



“Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.”

--H.G. Wells

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Office Location and Phone: 415 Cockins Hall, 614-292-3593

Office Hours: Tuesdays and Thursdays, 11 a.m. to 12 p.m., and by appointment. For those who cannot attend in person office hours, we can arrange to have online office hours via CarmenConnect. A link to CarmenConnect can be found in the **Getting Started** section of the course website, and more details about this can be found on the second page of this syllabus. *It is up to you to make arrangements with the instructor or one of the teaching assistants if you would like to try online office hours.* There is also a chat room within Canvas (see the **Chat** link on the left side of the course site) that we can use for real-time conversation.

Note: The instructor will respond to email as quickly as possible, no later than 24 hours after the email has been sent. The instructor and teaching assistants will also carefully monitor discussion boards and respond to questions posted within those forums 24 hours.

Teaching Assistants:

Masha Soboleva (soboleva.2@osu.edu)

Yuyang Zhang (zhang.3042@osu.edu)

Jiaqi Zong (zong.37@osu.edu)

Note: More information about Teaching Assistant office hours will be shared during the first and second weeks of the semester.

Tutor Room: The Math and Statistics Learning Center (MSLC) will be open beginning Week 2 of the semester (August 29th), in 132 Cockins Hall. Hours are from 9:10 a.m. until 6:20 p.m. Monday through Thursday, and from 9:10 a.m. until 1:40 p.m. on Friday. Although this is an online course, STAT 1350 teaching assistants will be in this Tutor Room throughout the day if you are able to be on campus and if you need help, and we strongly encourage you to stop by with questions! By the start of Week 2, the Tutor Room schedule will be posted in the **Getting Started** section of the course website.

Course Goals

This course satisfies the learning goals of the *GE Data Analysis requirement*, which are to develop an understanding of the basic ideas of statistics, statistical reasoning, and probability, to comprehend methods needed to analyze and critically evaluate statistical arguments, and recognize the importance of statistical ideas. The course seeks to encourage students to actively think about statistical issues arising in real problems and to understand the basic statistical techniques used to generate, summarize, and draw conclusions from data.

Getting Started with the Online Course

The best way to get started with the course is to spend some time exploring the course website. Go to www.carmen.osu.edu to log on to Carmen. You should then see a link for the STAT 1350 site. Look carefully at the way the course site is set up. This particular course is structured around **modules**, with each module representing a different week during the semester. Only the first few weeks of the semester will be visible right away, but more information will slowly be added to the course site in the coming weeks. We hope the course site will be relatively easy for you to navigate, but if you are ever in doubt about anything, let us know! We also encourage you to watch the introductory video on the course homepage (in the **Getting Started** section).

Required Materials

Text: *Statistics Concepts and Controversies* 8th edition by David Moore and William Notz

Note: If you purchase the custom edition of this textbook, it will come with LaunchPad access. *This is not a required element for this course, but it can be useful.* LaunchPad is an online compilation of tools (e.g., practice problems, videos, self-tests, an electronic copy of the book, etc.) that we strongly encourage you to take advantage of during the semester, especially if you are in search of extra practice problems and opportunities to review material from the class and test yourself. Our STAT 1350 LaunchPad site (using the code you received from your custom book) can be accessed at: <http://www.macmillanhighered.com/launchpad/scc8e/3698022>. If you have any questions about using LaunchPad, please direct them to your instructor.

Software: There will be certain assignments this semester that will require the use of statistical software. To make these assignments easy for you to complete, we have chosen to use a free online program called StatKey. You can access StatKey at <http://www.lock5stat.com/statkey/index.html>. You will not be expected to use StatKey until Week 5 of the semester, and you will only be asked to use it to help complete lab activities. Details about how to use StatKey will be included in your lab activity handouts.

Calculator: A simple calculator (with a square root key) will also be necessary for STAT 1350.

