122/0004	10:10 AM	11:00 AM	HCB 0309
STA 2122/0012	10:10 AM	11:00 AM	HCB 0213
STA 2122/0005	11:15 AM	12:05 PM	HCB 0310
STA 2122/0013	11:15 AM	12:05 PM	HCB 0316
STA 2122/0008	12:20 PM	1:10 PM	HCB 0310
STA 2122/0006	1:25 PM	2:15 PM	HCB 0310
STA 2122/0009	1:25 PM	2:15 PM	HCB 0312
STA 2122/0007	2:30 PM	3:20 PM	HCB 0309
STA 2122/0010	2:30 PM	3:20 PM	HCB 0310

**COURSE DESCRIPTION**

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

**Special Note:** Subsequent credit for STA 5126 is not permitted. 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.

**REQUIRED MATERIALS**

**Class notes:** A textbook is not required for this class. However, you will need to print out class notes from the 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). You will need to read each set of *completely filled in* class notes carefully after we cover them in lecture and before the next assessment. We will fill in the class notes during lectures. **If you are able to write on an electronic version of the notes (as opposed to a paper version), you may do so.**

**Writing materials:** Notepaper and sharpened pencils.

**Calculator:** TI-84 Plus or equivalent. We will help you to learn how to use a TI-84 series calculator. We cannot promise to be able to help with any other type of calculator, but we'll do our best.

**LIBERAL STUDIES FOR THE 21<sup>st</sup> 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.

**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.

~ Apart from face-to-face conversation in the classroom and during office hours, I will communicate with you by

- + updating the Class Log on the course website,
- + sending emails to your [@my.fsu.edu](mailto:my.fsu.edu) account, and
- + posting announcements on the course website.

**Please check the above electronic locations every day.**

~ If you email us, please **send from your [@my.fsu.edu](mailto:my.fsu.edu) account.**

~ 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 the syllabus documents, you may not get a response.

~ Always **include your name and your TA's name** 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

~ 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. **Assessments that are not taken will receive a zero grade.** Your overall course grade will consist of the following:

Assessment	Quantity	Weight
Online Quizzes	6 drop 1 = 5 @ 3%	15%
LSQA	1	10%
In-class Quizzes	4 drop 1 = 3 @ 15%	45% *
Final Exam	1	30% *
<b>Total</b>		<b>100%</b>

\* If your Final Exam grade is higher than your In-class Quiz average, then we will swap those two percentages.

**Online Quizzes (15%)**

These quizzes will be designed to see if you are engaged in the course and up-to-date with what is being taught. They will be testing both knowledge gained and effort put in. They will be open-notes, and multiple attempts will be allowed over 2-3 days. A generous amount of time will be allowed per attempt. There will be no make-ups and no extensions, but we will drop your lowest grade.

LSQA (10%)	In-Class Quizzes (45%)	Final Exam (30%)
Not dropped; make-up allowed if absent.	Two missed-quiz make-ups allowed if you did not miss the LSQA. One missed-quiz make-up allowed if you missed the LSQA. Lowest grade dropped after make-ups are done.	Not dropped; contact me (Radha, <a href="mailto:bose@stat.fsu.edu">bose@stat.fsu.edu</a> ) ASAP if absent.
Will be in your Friday classroom at your Friday class time (see first page for rooms and times).		Day, time, location are on the first page.
45 mins allowed; come to class 5 mins early, we will begin giving out papers 5 mins before the period starts.		2 hours allowed
Will generally not be cumulative, except in the sense that the material is naturally cumulative.		Will be cumulative.
The questions will include a few question types that were <u>not</u> 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.		

You may use ONE 8½"x11" self-planned self-handwritten back-and-front original sheet of notes for each assessment.	You may use TWO such sheets.
Each sheet of notes must be labeled with your name and the assessment for which it is being used, for example, "Jason Bourne Quiz 3". The sheet(s) will be collected with your question paper, so please take a picture of it(them) for your own records. 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.	
You may use a TI-84 Plus or equivalent calculator. You <u>must</u> bring your own calculator because sharing of calculators is not permitted. You may not use someone else's calculator, not even after they have turned in their paper.	
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.	
You will need to sign the roster every time; please make sure you do so.	
Only one sitting is allowed. Re-taking a paper that you took before is not permitted.	
Graded papers are not returned, but you may view your papers in your TA's office hours.	
If we believe that you or persons sitting near to you are engaging in academic dishonesty or have previously engaged in academic dishonesty, we may 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.	
<b>We reserve the right to impose a penalty on your grade if you violate any of the guidelines above.</b>	

### Test Question Security & Academic Honesty

The following pledge and affirmations will be printed on most assessments (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 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.*

### Overall Course Grade

Please ignore the grade totals or averages that you may see on the course website; they are not correct. In this class, we only store and display individual assessment grades on the course website, we do not do grade calculations there. All grades will be recorded as percentages, and these percentages (not points) will be used in your overall course grade calculation as described in the following steps:

(i) Online Quiz Average = average of all the Online Quiz percentages (omitting the lowest one);

(ii) In-class Quiz Average = average of all the In-class Quiz percentages (omitting the lowest one);

(iii) Overall numerical course grade =  $0.15 \times \text{Online Quiz Average} + 0.1 \times \text{LSQA percentage} + 0.45 \times \max(\text{In-class Quiz Average}, \text{Final Exam percentage}) + 0.3 \times \min(\text{In-class Quiz Average}, \text{Final Exam percentage})$ ;

(iv) Letter grade will be selected from the table below after rounding the above numerical grade UP to the next higher whole number.

