



Fall 2022

Florida State University, Department of Statistics

Main office 214 OSB, phone 850-644-3218.

FSU Police non-emergency: 850-644-1234.

Emergency: 911.

Course Information

Name: Introduction to Applied Statistics

Course Code: STA 2122 Section: 0035

Credit-hours: 3

Format: F2F

Class Meeting Days, Times, Locations:

Section 0035: MoWeFr 12:00PM – 12:50PM, HCB 0209

Students will need to follow the University's current health and safety guidelines when they attend class.

Final Exam Day & Time: Tuesday December 6th at 3:00-5:00pm or online quiz due at 10PM (**We may do online quiz on 12/06 with flex time period**).

Prerequisites: A grade of "C-" or better in MAC 1105 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.

Please note that, for each class period, if no students show up within the first 15 minutes, or if there is a 15-minute stretch of time when no students show up after the last student has left, then the rest of the period will be cancelled. The next lecture will begin where the cancelled lecture would have left off, and the next assessment will include the material that would have been taught in the cancelled lecture.

Course website: <https://canvas.fsu.edu>

Canvas Support

Email: canvas@fsu.edu

Phone: 850-644-8004

Website: <https://support.canvas.fsu.edu/home/>

Hours: 8am-5pm, Mon-Fri

Please turn on the course notifications in Canvas by going to Account/Notifications and selecting the *Notify immediately* option for all of the items under Course Activities.

Please check your FSU email and the course announcements every day.

If you communicate with me via email, please use your @fsu.edu account.

We will not use Honorlock.

Instructor Information

Name: Ranran Tao

Email: rt19f@fsu.edu

You may expect a response from me within two work days in Fall/Spring, or one work day in Summer.

Office Hours & Locations: 2:30PM – 3:30PM, Monday / by appointment.
Rogers Building (OSB) 310.

Course Description

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.

Learning Objectives

This course has been approved to meet FSU's Liberal Studies **Quantitative and Logical Thinking** requirements and helps 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.

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 personal computer, reliable internet connection, and Chrome or Firefox browser.
- 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.

A textbook is not required for this class. The instructor will provide all required course notes and exercises. Please note that the materials provided by the instructor were put together for your individual use only. We ask that you do not share them, especially with third parties who are not enrolled in this class. If you seek help outside of class, then you may, of course, allow your helper to see the materials, but please do not allow them to make copies or in any other way take our material. We appreciate your co-operation in protecting our material. Thank you!

Additional Resource

The following free online textbook is an additional resource that you might find useful: Introductory Statistics from OpenStax, Print ISBN 1938168208, Digital ISBN 1947172050, www.openstax.org/details/introductory-statistics.

Note on Technology-dependent Assessments

This course is technology-dependent. While we will do our best to work with you on technology issues, please be aware that if you take an assessment but we can find absolutely no record of the fact, then we will not be

able to give you credit for it. Please do not use Safari when you take assessments on Canvas, please use Chrome or Firefox.

Grades

Assessments that are not submitted will receive a grade of zero. When a makeup is submitted, the zero will be replaced with the earned grade.

If you believe that the grade you received on an assessment is incorrect, please bring it to my attention within 48 hours after the grade has been made available to you. If no issues are raised during that 48-hour time frame, then it will be assumed that the grade is accepted and subsequent requests for a grade review may not be granted.

Your overall course grade will consist of the following:

Assessment	Weight
Liberal Studies Quantitative Assessment (LSQA): - Canvas Notes ARE allowed. Outside sources/ Collaboration ARE NOT allowed. - 2 timed attempts (1 hour) are allowed - cannot be dropped	10%
Timed Quizzes (TQ): - Canvas Notes ARE allowed. Outside sources/ Collaboration ARE NOT allowed. - 2 timed attempts (1 hour) are allowed for each quiz - the lowest percentage grade will be dropped at the end of the semester	80%
Open Quizzes (OQ): - Practice problems will be uploaded after each section covered - Collaboration is allowed and encouraged.	10%
Extra Credit (EC)	5%

