Course Information
Instructor: Xinyu Zhou
Email: xz19c@my.fsu.edu
Office Hours: Monday, 3:00 pm - 5:00 pm (On-site or by Zoom) or by appointment
Office Location: OSB 436B
Class Times and Locations: MWF, 10:40 am – 11:30 am, TUL B001 or by Zoom

Students will need to follow the University’s current health and safety guidelines.
I will not be using Honorlock and my advice is that you shouldn’t either.

Required Course Resources
Textbook: A textbook is not required for this class. The instructor will provide all required course notes and exercises.

Additional Resources: The following free online textbook is an additional resource that you might find useful:
Introductory Statistics from OpenStax, Print ISBN 1938168208, Digital ISBN 1947172050,
https://urldefense.com/v3/__http://www.openstax.org/details/introductory-statistics__;!!Epnw_ITfSMW4!6KLo9t7AMj-rHArYZD87MYntXaeJZe4QdyiWTBvMaQVR5cjMl4frmZnFnQDP_Yizyo1S.

Calculator: A TI-84 Plus or equivalent calculator. We will teach you how to use a TI-84 series calculator, but we cannot promise to be able to help with any other type of calculator.

Canvas Class Website: Grades, notes, announcements and other pertinent information will be available through this site. You are responsible for assignments and announcements posted on this website, as well as those sent through your FSU email. Please check your FSU email and Canvas daily. (https://canvas.fsu.edu)

Computer: A personal computer, reliable internet connection, and Chrome or Firefox browser.

Course Description
Prerequisite: None
Credit Hours: 3

This course provides students with a background in applied statistical reasoning. Fundamental topics are covered including graphical and numerical description of data, understanding randomness, central tendency, correlation versus causation, line of best fit, estimation of proportions, and statistical testing. Statistical thinking, relevant ideas, themes, and concepts are emphasized over mathematical calculation. In this class students learn many of the elementary principles that underlie collecting data, organizing it, summarizing it, and drawing conclusions from it.

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 their solutions.
3) Apply sound concepts of sample selection and experimental design in producing data.
4) Use statistical thinking in the context of work processes, academic endeavors, and everyday life.
5) Describe how inferential statistical methods are used to make valid judgments based on the data.
6) Evaluate the validity of statistical results with skepticism based on sensible considerations.

Tentative Topics:
1. Terminology/Initial Ideas: statistical study process, population, sample, parameter, statistic, categorical, quantitative
2. Sampling: simple random sampling, systematic sampling, stratified sampling, cluster sampling, convenience sampling
3. Graphs: histograms (sketch and interpret), stemplots (sketch and interpret), bar charts (sketch and interpret), pie charts (interpret)
4. Summary Statistics: mode, mean, quartiles, range, standard deviation, five-number summary, boxplot
5. Empirical Rule
6. Normal Distributions: forward problems (finding area under the curve/percentage of data)
7. Central Limit Theorem: sampling distributions of \( \bar{x} \)-bar, features of the distributions and implications when using a larger/smaller sample to estimate \( \mu \), forward problems (finding probabilities)
8. Probability: random processes, four rules, probability models, addition rule for mutually exclusive events
9. Random Variables: definition, expected value
10. One-sample mean: obtain and interpret \( z \)-intervals, carry out and interpret results of \( z \)-test, interpret \( P \)-value
11. One-proportion: \( z \)-intervals and \( z \)-tests
12. Correlation: what the sign and absolute value of \( r \) imply, correlation does not imply cause-and-effect
13. Simple Linear Regression: read scatterplots, given equation make prediction, interpret \( R^2 \)

Tentative Pacing Schedule:

