



THE OHIO STATE UNIVERSITY

STATISTICS: 2450 INTRODUCTION TO STATISTICAL ANALYSIS I SUMMER 2018

Course overview

Instructor & Office Hours

Achal Awasthi awasthi.12@osu.edu Office Information & Hours R 12n – 2p JR 147B

Teaching Assistants (to be completed by student)

Kumar Somnath somnath.1@osu.edu Office Information & Hours T 12 – 2p TBD

Amartya Ghosh ghosh.147@osu.edu Office Information & Hours TR 12 – 1p MA 417

Contact Information for other Students and/or Instructors

(Course Coordinator)

Dr. Baker baker.375@osu.edu

Meeting Days/Times

TR 8a–9:35a Journalism 270 with recitations on TR 9:50a–1040a or 1055a–1145a in EA 285.

Course description

Calculus-based introduction to statistical data analysis. Includes sampling, experimental design, probability, binomial and normal distributions, sampling distributions, inference, regression, ANOVA, two-way tables. The prerequisite for this 3 credit hour course is differential calculus.

Your Support System

Coordinator & Lectures	Provide the overarching view of the clusters of concepts.
Recitations	Reinforce and extend content covered in lecture. Students should expect to be active participants in these sessions. They convene TR 950a – 1040a or 1055a-1145a.
Tutor Hours	The Math/Stat Learning Center (MSLC) is not opened this summer. You will be able to receive direct assistance from your lecturer or TA.

Primary Course Goal:

- To develop skills in drawing conclusions & critically evaluating results based on data.

Course Objectives:

- To enable you to use statistical tools for presentation and descriptions of data
- To enable you to correctly apply probability rules and counting techniques.
- To enable you to understand the use of sampling distributions as the foundation of inference.
- To enable you to analyze data through linear regression, confidence intervals, and hypothesis tests.
- To enable you to use your knowledge of calculus to conceptually understand its role in computing probabilities.

Course learning outcomes

By the end of this course, students should successfully be able to:

- Understand basic concepts of statistics and probability.
- Comprehend methods needed to analyze and critically evaluate statistical arguments.
- Recognize the importance of statistical ideas.

Dr. Baker's vision for your completion of STAT 2450

- You will become proficient in collecting, organizing, analyzing, and interpreting data
- You will become competent in the use of data analysis software.
- You will conceptually understand situations involving random phenomena.
- You will interpret findings and improve your ability to justify your results.
- Your metacognition & desire to reflect upon what you have learned will be heightened.
- You will respond to a problem by: considering any relevant assumptions, analyzing, and effectively communicating your results.
- You will gain a greater appreciation for statistics (and the underpinning mathematics).
- You will complete the Data Analysis GE requirement.

Personal Vision Statement & Commitment

Personal <u>Vision Statement</u> for STAT 2450:	Personal <u>Commitment</u> to STAT 2450:
By successfully completing STAT 2450 I will:	To successfully complete STAT 2450, I must:
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Course Materials

Required course materials

This course requires electronic access to the accompanying web-based materials via *Sapling*. The ebook, quizzes, and homework assignments are all located within this resource.

It is recommended that you purchase both a text and *Sapling* (our HW management system).

<http://ohiostate.bncollege.com/webapp/wcs/stores/servlet/BNCBHomePage?storeId=33552&catalogId=10001&langId=-1> . Learners who pursue this option tend to prefer: using a physical textbook for supplemental annotation, relying on resources that can function independent of Internet functionality. The cost is far below \$150.

We will be using the 2nd edition of Introductory Statistics by Kokoska

STUDENT INSTRUCTIONS

- Go to www.saplinglearning.com/login to log in or create an account.
- Under Enroll in a new course, you should see Courses at Ohio State University. Click to expand this list and see courses arranged by subject. Click on 'Introduction to Statistics' to see the terms that courses are available.
- Click on the term to expand the menu further.
- Once the menus are fully expanded, you'll see a link to our specific course: STAT 2450 - Summer18 - BAKER
- Enter the key code: **baker**
- **Need Help?** Our technical support team can be reached by phone or by webform via the Student Support Community. Here are their hours and contact information:
<https://macmillan.force.com/macmillanlearning/s/contactsupport>.

Required supplemental materials

JMP is the statistical software for this course. JMP is free.

Click on www.jmp.com/macmillan .

Enter SE146414253X as the 12-digit authorization code.

Proceed to download and install JMP-Student Edition.