Course Technology

The baseline technical skills necessary for this online course are as follows:

- Successful students will possess basic computer and web-browsing skills
- Students will be familiar with navigating Carmen (the following website may help you if you encounter difficulties with Carmen: <https://resourcecenter.odde.osu.edu/canvas/>)
- Students will need to be proficient with the MS Office Suite

Technology skills necessary for this specific course:

- CarmenConnect text, audio, and video chat. If you need technical assistance, either call 8-HELP, or refer to the online instructions: <http://resourcecenter.odde.osu.edu/carmenconnect>.

Necessary equipment and technology:

- Computer: current Mac or PC

- Mac minimum requirements: OSX 10.6 or later, 1GB RAM, 500MB free hard disk space
- PC minimum requirements: Pentium 4 or higher, Windows XP or later (Home Basic Editions not supported), 1GB RAM, 500MB free hard disk space, and True (24bit+) color with resolution 1024x768 or greater.
- Internet Browser: We suggest that you use Chrome or Firefox. If you choose to use Carmen Connect, please go to the following site to make sure your computer is correctly configured to use this tool: <http://resourcecenter.odde.osu.edu/carmenconnect/quickstart-checklist>
- Robust high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone
- It is assumed that all students have access to Adobe Reader (to view PDF files: <http://get.adobe.com/reader/>) and to the MS Office Suite (in order to use Word and Excel). You should also have Adobe Flash Player installed (<http://get.adobe.com/flashplayer/>).

IMPORTANT NOTE: It is not required that you use CarmenConnect in this course, but we strongly encourage you to try to use CarmenConnect as a way of communicating with the instructor and/or teaching assistant if you need extra help. We will use this platform for online office hours (when requested), and we want you to feel comfortable using it as well.

Grading

Your final grade in this course will depend on the following. Each of these assignments is discussed in more detail below.

Assignment	Points
Homework assignments (12 points each for 108 points ; lowest will be dropped)	96 points
Lab activities (10 points each for 140 points; lowest will be dropped)	130 points
Discussion assignments (3 points each for 30 points; lowest two will be dropped)	24 points
Midterm Exam #1 (Monday, October 3rd, 2016, 5:20-6:15 p.m.)	75 points
Midterm Exam #2 (Monday, October 31st, 2016, 5:20-6:15 p.m.)	75 points
Final Exam (Friday, December 9th, 2016, 6-7:45 p.m.)	150 points
Total	550 points

Final grades in the course will be determined based on the following scale, and based on the percentage of total points that you earn during the semester.

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	E
Min %	93%	90%	87%	83%	80%	77%	73%	70%	67%	60%	≤59%

More about Completing Required Course Assignments in the Online Course

To help you navigate through the online environment, we have attempted to create a very consistent structure from week to week. When you log on to the Carmen site, you'll see modules for each week of the course. Within each module, we begin with a weekly overview. You should start the week by reading through the overview, and you'll find that the overview contains lots of details about assignments and links to all activities, assignments, and resources you will need to work through for that week. There are weekly deadlines that need to be met within the online course, but there is flexibility in terms of when you can do your work, and we will consistently monitor the course site and jump in whenever necessary to help you.

Homework: Links to homework assignments can be found within the weekly modules, or by going to the **Quizzes** link on the left side of the Carmen course page. Each homework assignment consists of 12 multiple-choice questions, and we set the assignments up this way to give you practice with the types of multiple-choice questions that will appear on your exams. Each question is worth 1 point, and you will complete these assignments through Carmen by the appropriate deadline. Although the assignments are set up using the quiz tool in Carmen, they are not "quizzes" in the traditional sense. You can have as much time as you need to complete these assignments before the deadline and you can use any resources you would like, but once you officially submit your work to be graded, you cannot change any of your answers, and you get just one attempt to work on each homework assignment. Once the deadline has passed, the assignment will be automatically graded and you will receive feedback. Please refer to the document "**Completing Homework Assignments and Reviewing Feedback**" in the **Getting Started** section of the course website for details on how you can see feedback on your homework assignments. If you do not attempt to complete a homework assignment, you will not have any access to assignment feedback or to the correct answers for each homework question, so it's to your advantage to at least try to work through each assignment and not completely skip any assignment. Most homework assignments will be due on **Sundays by 11:55 p.m.** The exception is Homework Assignment 3 and Homework Assignment 6; these assignments will be due on Friday at 11:55 p.m. The lowest homework score will automatically be dropped from your grade. Please note that links to PDF copies of each homework assignment can be found in within the weekly overviews, just in case you'd like to print out the assignment and make note of your answers before officially submitting your work through the quiz tool. If you click on a homework assignment quiz, you will also see a link, within the quiz directions, to download a PDF copy of the assignment.