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Aug 23 ~ Aug 27</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Introduction to the class</td>
<td>Topic 1&amp;2</td>
<td>Topic 3</td>
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<tr>
<td>Week 2</td>
<td>Aug 30 ~ Sep 3</td>
<td>Topic 3</td>
<td>Topic 4</td>
<td>Topic 4</td>
</tr>
<tr>
<td>Week 3</td>
<td>Sep 6 ~ Sep 10</td>
<td>No class</td>
<td>Review for Quiz 1</td>
<td>Quiz 1</td>
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<td></td>
<td>Labor Day</td>
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<tr>
<td>Week 4</td>
<td>Sep 13 ~ Sep 17</td>
<td>Topic 5</td>
<td>Topic 5</td>
<td>Topic 6</td>
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<tr>
<td>Week 5</td>
<td>Sep 20 ~ Sep 24</td>
<td>Topic 6</td>
<td>Topic 7</td>
<td>Topic 7</td>
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<tr>
<td>Week 6</td>
<td>Sep 27 ~ Oct 1</td>
<td>Topic 7</td>
<td>Topic 7</td>
<td>Review for Quiz 2</td>
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<tr>
<td>Week 7</td>
<td>Oct 4 ~ Oct 8</td>
<td>Quiz 2</td>
<td>Topic 8</td>
<td>Topic 8</td>
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<td>Week 8</td>
<td>Oct 11 ~ Oct 15</td>
<td>LSQA Test</td>
<td>Topic 8</td>
<td>Topic 8</td>
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<tr>
<td>Week 9</td>
<td>Oct 18 ~ Oct 22</td>
<td>Topic 9</td>
<td>Topic 9</td>
<td>Topic 9</td>
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<tr>
<td>Week 10</td>
<td>Oct 25 ~ Oct 29</td>
<td>Review for Quiz 3</td>
<td>Quiz 3</td>
<td>Topic 10</td>
</tr>
<tr>
<td>Week 11</td>
<td>Nov 1 ~ Nov 5</td>
<td>Topic 10</td>
<td>Topic 10</td>
<td>Topic 11</td>
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<tr>
<td>Week 12</td>
<td>Nov 8 ~ Nov 12</td>
<td>Topic 11</td>
<td>Topic 11</td>
<td>Review for Quiz 4</td>
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</table>
Note that this is only a plan for the course. The real schedule may be changed according to the actual situation.

**Liberal Studies for the 21st Century: Quantitative and Logical Claims**

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 commitments through a broad and critical engagement with the world in which they live and work. This course has been approved as meeting the Liberal Studies requirements and this 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 computational requirement, the student must earn a C- or better in the course.**

**Grades**

**Quizzes (50%):** There will be 4 quizzes during the semester, which add up to 50% of the final grade. The quizzes are equally weighted (i.e., 12.5% for each of the 4 quizzes). Each quiz may contain some extra credits for you to work on. You could bring one 8.5” ×11” (A4) hand-written double-side cheat sheet and a calculator to the quizzes.

**LSQA (15%):** Note that, STA 1013 has been certified as one of FSU’s Liberal Studies Quantitative and Logical Thinking courses. As a requirement, administer the appropriate Liberal Studies Quantitative Assessment (LSQA) during the semester. This will be a common assessment (not final exam). Time length will be about 50 mins (one lecture time).

**Final Exam (35%):** There will be a cumulative final exam given at 10:00 – 12:00 noon Dec 9 (TUL B001 or online). At the final exam, you could also bring three 8.5” ×11” (A4) hand-written double-side cheat sheet and a calculator.

**Attendance (0%):** There is no attendance requirement for this semester.

Grades will be posted on Canvas. The quiz / exam papers may not be given back to students, but I will go over the quiz / exam questions in the following lecture and post the questions and answers on Canvas. When a grade is posted, you have one week to request a grade change. If you have any concern about your score, please let me know as soon as possible. After this one-week period, no grade changes will be made.

Assessments that are not taken, and assignments that are not submitted, will receive a grade of zero. When a missed assessment/assignment is made up, the zero will be replaced with the earned grade.