- Assessments that are not submitted will receive a grade of zero. **For late submission, when a makeup is submitted, the zero will be replaced with the 90% of earned grade in the first coming week. Then, each week later will lead to 10% more deduction of your earned grade.** If any time conflict or other reason led to absent or can not attend the assessments in limited time periods, please inform me earlier than the start of those assessments. No make-ups will be allowed after the Last Day of Classes – this applies to all assessments given during the term.
- Extra Credit**
 Bonus points for knowledge application game in class. Or application project may also assign for extra credit.
- If you believe that the grade you received on an assessment is incorrect, please bring it to my attention within 48 hours after the grade has been made available to you. If it turns out that your answer was correct, you will be given credit for it. If no issues are raised during that 48-hour time frame, then it will be assumed that the grade is accepted and subsequent requests for a grade review may not be granted.
- Cheating will not be tolerated.**

Grading scale (percent)

A = [93, 105]

A- = [90, 93)

B+ = [87, 90)

B = [83, 87)

B- = [80, 83)

C+ = [77, 80)
 C = [73, 77)
 C- = [70, 73)
 D+ = [67, 70)
 D = [63, 67)
 D- = [60, 63)
 F = [0, 60)

A request for a grade of “Incomplete” will

~ NOT be granted if you have completed the coursework, including the assessments that cannot be dropped and excluding the drops and 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 assessment, and
- (2) your overall average excluding the final assessment is a passing grade (70% or above).

Tentative Pacing Schedule: (Pace and schedule of classes and quizzes may change due to the progress and feedback during the semester)

Week	Monday	Wednesday	Friday	Assessment
1 (Aug 22 – Aug 26)	Syllabus	Introduction	Introduction	
2 (Aug 29 – Sep 2)	Summary Statistics	Summary Statistics	Summary Statistics	Timed Quizzes: Introduction & Summary Statistics (Due at 10PM, 09/02)
3 (Sep 5 – Sep 9)	Labor Day. No classes.	Summary Statistics/ Normal Distributions	Normal Distributions	
4 (Sep 12 – Sep 16)	Normal Distributions	Central Limit Theorem	Central Limit Theorem	Timed Quizzes: Normal Dist. & Central Limit Theorem (Due at 10PM 09/17)
5 (Sep 19 – Sep 23)	One-sample Confidence Intervals	One-sample Confidence Intervals	One-sample Confidence Intervals	
6 (Sep 26 – Sep 30)	One-sample Confidence Intervals	One-sample Confidence Intervals	Homecoming. No classes.	Timed Quizzes: One-sample Confidence Intervals (Due at 10 PM 10/01)
7 (Oct 3 – Oct 7)	One-sample Hypothesis Tests	One-sample Hypothesis Tests	LSQA	Timed Quizzes:LSQA (Due at 10PM 10/08)
8 (Oct 10 – Oct 14)	One-sample Hypothesis Tests	One-sample Hypothesis Tests	One-sample Hypothesis Tests	Timed Quizzes: One-sample Hypothesis Tests (Due at 10 PM 10/15)
9 (Oct 17 – Oct 21)	One-way ANOVA	One-way ANOVA	One-way ANOVA	

10 (Oct 24 – Oct 28)	Two-way ANOVA	Two-way ANOVA	Two-way ANOVA	Timed Quizzes: One-way/Two way ANOVA (Due at 10PM 10/29)
11 (Oct 31 – Nov 4)	SLR Basics	SLR Basics	SLR Inference	
12 (Nov 7 – Nov 11)	SLR Inference	Multiple Regression	Veterans' Day. No classes.	
13 (Nov 14 – Nov 18)	Multiple Regression	Chi-Square Tests	Chi-Square Tests	Timed Quizzes: SLR Inference, SLR Basics, Multiple Linear Regression (Due at 10PM 11/19)
14 (Nov 21 – Nov 25)	Probability	Thanksgiving Day Holiday. No classes.	Thanksgiving Day Holiday. No classes.	
15 (Nov 28 – Dec 2)	Probability	Selected Topics (Random Variables/Binomial Distributions/Non-parametric Tests)	Selected Topics (Random Variables/Binomial Distributions/Non-parametric Tests)	Timed Quizzes: Probability & Chi-Square Tests (Due at 10PM 12/03)
16 (Dec 5 – Dec 9)	Final week. No Class. Final Exam will be Timed Quiz (may related to all learnt knowledge) due Tuesday, 10:00 PM at Dec 6th.			