Lab activities: There are 14 lab activities that you will complete during the semester. These activities provide you with opportunities to apply and extend what you are learning in your reading and through lectures. During the weeks in which you have lab activities, links to the activities will be posted within the weekly module. You can also get to most lab activities (with the exceptions of Labs #1, #2, and #14) by clicking on the **Assignments** link on the left side of the course page. Each activity will involve several questions that will require short answers, and, for most lab activities, you should save your work as a Word or PDF file and then submit it through the appropriate link within the weekly module. Lab activities are always due on **Fridays by 11:55 p.m.**, with the exception of Lab Activity #1 (a pre-course assessment) which will be due the first Sunday of the semester (at 11:55 p.m.) and Lab Activity #14 (a post-course assessment) that will be due the final Monday of the semester (at 11:55 p.m.). We strongly encourage you to start the activities early and to post questions about the activities in the appropriate Carmen discussion forums if you need help (separate forums will be set up each week for questions related to the content for the week). Ideally, the lab activities will provide you with opportunities to interact with your peers and help your peers. The lowest lab activity score will be dropped from your grade. **Each lab activity (with the exceptions of Labs #1, #2, and #14) is graded based on completeness and correctness. If you complete the activity, regardless of your answers, you will get 50% on the assignment. The remaining 50% of the grade is based on a random selection of**

problems that we will grade based on correctness. It is important that you answer all questions on each activity and ask for help if you need it! The teaching assistants will grade your lab activities and you can generally expect feedback within 7 days. Prior to sharing individual feedback with you, we will post an answer key for the lab activity so you can get immediate feedback.

IMPORTANT clarification about Lab Activity #1 and #2:

Lab Activity #1 consists of a pre-course assessment that you will need to complete no later than **Sunday, August 28th, at 11:55 p.m.** This is a short 10-item, multiple-choice quiz. We want you to take this quiz so that we can get a better sense of what you might already know about statistics. We will not penalize you if you miss any questions on this quiz, but it's important that you try your best and attempt to answer all questions on the pre-assessment. You can find a link to this quiz on the course site within the Week 1 module (look for the **Pre-Assessment**), or you can get to it by clicking on the **Quizzes** link on the left side of the course page. You will have only one attempt at completing the pre-assessment, and you should try to complete it within 30 minutes, if possible, without reference to any notes or other individuals.

Lab Activity #2 is also a short 10-item, multiple-choice quiz. This particular quiz is all about the syllabus. You can find the syllabus quiz by going to the Week 2 module, or by clicking on the **Quizzes** link. You will again have just one attempt at taking the syllabus quiz, and you will get credit for each question you get right on the this quiz. You can take as much time as you need to complete the syllabus quiz, provided that you submit your quiz no later than Friday, September 2nd, at 11:55 p.m. We strongly encourage you to carefully read through this syllabus (or have it handy) before taking the syllabus quiz to ensure that you get the highest grade possible. We encourage you to complete the syllabus quiz as early as you can during the semester, especially since you will have another lab activity (Lab Activity #3) that will also be due on September 2nd.

