



THE OHIO STATE UNIVERSITY

STATISTICS: 1450 INTRODUCTION TO THE PRACTICE OF STATISTICS SPRING 2017

Course overview

Instructor & Office Hours

Dr. Jonathan R. Baker baker.375@osu.edu (614) 688 - 4546
Primary Office Hours for this course **TR 8:30a –9a** (we'll meet in our lecture hall UH 014);
Additional Hours: T 10:20a-11a &W 9a–10a both in Cockins (CH) 419.

Teaching Assistant (to be completed by student)

Contact Information for other Students and/or Instructors

Meeting Days/Times

Lecture: TR 9:10 – 10:05a.m. UH 014

Recitation: _____ at _____

Course description

Algebra-based introduction to data analysis, experimental design, sampling, probability, inference, and linear regression. Emphasis on applications, statistical reasoning, and data analysis using statistical software. This 3-credit hour course expects all students to have completed a baccalaureate-level mathematics course. two-way tables.

Your Support System

Lectures	Provide the overarching view of the clusters of concepts.
Recitations	Actively reinforce and extend content covered in lecture. Your recitation will convene every Thursday at either 10:20a or 11:30a.
Tutors	Offer assistance on a walk-in basis in Cockins (CH) 132. The Math/Stat Learning Center (MSLC) is open M- R 9:10a – 6:15p & Fridays 9:10a – 1:40p.

Primary Course Goal:

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

Course Objectives:

- To introduce you to correct data collection methods through random sampling, experimental design & surveys
- To enable you to use statistical tools for presentation and descriptions of data
- To enable you to understand basic probability rules and 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 evaluate statistical procedures in the context of assumptions, biases, and extrapolation.

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 1450

- You will become proficient in collecting, organizing, analyzing, and interpreting data
- You will become competent in the use of data analysis software.
- You will interpret findings and improve in your ability to justify your results.
- Your metacognition and 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 underlying mathematics).
- You will complete the Data Analysis GE requirement.

Personal Vision Statement & Commitment

<p>Personal <u>Vision Statement</u> for STAT 1450:</p> <p>By successfully completing STAT 1450 I will:</p> <ul style="list-style-type: none">•••	<p>Personal <u>Commitment</u> to STAT 1450:</p> <p>To successfully complete STAT 1450, I must:</p> <ul style="list-style-type: none">•••
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Course Materials

Required course materials

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

It is recommended that you purchase both a text and *LaunchPad*. You may purchase the LaunchPad Activation code with the accompanying loose-leaf textbook from Barnes & Nobles <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 \$127 for a used text; \$169.35 for a new one.

Access the *LaunchPad* module within the STAT 1450 Carmen Page for Registration Instructions.

If you have problems registering, purchasing, or logging in, please contact Customer Support. You can reach a representative 24 hours a day, 7 days a week via the [online form](#) or by chat. You can reach a representative by phone (800) 936-6899:

- Monday through Thursday 7:00 a.m. to 3:00 a.m., Friday 7:00 a.m. to 11:00 p.m.
- Saturday 11:30 a.m. to 8:00 p.m., Sunday 11:30 a.m. to 11:00 p.m.

In case you run into any difficulty, here is the essential information:

Your course URL: <http://www.macmillanhighered.com/launchpad/bps7e/4808921>

School: Ohio State University - Main

Course Title: The Basic Practice of Statistics 7e

Course Number: STAT 1450

Course Section: Spring 2017 TR Morn

Top Hat

We will use the *Top Hat* software to elicit student responses during lectures. Students will use their smart phones to text responses to questions posed. Please use the following information and the Student Quick Start Guide that is posted on Carmen to complete the registration process. Your username must be name# (e.g. obama3).

Top Hat course name: **STAT 1450 TR 8a (Autumn 2016)**

Direct Link: TBD 6-digit course code: TBD

Required supplemental materials

JMP is the statistical software for this course. JMP is free for you per your LaunchPad purchase.

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 84 (or higher) Graphing Calculator.

Grading and faculty response

Grades

Assignment or category	Percentage	Your Grade
Exam 1 (Mon., February 27 th , 6:30 p.m., <u>Campbell (CM) 200</u>)	20%	
Exam 2 (Mon., April 3 rd , 6:30 p.m., <u>Campbell (CM) 200</u>)	20%	
Final Exam (Mon., May 1 st , <u>6:00 p.m.</u> , <u>Campbell (CM) 200</u>)	25%	
Quizzes (11 total, 1.25% each, 1 is dropped)	12.5%	
Homework Assignments (11 total, 1.25% each, 1 is dropped)	12.5%	
Attendance & Participation (5% for Lecture, 5% for Recitation)	10%	
Total	100	

Homeworks are due by 11:59 p.m. on Fridays. Quizzes are due by 11:59 p.m. on Sundays. The exact due dates are included with the Course Calendar.

Make-up Exams (with appropriate documentation, see pg.7) will be offered:

*Tuesday, February 28th 7a (Journalism 304) or 3p (McPherson Lab 1046)
Tuesday, April 4th 7a (Journalism 304) or 3p (McPherson Lab 1046)*

The Final Exam is comprehensive.