Sexual Misconduct and Title IX Reporting

As an instructor, I am obliged to report all instances of sexual misconduct and other Title IX issues 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. If you would like to submit a report to the University's Title IX Director, please go to <https://report.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 should talk to me about it first to get my approval and then fill out and follow the instructions on the "Request to Reschedule a Final Examination" form at [https://artsandsciences.fsu.edu/sites/g/files/upcbnu321/files/2022-01/Request to Reschedule 01032022.pdf](https://artsandsciences.fsu.edu/sites/g/files/upcbnu321/files/2022-01/Request%20to%20Reschedule%2001032022.pdf).

The form needs to be submitted to the College of Arts and Sciences before 5pm on 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.

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. Drop and Withdrawal deadlines are given in the University's academic calendar at <https://registrar.fsu.edu/calendar/>.

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>)

Academic Success

Your academic success is a top priority for Florida State University. University resources to help you succeed include tutoring centers, computer labs, counseling and health services, and services for designated groups, such as veterans and students with disabilities. The following information is not exhaustive, so please check with your advisor or the Department of Student Support and Transitions to learn more.

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.

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Office of Accessibility Services; and
- (2) request a letter from the Office of Accessibility Services to be sent to the instructor indicating the need for accommodation and what type; and,
- (3) meet (in person, via phone, email, skype, zoom, etc...) with each instructor to whom a letter of accommodation was sent to review approved accommodations.

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 the latest version of this statement and 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>

Academic accommodations will be provided as soon as possible after verification is received. Academic accommodations are not retroactive, so they will not apply to lectures/lessons and assessments that took place before verification was received.

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/
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Disaster

At times of severe weather or other disasters, please check your FSU email, your text messages, the Seminole Safe App and FSU Alerts (<https://alerts.fsu.edu/>) as often as you can to keep yourself informed. In the absence of internet access, you may call 850-644-4636 for updates. Check for the latest information every day before you leave home so that you don't miss any last minute announcements. If the University closes due to a disaster, we will all be informed via the above means, and classes and office hours will be automatically cancelled even if I don't announce it. As long as the University remains open, classes will still be on. However, please practice safety first. If it will be unsafe for you to come to class due to the effects of a disaster, please do not attempt to come in. You will not be penalized, we will work with you. You can sign up to receive alerts via SMS text messages here: <https://emergency.fsu.edu/services/fsu-alert-emergency-notification-warning-system/fsu-alert-sms-text-messages>.

See here for other ways in which FSU delivers warnings: <https://emergency.fsu.edu/services/fsu-alert-emergency-notification-warning-system>.

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.

Classes Subject to HB233 Recording

In this class, consistent with state law and university policy, students are permitted to make recordings of class lectures for personal use only. As noted, sharing, posting, or publishing classroom recordings may subject you to honor code violations and legal penalties associated with theft of intellectual property and violations of other state law. Moreover, students and educators have expressed concern that recording classroom activities may negatively impact the learning experience for others, especially in classes that involve questions, discussion, or participation. To protect a learning environment in which everyone feels free to experiment with ideas, we ask you refrain from recording in ways that could make others feel reluctant to ask questions, explore new ideas, or otherwise participate in class. Students must monitor their recording so that they do not include participation by other students without permission. Students with disabilities will continue to have appropriate accommodations for recordings as established by the Office of Accessibility Services.