Discussion Assignments: Beginning Week 2, you can earn points toward class participation by responding to discussion prompts. Discussion questions will be posted during various weeks, and you will have until a particular deadline during those weeks to respond to those questions. You can find links to discussion assignments within the weekly modules, and you can also click on the **Discussions** link on the left side of Canvas course site in order to get to different discussion forums. Although we strongly encourage you to read through the responses made by your peers and to reply to these responses (and engage in dialogue with your peers and instructor in an attempt to delve more deeply into course content), responding to your peers is not mandatory. As long as you post your own responses to the discussion questions by the appropriate deadlines, you will get full credit for discussion participation, and your responses will help us to better pinpoint any misunderstandings you might have about the course material and discuss that material with you in more detail. Each weekly discussion assignment will be worth a total of 3 points. There will be a total of 10 discussion assignments posted throughout the semester; as long as you complete 8 of these assignments and participate fully in those discussions, you should earn full credit for this component of the course. Discussion assignment deadlines will always be at 11:55 p.m. on Sundays. **Please note that if you are unable to post your answers to a discussion assignment by the deadline and you have not discussed this with the course instructor prior to the deadline, you will receive no credit for that assignment.**

Exams: This course has two midterms and a comprehensive (or cumulative) final. The midterm exams will each take place on a Monday. It is important that you make preparations to be available during the exam times listed above (in the Grading section on page 3 of this syllabus) and that you attempt to take

these exams on campus with all other STAT 1350 students. More details about the exact locations of the exams will be sent out as we get closer to exam time. You should bring a photo ID with you to each exam and be prepared to share that ID when submitting your exam. Students who have an unavoidable conflict should e-mail the instructor at least one week prior to each exam to make appropriate arrangements for taking an alternate or make-up exam.

- If you will be unable to take the exam with other STAT 1350 students at the times we have designated on campus, we can attempt to make arrangements for you to take the exams at the campus testing center. The Ohio State University (OSU) Testing Center (<http://registrar.osu.edu/testing/>) is an acceptable proctoring site, and offers appointments Monday-Friday 8a.m. to 5 p.m. **If you need to take the exam in a different location away from the OSU campus, there may be proctoring fees. Please contact the instructor immediately to begin making preparations for exams if this will be an issue.**
- All exams are closed book. For each of the midterm exams, students may use one 8.5 inch x 11 inch page of notes (front and back). For the final exam, students may use two 8.5 inch x 11 inch pages of notes (front and back). You should also bring a calculator and a photo ID to the exams. Each exam will consist predominantly of multiple-choice questions similar to the types of questions you will work through as part of homework assignments; there will also be a few short-answer questions similar to the types of examples and problems that appear in lectures or lab activities.
- Devices such as cell phones with calculator *and* communication capabilities are not allowed. Devices such as iPods are also prohibited at the exam.
- Please note that it will be necessary for you to make an appointment to meet with the instructor if you would like to receive a copy of your graded midterm exams. Alternatively, in extreme circumstances, we can make arrangements to scan your work and send it to you.
- If you are late to an exam, had the wrong day on your schedule, or missed the exam for any unexcused reason, you might not be allowed to make it up and will receive a zero. If you are allowed to take a make-up exam, you will receive a penalty of at least 10% of the total points possible on the exam. Any missed exams with no communication to us within 24 hours (except for extreme emergencies) will receive a 0. If you have an emergency and are going to miss an exam please notify Dr. Everson as soon as possible so arrangements can be made. Please also have documentation (doctor's note, etc.) as to why you missed the exam. Your documentation must be approved prior to your being allowed to take a make-up exam.

Late and Missed Work

Late Work: ***Absolutely no late work will be accepted.*** You should allow sufficient time to complete homework assignments, lab assignments, and discussion assignments. Computer failures, lost files and other technical difficulties are not valid excuses for submitting an assignment late. It is for this reason that we do allow you to drop one homework assignment, one lab activity, and two discussion assignments from your grade, with no questions asked.