The grading scale for the course is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>93-100</th>
<th>83-86</th>
<th>73-76</th>
<th>63-66</th>
<th>0-59</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B+</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>F</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>80-82</td>
<td>70-72</td>
<td>60-62</td>
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</table>

The overall grade will be calculated by the way described above and may be subject to a curve (this will only make your grade unchanged or higher). Do not look into the ‘Total’ row shown on Canvas / Grades and get worried. That one is computed in a wrong way and unfortunately cannot be fixed.

**Policy Information:**

**Make-up Policy:**
If you have missed a quiz and want to make up, you need to contact me within TWO calendar days after the quiz day or inform me in advance, and provide university approved documentation, which includes: documented illness, deaths in the family and other documented crises as approved by the Dean of Students office, active military or jury duty, and official University activities. Please note that the FSU University Health Services ‘Verification of Visit’ does not constitute a documented absence. Unexcused absence from a quiz will result in a zero. The make-up quiz will be given within one week of the original quiz date. I will discuss the detail time and location with you after receiving the documentation.

If you have missed an attendance check and do not want it to be count as one missing class, same as the policy for the quizzes, you can contact me within TWO calendar days after the day that you missed the class or inform me in advance, and provide university approved documentation.

If you are going to miss the final exam, you must notify me and Radha Bose (rbose@fsu.edu) in advance at the same time.

If you are going to miss a quiz or an attendance check due to religious holiday, please send me an email informing me the details of the holiday with your name in the end via your FSU email account within TWO calendar days after the day you missed or in advance. No other documentation will be required. Otherwise no make-up quiz or attendance will be given.

All the make ups should be done before the final exam week.

Classroom Conduct: You are expected to act professionally in the classroom. You should arrive on time and prepared for the class. If you do arrive late or have to leave early, please do so in a manner that does not disturb the others. No food is allowed and please stay seated during the lecture. If you have any emergency, please raise your hand to let me know first. Discussion is allowed but please keep your voice level low so that others will not be disturbed.

Email and Communication: I will send announcements to your FSU email account (@my.fsu.edu) or on Canvas. You are responsible for all information sent via email or put on Canvas website, so check your FSU email account and Canvas website frequently (at least one time a day). Please turn on the course notifications in Canvas by going to Account/Notifications and checking the Notify me right away option for all the items under Course Activities. When emailing me regarding this class, please put STA1013-0003 in the subject line, sign your full name in the end and use your FSU email account. **Emails not from FSU email account will not be replied.** I will respond to all email within two business days, which do not include weekends, holidays or weekdays after 7 pm. Asking me early, do not expect me to save you in the last minute!

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.)

Americans With Disabilities Act:
Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

(1) must register with and provide documentation to the Office of Accessibility Services (OAS);
(2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
(3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services 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

Office of Accessibility Services
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
https://dsst.fsu.edu/oas

Confidential Campus Resources
Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program
University Center A, Rm. 4100
(850) 644-7161
Available 24/7/365
Office Hours: M-F 8-5
https://dsst.fsu.edu/vap

Counseling and Psychological Services
Askew Student Life Center, 2nd floor
942 Learning Way
(850) 644-8255
https://counseling.fsu.edu/

University Health Services
Health and Wellness Center
(850) 644-6230
https://uhs.fsu.edu/
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.

Sexual Misconduct and Title IX Reporting
As an instructor, I am obliged to report all instances of sexual misconduct that I become aware of to the University’s Title IX Director; 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/), Counseling & Psychological Services (https://counseling.fsu.edu/), the Employee Assistance Program (https://eap.fsu.edu/), University Health Services (https://uhs.fsu.edu/), or pastoral counselors.

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 about it first and get my permission to reschedule,
(ii) fill out the “Request to Reschedule Final Examination” form at https://artsandsciences.fsu.edu/sites/g/files/upcbru2321/files/2020-09/Request_to_Reschedule_revised.pdf and get it approved by the Dean of Arts and Sciences office, and
(iii) let me have the approved form 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.