

# STA 4322/5328: Introduction to Statistical Theory

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web: [ajmolstad.github.io/S20\\_STA4322/](https://ajmolstad.github.io/S20_STA4322/)

time: MWF 3:00 - 3:50 p.m.

location: FLO 0100

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**Course objective:** The sequence of courses STA 4321/4322 (rep. 5325/5328) provides a formal and systematic introduction to mathematical statistics for students who have passed three semesters of standard undergraduate level calculus. Major topics of STA 4322/5328 include normal-theory sampling distributions; estimation methods; properties of point estimators; confidence intervals; hypothesis testing and related theory; and basic linear regression. The primary purpose of STA 4322/5328 is preparation for graduate-level study in statistics and closely related subjects.

**Prerequisites:** STA 4321/5325. A well prepared student should have taken an introductory statistics course, such as STA 2023 or STA 3032.

**Course webpage:** Course materials (e.g., homework assignments and due dates) will be posted to [ajmolstad.github.io/S20\\_STA4322](https://ajmolstad.github.io/S20_STA4322/). A link to this page will be available on the course eLearning site, where students' grades will be posted. Please check this site regularly for updates and announcements. Course documents and important information, including homework exercises and solutions, sample exams and special announcements, will be posted here.

**Teaching assistant** The teaching assistant for this course will be Yanxi Liu ([liuyanxi@ufl.edu](mailto:liuyanxi@ufl.edu)). The teaching assistant will hold office hours weekly, the time and location of which will be posted on the course webpage. Questions about homework exercises should first be directed to the teaching assistant before involving the instructor.

**Textbook:** Wackerly, Mendenhall, and Scheaffer, *Mathematical Statistics with Applications* (7th ed), Duxbury Press (Thomson Brooks/Cole Publishing), 2008.

- Note that exams will be based on material presented in lectures. The textbook will be a helpful resource for the suggested readings and many homework exercises will be from the textbook.

**Attendance** You are expected to attend each lecture and arrive on time. There may be announcements made in class which will not be posted online: it is the student's responsibility to attend class to hear all announcements.

**Grading:** Course grades will be based on nine homework assignments and three in-class examinations. Of the nine homework assignments, the average of the highest eight assignments will account for 30% of the course grade. Of the in-class exams, your highest two exam scores will each count for 25% of course grade, and your lowest exam score will count for 20% of your course grade.

- **Tentative exam dates** (location and time TBA):  
*Exam 1:* Wednesday, February 12th (or Thursday, February 13th)  
*Exam 2:* Wednesday, March 18th (or Thursday, February 19th)  
*Exam 3:* Tuesday, April 21st (or Wednesday, April 22nd)
- **Tenative homework due dates (approximate lectures covered):**  
*Homework 1:* Wednesday, January 22nd (1 - 5)  
*Homework 2:* Wednesday, January 29th (6 - 8)  
*Homework 3:* Wednesday, February 5th (9 - 11)  
*Homework 4:* Friday, February 21st (12 - 15)  
*Homework 5:* Friday, February 28th (16 - 19)  
*Homework 6:* Friday, March 13th (20 - 23)  
*Homework 7:* Wednesday, April 1st (24 - 28)  
*Homework 8:* Wednesday, April 8th (29 - 32)  
*Homework 9:* Friday, April 17th (32 - )
- **Grading scales:** Letter grades will be assigned based on the following cutoffs:

Grades	Percentage cutoff*
A	100 - 90
A-	90 - 87
B+	87 - 84
B	84 - 80
B-	80 - 77
C+	77 - 74
C	74 - 70
C-	70 - 67
D+	67 - 64
D	64 - 60
D-	60 - 55
F	55 - 0

\*The instructor may adjust cutoffs downward (i.e., lower the percentile needed to achieve a certain letter grade) when assigning final course grades.

- **Missed exams:** Missed exams will receive a grade of zero, except in the cases of emergency (with proof provided, e.g., a doctor's note stating that the student was unable to attend the exam due to illness). If an exam will be missed for a non-emergency reason, the student must notify the instructor *at least two weeks prior* to the exam date and provide proper documentation. Refer to <https://catalog>.

[ufl.edu/UGRD/academic-regulations/attendance-policies/](http://ufl.edu/UGRD/academic-regulations/attendance-policies/) for specifics on course attendance policy and missed exam policy.

- **Communication:** Grades are only to be discussed in person either in office hours or during an appointment in the instructor's office. Grades will not be discussed before/after lecture in the classroom, nor will they be discussed over email.

**Homework:** Homework assignments will be posted on the course webpage throughout the semester. Assignments are to be turned in **prior to the start of lecture on the due date in person. No late homework will be accepted**, except for medical reason with the doctor's note. Homework will not be accepted over email or any other electronic medium.

While students are encouraged to work through homework exercises with one another, **it is required that students write up their solutions independently**. A failure to do so may constitute a violation of the student honor code and will be treated as such: see <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.

**Student honor code:** The instructor will announce what will be allowed during examinations besides a writing utensil (e.g., one 8.5 x 11 sheet of paper with notes on both sides). See the homework section for expectations about homework assignments. Please refer to the UF student honor code (linked above) for more.

**Incomplete policy:** The grade of "Incomplete" can be assigned at the discretion of the instructor when, due to extraordinary circumstances, e.g., hospitalization, a student is prevented from completing the work of the course on time. In particular, an "Incomplete" will be given if the student presents evidence from a certified professional that the student is unable to complete the course. In addition, the student must have a passing grade at the time of the incomplete request in order to receive the "Incomplete". An "Incomplete" requires a written agreement between instructor and student found here (<https://clas.ufl.edu/files/2019/02/CLASIncompleteGradeContract.pdf>).

**Students with Disabilities:** Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**Online course evaluation process:** Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these evaluations are available to students at <https://evaluations.ufl.edu/results/>.