Missed Work: Students who are unable to attend an exam for a legitimate unavoidable reason may take a make-up exam only if the student provides suitable documentation of the absence and takes the make-up in a timely manner. Students who miss a lab activity, homework assignment, or discussion assignment for a legitimate reason should use their dropped score for the first absence. Make-up work for subsequent legitimate absences must be discussed with the instructor.

Disputes about Grades

If you feel that an assignment has been graded incorrectly or unfairly, you must speak with one of the teaching assistants or the course instructor within one week of getting your grade on that assignment. We will not re-grade assignments at the end of the semester if you are not satisfied at that time with your final course grade.

Addressing Issues of Differing Abilities

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 098 Baker Hall; telephone 614-292-3307, TDD 614-292-0901; <http://www.ods.ohio-state.edu/>.

Accessibility of course technology: This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with me.

OSU accessibility resources: Further information and links regarding accessibility at OSU can be found here:

<http://ada.osu.edu/resources/Links.htm>.

Course Outline

The following is a general outline of the course, and it is subject to change at the discretion of your instructor. Any changes will be announced on Carmen. Ideally, you should attempt to complete readings before watching and listening to the accompanying lecture video(s). It is expected that everyone listen to the lectures and review the lecture notes since there are occasionally topics covered in lecture that are not covered in the book.

Date	Week	Topic	Readings	Assignments due*
8/23-8/28	1	Data/Samples	Chapters 1 and 2	Lab 1 (8/28)
8/29-9/4	2	More on Sampling/Surveys	Chapters 3 and 4	Lab 2 (9/2)/Lab 3 (9/2)/Homework 1 (9/4)/Discussion 1 (9/4)
9/6-9/11	3	Experiments/Measurement	Chapters 5, 6, and 8	Lab 4 (9/9)/Discussion 2 (9/11)
9/12-9/18	4	Graphing Data	Chapter 10	Lab 5 (9/16)/Homework 2 (9/18)/Discussion 3 (9/18)
9/19-9/25	5	More Graphs and Summary Statistics	Chapters 11 and 12	Lab 6 (9/23)/Discussion 4 (9/25)
9/26-10/2	6	Summary Statistics/Review	Chapter 12/Review	Homework 3 (9/30)
10/3-10/9	7	Midterm 1 /Normal Distributions	Chapter 13	Lab 7 (10/7)/Discussion 5 (10/9)

10/10-10/16	8	Correlation/Regression	Chapters 14 and 15	Lab 8 (10/14)/Homework 4 (10/16)/Discussion 6 (10/16)
10/17-10/23	9	Regression/Probability	Chapters 15 and 17	Lab 9 (10/21)/Homework 5 (10/23)/Discussion 7 (10/23)
10/24-10/30	10	More Probability and Review	Chapter 18/Review	Homework 6 (10/28)
10/31-11/6	11	Midterm 2 /Confidence Intervals	Chapter 21	Lab 10 (11/4)
11/7-11/13	12	More Confidence Intervals/Hypothesis Testing	Chapters 21 and 22	Lab 11 (11/11)/Homework 7 (11/13)/Discussion 8 (11/13)
11/14-11/20	13	More Hypothesis Testing	Chapters 22 and 23	Lab 12 (11/18)/Homework 8 (11/20) /Discussion 9 (11/20)
11/21-11/27	14	More Hypothesis Testing		
11/28-12/4		More Hypothesis Testing/Review		Lab 13 (12/2)/Homework 9 (12/4)/Discussion 10 (12/4)
12/5-12/9	16	Last day of instruction is Wednesday, December 7th/ Final Exam is Friday, December 9th at 6 p.m.		Lab 14 (Monday 12/5) at 11:55 p.m. (NOTE SPECIAL day!)

*Assignments are always due at 11:55 p.m. on either Fridays or Sundays, with the exception of Lab 14.

Academic Misconduct

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/>.

We take academic misconduct very seriously in this course. If you are suspected of behaving dishonestly during an exam (e.g., copying from another student’s exam, allowing another student to copy from your exam, using materials or devices that are prohibited) or when completing any other required course assignment, this is grounds for us to file a report with the Committee on Academic Misconduct (COAM), and this may result in a failing grade in this course or an even more severe penalty.