Alternate offerings of the Final Exam will be

Late assignments

Late submissions will not be accepted.

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

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.

Additional Policies, Resources, & Information

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

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)

Make-Up Mid-term Examinations

The established exam dates and times are a priority for both students and university officials. Valid and documented absences during exam dates require final pre-approval from Dr. Baker. In requesting a make-up exam you must communicate with both your TA and Dr. Baker. Your performance on the final exam items most associated with the missed exam will count as the missed exam grade with up to an additional 10% point deduction. If you miss an exam because of an emergency, contact Dr. Baker immediately to request a makeup exam. You'll need to provide evidence of need for rescheduling this exam. These exams will be offered at 7a & 3p.

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:

- a) (within 1 week of receipt of your assessment) Inform your TA of the issue in writing
- b) 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), Tuesday, January 16th.

Date	Event
Friday, January 13 th	The last day to add the course without instructor permission.
Friday, January 20 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, February 3 rd	The last day to drop without a 'W' appearing on your record.
Friday, March 24 th	The last day to drop the course without petitioning.

FYI, Incompletes will only be awarded when 70% of the coursework has been completed.

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, please contact the Office for Disability Services at [614-292-3307](tel:614-292-3307) or ods@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://ods.osu.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>.

Spring 2017 STAT 1450 TR 910a Calendar

Major Monday Assessments

Date & Time	Location	Assessment (Grade)
Monday, February 27 th 6:30p – 7:25p	Campbell (CM) 200	1 st Midterm ()
Monday, April 3 rd 6:30p – 7:25p	Campbell (CM) 200	2 nd Midterm ()
Monday, May 1 st 6:00p – 7:45p	Campbell (CM) 200	Final Exam ()

Lecture Schedule:

<i>Tuesdays</i>	<i>Thursdays</i>
January 10 Chp.1 Picturing Distributions with Graphs	January 12 Chp.2 Describing Distributions with Numbers (thru 2.4)
January 17 Chp. 2 Describing Distributions with Numbers	January 19 <u>HW 1 Due F 1/20</u> <u>Qz.1 Due Su 1/22</u> Chp. 3 The Normal Distribution (thru 3.4)
January 24 Chp. 3 The Normal Distribution	January 26 <u>HW 2 Due F 1/27</u> <u>Qz.2 Due Su 1/29</u> Chp. 4 Scatterplots & Correlation
January 31 Chp. 5 Regression (thru 5.2)	February 2 <u>HW 3 Due F 2/3</u> <u>Qz.3 Due Su 2/5</u> Chp. 5 Regression
February 7 Chp. 6 Two-Way Tables	February 9 <u>HW 4 Due F 2/10</u> <u>Qz.4 Due Su 2/12</u> Chp. 8 Producing Data: Sampling
February 14 Happy Valentine's Day!! Chp. 9 Producing Data: Experiments	February 16 <u>HW 5 Due F 2/17</u> <u>Qz.5 Due Su 2/19</u> Chp. 12 Introducing Probability
February 21 Chp. 13 General Rules of Probability	February 23 Exam 1 Review <i>Covering Chapters 1-6, 8, & 9</i> Chp.15 Sampling Distributions
February 28 Chp. 16 Confidence Intervals: The Basics	March 2 <u>HW 6 Due F 3/3</u> <u>Qz.6 Due Su 3/5</u> Chp.17: Tests of Significance: The Basics
March 7 Chp.18: Inference in Practice	March 9 <u>HW 7 Due F 3/10</u> <u>Qz.7 Due Su 3/12</u> Chp. 20 Inference about a Population Mean(thru 20.4)
March 14 Spring Break (no lecture)	March 16 Spring Break (no lecture)
March 21 Chp. 20 Inference about a Population Mean	March 23 <u>HW 8 Due F 3/24</u> <u>Qz.8 Due Su 3/26</u> Chp. 21 Two Means (thru 21.3)
March 28 Chp. 21 Two Means	March 30 Exam 2 Review <i>Covering Chapters 12,13,15,16-20</i> Chp.22 Inference about a Pop. Proportion (thru 22.3)
April 4 Chp. 22 Inference about a Pop. Proportion	April 6 <u>HW 9 Due F 4/7</u> <u>Qz.9 Due Su 4/9</u> Chp. 23 Comparing Two Proportions (thru 23.3)
April 11 Chp. 23 Comparing Two Proportions	April 13 <u>HW 10 Due F 4/14</u> <u>Qz.10 Due Su 4/16</u> Chp. 25 Two Categorical Variables (thru 25.3)
April 18 Chp. 25 Two Categorical Variables	April 20 <u>HW 11 Due F 4/21</u> <u>Qz.11 Due Su 4/23</u> Review for a manageable cumulative final exam. (Final Exam Monday, May 1st)

Closing Comments:

- Topics scheduled the day of a campus closure will be postponed to the next lecture.
- Tutoring, Carmen, & other resources will still be available the week of April 25th.