Highly recommended materials

Texas Instruments 83 Plus (or higher) Graphing Calculator.

Grading

Grades

Assignment or category	Percentage	Your Grade
Exam 1 (Thursday, June 28 th)	24%	
Final Exam (Tues., July 24 th (Part I), & Thurs. July 26 th (Part II))	34%	
Homework Assignments (7 total, none are dropped, 2% each)	14%	
Quizzes (7 total, 1 is dropped, 2% each)	14%	
Recitation Attendance	14%	
Total	100	

Homework 1 will be due Monday, June 11th.

After the 1st Week, homeworks are due on Fridays @ 11:59p, quizzes are due on Mondays. Please also consult the course calendar.

Grading scale

93–100: A
 90–92.9: A-
 87–89.9: B+
 83–86.9: B
 80–82.9: B-
 77–79.9: C+
 73–76.9: C
 70–72.9: C-
 67–69.9: D+
 60–66.9: D
 Below 60: E

Additional Policies, Resources, & Information

Comments about homework assignments

- Assignments will be graded for both completion and correctness.
- Use of homework to study for exams is encouraged.
- In cases when homework is within 1 week of an exam, please consider photocopying your work before you submit it.
- Please: attempt the homework exercises associated with that day's lecture prior to the next lecture.

- Please minimize rounding when completing intermediate steps of your solutions.

Instructor feedback and response time

Grading and feedback

Midterm examinations will be available within **2 recitations**.

E-mail

All course e-mail correspondence must be done through a valid OSU name.n account.

Expect a 24-hour response time when communicating with TAs and lecturers.

We are here to support you, but just not quite in a true “on-demand” sense.

Student participation and responsibility

We expect you to be actively engaged in the learning process. You are responsible for your learning. Schedule a minimum of 6 hours to prepare for this course. This equates to 9 hours weekly when the 3 hours for lecture and recitation attendance are included. Successful students perform a variety of positive academic behaviors like: reviewing the Carmen page, downloading notes, being proactive in contacting a TA or classmate as necessary, etc.. Please seek assistance in managing any non-academic responsibilities prior to any potential for under-performance.

Electronic devices

As a courtesy to fellow classmates, all cellular phones and other electronic devices must be silenced during lectures and recitations. Your engagement with the class will require an attentiveness for note-taking. If necessary, TAs and lecturers can request that students place these devices out of plain view if their usage is deemed irrelevant to instruction.

Academic integrity policy

A guiding principle is that, if you are considering doing something that might be unethical, then **“Don’t do it!!”** This mantra applies to both academic and non-academic settings.

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

The Ohio State University’s *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s *Code of Student Conduct* is never considered an “excuse” for academic misconduct,

so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct. <http://studentlife.osu.edu/csc/>.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University. In short, if you are considering doing something that might be unethical, then resist and refrain from pursuing it. This will help you in college and well-beyond.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me. Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Grade Appeals

Your TAs are highly capable and follow established rubrics in evaluating your work. Only in the rarest of cases will an exam grade need to be appealed. In these situations:

- (within 1 week of receipt of your assessment) Inform your TA of the issue in writing
- Attach a statement of the issue at-hand to your work and submit to Dr. Baker.

Course Registration and Completion

Students will be able to work with department staff on any ADD and SECTION changes. Students can begin communicating with Jean Scott (Cockins Hall 408A), Monday, June 4th.

Date	Event
Friday, June 8 th	The last day to add the course without instructor permission.
Friday, June 15 th	The last day to register and avoid additional fees.
<i>*Please note that students who are dropped for non-payment are not guaranteed re-enrollment.*</i>	
Friday, June 15 th	The last day to drop without a 'W' appearing on your record.
Friday, July 13 th	The last day to drop the course without petitioning.

Accommodations for accessibility

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor of their needs as soon as possible. The Office for Disability Services is located in 098 Baker Hall, 113 W. 12th Ave.; telephone 292-3307, TDD 292-0901; email ods@osu.edu; <http://www.ods.osu.edu/>

Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact the Office for Disability Services at [614-292-3307](tel:614-292-3307) or slds-exam@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University. Go to <http://www.ods.ohio-state.edu> for more information.

OSU accessibility resources

Further information and links regarding accessibility at OSU can be found here:
<http://ada.osu.edu/resources/Links.htm>

Other Student Resources

Students can find information about academic services available at OSU on this website: <http://artsandsciences.osu.edu/current-students/university-resources>, and about general student services on this website: <http://ssc.osu.edu>.