THE OHIO STATE UNIVERSITY

STATISTICS: 1450
INTRODUCTION TO THE PRACTICE OF STATISTICS
SPRING 2016

Course overview

Instructor & Office Hours
Ali Miller   miller.7425@osu.edu   Office Information

Teaching Assistant (to be completed by student)

_____   _____   _____

Contact Information for other Students and/or Instructors

_____   _____   _____

Coordinator of all STAT 1450 Offerings
Dr. Jonathan Baker   baker.375@osu.edu   (614) 688-4546

Meeting Days/Times
Lecture: TR 5:20 – 6:15p.m. HI 0031   *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.

Your Support System

1450 Coordinator   Dr. Baker, keeps all STAT 1450 students abreast of updates and important developments with the course.

Lecturers   Provide the overarching view of clusters of concepts.

Teaching Assistants   Use weekly recitations to reinforce & extend content covered in lecture. Students are expected to be active participants in these sessions. Wednesdays at 4:00p or 5:20p.

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 mathematics that underpins our work)
- You will complete the Data Analysis GE requirement.

Personal Vision Statement & Commitment

Personal Vision Statement for STAT 1450:	Personal Commitment to STAT 1450:
By successfully completing STAT 1450 I will:	To successfully complete STAT 1450, I must:
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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.

If you just are **only interested in electronic access to course materials**,
   a) Access https://reg.macmillanhighered.com/bps7e
   b) Select, *"I want to purchase student access."*
        LaunchPad access is valid for one year and costs $100+.

The *LaunchPad* course management system that stores your homeworks and quizzes is ready for student registration. Follow these steps to get started. If you need additional guidance, consult the student Quick Start guide, especially the system requirements which list recommended browsers.
   1. Access http://www.macmillanhighered.com/launchpad/bps7e/2819557
        Introduction to the Practice of Statistics – TR or WF LECTURES
   2. Bookmark the page to make it easy to return to.
   3. Enroll in our course using one of the following options:
   a. If you have an access code, select "I have a student access code," enter the code exactly as it appears on the card, and click Submit.
   b. If you don't have an access code, either purchase a text package that includes one OR click "I want to purchase access" and follow the instructions.
   c. If you need to start working but can't purchase right away, select "I want temporary access" and follow the instructions for a free 21 day trial.

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 though 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.

To recap…
Your course URL: http://www.macmillanhighered.com/launchpad/bps7e/2819557
School: Ohio State University - Main
Course Title: Moore, The Basic Practice of Statistics 7e
Course Number: STAT 1450
Course Section: Bach (24148), Book (24154), or Miller (24158)

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 WF 8a (Spring 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 to download and will be used in both lecture and recitation. JMP is accessible through our Launchpad portal. Alternatively, JMP could be installed via https://osuitsm.service-now.com/selfservice/

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 29th, 6:30 p.m., Sullivant (SU) 220)	**20%**	
Exam 2 (Mon., April 4th, 6:30 p.m., Sullivant (SU) 220)	**20%**	
Final Exam (Mon., May 2nd _6:00 p.m._, Hagerty (HH) 180)	**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 Saturdays. Quizzes are due by 11:59 p.m. on Mondays. The exact due dates are included with the section calendar.

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

Tuesday, March 1st   _7a (Cockins 312)_   _or_   _3p (Dreese Lab 264)_
Tuesday, April 5th   _7a (Cockins 218)_   _or_   _3p (Scott Lab North 048)_

The Final Exam is comprehensive.
Alternate offerings of the Final Exam will become available before Spring Break.

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 19th.

Date	Event
Friday, January 15th	The last day to add the course without instructor permission.
Friday, January 22nd	The last day to register and avoid additional fees.
Please note that students who are dropped for non-payment are not guaranteed re-enrollment.	
Friday, February 5th	The last day to drop without a 'W' appearing on your record.
Friday, March 25th	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 150 Pomerene Hall, 1760 Neil Avenue; 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 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 2016 STAT 1450 Calendar

Major Monday Assessments

Date & Time		Location	Assessment (Grade)
Monday, February 29th	6:30p – 7:25p	Sullivant (SU) 220	1st Midterm ( )
Monday, April 4th	6:30p – 7:25p	Sullivant (SU) 220	2nd Midterm ( )
Monday, May 2nd	6:00p – 7:25p	Hagerty (HH) 180	Final Exam ( )

Lecture Schedule:

Tuesdays	*Thursdays*
January 12 Chp.1 Picturing Distributions with Graphs	**January 14** Chp.2 Describing Distributions with Numbers (thru 2.4)

January 19
    Chp. 2 Describing Distributions with Numbers
	January 21 **HW 1 Due Sa 1/23 Qz.1 Due M 1/25**
	    Chp. 3 The Normal Distribution (thru 3.4)

January 26 Chp. 3 The Normal Distribution	**January 28 HW 2 Due Sa 1/30 Qz.2 Due M 2/1** Chp. 4 Scatterplots & Correlation

February 2
    Chp. 5 Regression (thru 5.2)
	February 4 HW 3 Due Sa 2/6 Qz.3 Due M 2/8
	    Chp. 5 Regression

February 9
    Chp. 6 Two-Way Tables
	February 11 HW 4 Due Sa 2/13 Qz.4 Due M 2/15
	    Chp. 8 Producing Data: Sampling

February 16
    Chp. 9 Producing Data: Experiments
	February 18 HW 5 Due Sa 2/20 Qz.5 Due M 2/22
	    Chp. 12 Introducing Probability

February 23
    Chp. 13 General Rules of Probability
	February 25 Exam 1 Review *Covering Chapters 1-6, 8,& 9*
	    Chp. 13 General Rules of Probability

March 1 Chp.15 Sampling Distributions	**March 3 HW 6 Due Sa 3/5 Qz.6 Due M 3/7** Chp. 16 Confidence Intervals: The Basics (thru 16.2)
March 8 Chp.16 Confidence Intervals: The Basics Chp.17:Tests of Significance:The Basics (thru17.2)	**March 10 HW 7 Due Sa 3/12 Qz.7 Due M 3/14** Chp.17:Tests of Significance:The Basics Chp.18: Inference in Practice
March 15 Spring Break (no lecture)	**March 17 Spring Break (no lecture)**
March 22 Chp. 20 Inference about a Population Mean(thru 20.4)	**March 24 HW 8 Due Sa 3/26 Qz.8 Due M 3/28** Chp. 20 Inference about a Population Mean

March 29
  Chp. 21 Two Sample Problems (thru 21.3)
	March31Exam 2 Review *Covering Chapters 12,13,15,16-20*
	    Chp. 21 Two Sample Problems

April 5 Chp.22 Inference about a Pop. Proportion (thru 22.3)	**April 8 HW 9 Due Sa 4/2 Qz.9 Due M 4/4** Chp. 22 Inference about a Pop. Proportion

April 12
  Chp. 23 Comparing Two Proportions (thru 23.3)
	April 14 HW 10 Due Sa 4/18 Qz.10 Due M 4/18
	    Chp.25 Two Categorical Variables (thru 23.3)

April 19
    Chp. 25 Two Categorical Variables (thru 25.3)
	April 21 HW 11 Due Sa 4/25 Qz.11 Due M 4/25
	    Chp. 25 Two Categorical Variables

April 26 Review for a manageable cumulative final exam.	**April 28 NO LECTURE – FINALS WEEK** **** STAT 1450 Final Exam Monday, May 2nd ****

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.