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

### Missing Grades

~ be sure to attend the Friday section in which you are enrolled to avoid missing grade issues

~ please do not attend a Friday section led by a different TA than the one assigned to your section

~ check your grades 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 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 the 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

**Receiving a grade of "Incomplete"**

A request for a grade of "Incomplete" will

~ NOT be granted if you have completed the coursework, including the final exam and excluding the allowable absences.

~ be granted only if both of the following conditions are satisfied:

- (1) the only assessment that you have yet to take is the final exam, and
- (2) your overall average excluding the final exam is a passing grade (70% or above).

**Grading Appeals**

During the course of the term, if you believe that a paper was improperly graded by your 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, [bose@stat.fsu.edu](mailto:bose@stat.fsu.edu)) and ask me to re-grade your paper – I must receive your email within one week after the grades for that paper are posted on 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>)

**ATTENDANCE, ABSENCE AND DROP/WITHDRAWAL**

~ Drop and Withdrawal deadlines are given in the University's academic calendar at

<https://registrar.fsu.edu/calendar/>.

~ You are expected to attend every class meeting. First-day attendance will be taken electronically via the course website but you are still expected to be in class on the first day.

~ Lack of future planning, or mismanagement of time and other resources, are not acceptable reasons for being absent.

~ 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 most of these opportunities.

~ 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.

~ Documentation for absences will not be accepted after the Last Day of Class. Documentation is not required for a Mon/Wed lecture absence.

~ There will be two make-up days for the LSQA and In-class Quizzes. It will be your responsibility to be present on those days if you miss the LSQA and/or any In-class Quizzes.

~ **If you miss a Mon/Wed lecture**, you may get the filled-in notes from the course website. The filled-in packets will be posted on the course website every week. While we will not re-teach entire lessons, we can help with specific questions you may have after you have studied the material and attempted the relevant exercises. *Please come to office hours if you have questions.*

~ **If you miss the final exam**, email me (Radha, [bose@stat.fsu.edu](mailto:bose@stat.fsu.edu)) immediately and we'll take it from there.

~ **If you miss an In-class Quiz or the LSQA:**

#### **First three absences (3 in-class quizzes OR 2 in-class quizzes + LSQA)**

You do not need to contact us and you do not need to submit documentation. However, if you have documentation then save it in case you incur further absences. These first three absences will be covered by the two make-ups and the in-class quiz drop regardless of the reasons for your absences and regardless of whether you have documentation or not. **Please save these three allowances for emergencies and do not use them for reasons that can be avoided.** We do not promise any further help with low quiz grades.

**3 quizzes scenario:** you will make up two quizzes of your choice on the two make-up days; the other quiz will be dropped.

**2 quizzes + LSQA scenario:** you will make up the LSQA and one quiz of your choice; the other quiz will be dropped. The LSQA cannot be dropped.

#### **Fourth and subsequent absences**

At the time of the fourth absence, inform me (Radha, [bose@stat.fsu.edu](mailto:bose@stat.fsu.edu)) within one week.

**You will need to provide documentation for the first three absences in addition to** the fourth and any subsequent absences before we allow you any additional make-ups beyond the two mentioned above. Additional make-ups will be done in your TA's office hours. It will be your responsibility to make time in your schedule to visit your TA's office hours. **All make-ups must be completed by the Last Day of Class.**

### **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.



## SEXUAL MISCONDUCT AND TITLE IX REPORTING

As an instructor, I am obliged to report all instances of sexual misconduct that I become aware of; 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/>), or University Health Services (<https://uhs.fsu.edu/>).

## 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 (Radha, [bose@stat.fsu.edu](mailto:bose@stat.fsu.edu)) 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/rescheduling-final-examination> and take it to the Dean of Arts and Sciences office at 010 LON to get it approved, and

- (iii) bring the approved form back to me **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.

## 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 academic 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 of your need for academic accommodations and we can then coordinate our actions to serve you better.

Academic accommodations will be provided as soon as possible after we get your letter. **We cannot provide testing accommodations in the classroom**, so you must take the in-class 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, [bose@stat.fsu.edu](mailto:bose@stat.fsu.edu)) about it first. Please do not schedule any of these assessments for a different day without first clearing it with me (Radha, [bose@stat.fsu.edu](mailto:bose@stat.fsu.edu)). If you choose to take any of these assessments in the classroom, or during office hours, or at some other location, then you will not receive testing accommodations and you must comply with the rules that the other students follow.

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](mailto:sdrc@admin.fsu.edu)

<http://www.disabilitycenter.fsu.edu/>