Creating a Respectful and Safe Class Environment

We want STAT 1350 to be an environment where you can feel safe to express your thoughts and ideas about what you are learning about. You can expect fair, consistent, and respectful treatment from the entire Stat 1350 teaching team. We expect all students to treat fellow students, TAs, and lecturers, with respect in your behavior, attitude and communications, be they in-person discussions or email. Again, the OSU Code of Student Conduct, is at <http://studentlife.osu.edu/csc/>

E-mail Correspondence

In order to protect your privacy, all course e-mail correspondence *must* be done through a valid OSU name.number or Buckeyemail account. If you have not activated your OSU email account, you can activate your account at <https://acctmgt.service.ohio-state.edu>. **Note that it is your responsibility to make sure that any email messages you send to the instructor or one of the teaching assistants are received. If you send a message and do not get a reply within 48 hours, please send another message!**

Other Student Resources

Students can find information about academic services available at OSU on this website:

<http://artsandsciences.osu.edu/academics/current-students/resources>, and about general student services on this website: <http://ssc.osu.edu>.

Tips for Success in the Course

We are here to help you be successful in the course, but a lot of your success will be up to you. From our own experience with this course and with other online courses, we believe the following can help you to do well in this course.

- You are responsible for your learning. Distance courses afford flexibility in how you learn, where you learn, and when you learn, but it is critical that you manage your time wisely. You should expect to spend a minimum of 9 hours weekly in this course. **You should also expect to log on to Carmen at least two or three times per week to review weekly overviews, watch and listen to recorded lectures, complete lab activities, complete homework assignments, and keep up with important news and announcements posted on the home page of the course site.** Further, while we realize you might be tempted to work ahead, keep in mind that our ultimate goal is for all students to get through the material at a similar pace. You are free to complete assignments much earlier than the posted deadlines if you work best that way, but we will not be able to grade your work and give you feedback until after official assignment deadlines.
- On a weekly basis, the instructor will send out an email message to the entire class to remind you about important due dates. You are responsible for these email messages, and they will be sent at the start of each week, to your OSU email account. We will also attempt to continuously post important news and announcements on the course homepage, and you are responsible for reading this information.
- This is NOT a math class, but some math will be used in the course, and we have a Mathematics Review Guide posted in the **Getting Started** section of the course site if you are concerned about your math skills. This is a critical thinking class. Our goal is to help you make wise and educated decisions at work and in life. We recognize that some of you might be nervous about the course, but we want you to know that we are here to help you. Please take advantage of opportunities to post questions in discussion forums and to answer questions posted by your peers. Teaching others can be a great way to help you learn important material. Also, please do not hesitate to contact the instructor or teaching assistant if you feel you need extra help or if you want to arrange times to meet in person (or meet through Carmen Connect).
- Your peers can be an excellent source of information. We encourage you to collaborate with your peers on different assignments and help each other, but keep in mind that you must submit your own individual work. Also, you cannot collaborate on exams!
- We strongly encourage you to avoid working on assignments until the very last minute. We want to help you if you run into problems, and it can be challenging for us to help if you do not ask questions in a timely manner. If you elect not to start a lab activity or a homework assignment until just a few hours before the due date, we might not be available to help you if you get stuck.
- Try to find ways to organize the material you will see on the course website. This can be incredibly helpful when it comes time to studying for exams. Print out the slides that accompany each lecture video (these slides are saved as PDF handouts (which we link to in our weekly overviews) so you can take notes

as you are watching and listening to lectures), and print out your graded lab assignments. Review your answers to homework questions and contact us to talk about any problems you missed. Purchase a binder where you can sort your printed notes and assignments by chapters or topics.

- Material will get more challenging as we go through the semester. Because of this, you may need to spend more time studying material that is covered later in the semester versus material covered earlier in the semester.