DATA 113 – Introduction to Statistics (Fall 2025)

Instructor: Kevin Woods. Call me Kevin! (he/him)

Contacting me: Kevin.Woods@oberlin.edu or 443-695-1681 (mobile). Email is better for involved or less important questions; texting is better for quick, time-sensitive questions.

Section 3 Lecture/Lab: MTWF 9-9:50am, King 239.
Section 4 Lecture/Lab: MTWF 10-10:50pm, King 239.

Google Drive: I will post assignments and other material in the course Google Drive folder. I recommend bookmarking this link (it is available from blackboard, if you need).

Drop-in help sessions: Sundays 11am-1pm and Thursdays 7-9pm in King 335, with Claudia Lausch, our HOOT / dedicated tutor. Come individually, come in groups, come with questions, come to get started on the homework and lab projects with other students around. Your choice!

Office Hours:

- Mondays 2:30-3:30pm, my office (King 220B).
- Tuesdays 12:15-2:15pm, King 203 (I will prioritize my other class, but you're welcome to come).
- Thursdays 9-11am, my office (King 220B).
- If these times don't work, you can make an appointment via email.

Required Textbook:

Statistics: Unlocking the Power of Data, Lock, et al., **3rd edition**, with **WileyPlus access**. The WileyPlus access is needed for the homework assignments. We will cover the whole book. I will post the readings for the first week in our google drive folder, and you will have the first WileyPlus assignment due next Friday, Sept 5.

Be sure whatever you buy says it comes with **WileyPlus**. The cheapest I can find is $76.95 directly from Wiley for "Single Term Access to WileyPLUS" and includes electronic access to the book.

Stats in High School:

This class starts from the beginning, assuming no knowledge of Stats. If you had AP Stats in high school, had some other stats class, or are very strong mathematically, I urge you to take DATA 205 (offered every fall). That class reviews everything you've previously seen, before going further.

Computer Software:

- We will use the statistical package R, specifically the implementation RStudio. You will be able to access RStudio from any computer, using a web browser. Instructions and tutorials will come during the lab sessions.
- **You will generally need to bring a laptop on Tuesdays** (or share with a friend). The libraries have laptops you can borrow for a short time.

Learning Goals: At the end of this course, students should be able to:

- Explain the central role of *variability* in the field of statistics and understand how *randomness* affects our ability to draw conclusions from data.
- Produce appropriate *graphical displays* and *numerical summaries* of data.
- Apply basic ideas of *statistical inference*, both hypothesis tests and interval estimation, in a variety of settings.
- Understand how *statistical models*, including multivariable models, are used.

- Gain facility with a *statistical software package*, and use the output as part of a *written analysis* of data.

Assignments and Grades:

- Your focus should be on **growth**, but grades are a fact of college life. **If I can see that you are working hard and seeking support, you will pass this class.** If you find yourself preoccupied with grades, consider taking it P/NP.
- Each Friday, I will give you a schedule of the specific assignments for the next week. These will also be posted in our google folder. You will need to be focused on **time management**, because there are multiple small assignments each week. I will do the best I can to make expectations and deadlines clear.
- You should think of this like a lab class. **Lab classes require extra time**, because you are both learning material and getting hands on experience with scientific tools (in this class, that's statistical computer programs).
- Note that almost every type of assignment has some sort of forgiveness (e.g., dropping some number of them). Life happens: you get busy, you get sick, you oversleep, you struggle in the class but slowly improve, and I want to acknowledge that.
- Reading Questions (15%, lowest three dropped).
    - I don't want to come to class each day and tell you what the book already says. Because of this, you need to read the book beforehand; we can have better discussions when we're on the same page about the material. To encourage this, you must answer a few questions before each class.
    - You must answer these by **8am the day of class**. These will not be graded for correctness, only that you made a legitimate attempt at them. These will also be helpful to me to see what I need to emphasize in class.
    - To submit answers, read the questions on the weekly schedule of assignments, and then submit your answers on this google form.
    - Since the point is to force you to read before class, I do not accept late submissions (but each one is worth a very small percentage of your grade, and I will drop three).
- Homework (15%, lowest two dropped).
    - The best way to learn the tools and concepts in this course is to practice! Homework will be assigned each week and generally due on Fridays. We will use WileyPlus for the homeworks, because it gives you immediate feedback about whether you got a problem right or wrong.
    - The first time you use WileyPlus, follow the instructions here.
    - Honor Code: You may (should!) work together on these problems, but your submitted solutions must be your own. You may use the book and your notes, and of course come talk to me and Claudia! You may use calculators and software also.
    - Late Work Policy: Mainly, I drop two homework sets and it's best to move on. If you are just a couple of days late, that's okay, and WileyPlus automatically subtracts 20%. Any later than that and it is a zero: just drop it and move on with your busy life!
- Lab Projects (30%).
    - The purpose of this type of assignment is to give you an opportunity to work on more involved and open-ended problems and to write things up in a careful manner. I will give you more specifics when I assign them. You will generally have the last bit of lab every week to get started on the assignment, and you will be able to work with others to some degree. We will have 3 or 4 projects throughout the semester, built up through weekly assignments.
    - I will only grade the final versions, and you will get (and give) peer feedback on prior versions. A **significant part** of your grade will be completing the intermediate

assignments and giving adequate peer feedback, and the rest of your grade will be the quality of the final result.
    - Honor Code: I will clarify this on the first assignment. In general, you may/should consult with others, but do your own writing.
    - Late Work Policy: Since peers will be heavily reliant on you to get the intermediate assignments in on time, late work on them is generally unacceptable. *Occasionally* being a few hours or a day late (with an apologetic note to your peers) is probably okay and better than not turning it in. For final versions, consult me **in advance** if you need to turn them in late.
- Two midterms and a final (40% total, lowest score dropped)
    - These will be in-class exams.
    - The midterms are tentatively Tuesday, September 30 and Tuesday, November 4. The final is Tuesday, December 16, 2-4pm (9am section) or Thursday, December 18, 2-4pm (10 am section)
    - Honor Code: You must work on them alone. They will be closed book, but you are allowed a page of notes. More detailed instructions will follow.
    - Late Work Policy: Only in rare (emergency) circumstances will late exams be accepted.
    - I want you to succeed, and everybody has bad days or weeks. **I'll drop the lowest exam score, as long as you put in a good-faith effort on all of them**.

Support:

- You belong at Oberlin and you belong in this class. People arrive here with different experiences and backgrounds in mathematics and statistics. Put in the work, seek out support, and focus on self-improvement, and I promise you that **your skills will grow**. The rest of us are here to help, including:
- Me! Come by office hours, any time.
- Our dedicated tutor, Claudia! See the drop-in help session times above.
- Your peers! Working with other students helps everyone improve.
- **Yourself!** Your skills will improve best if you come at this with a growth mindset: embrace the challenge of this class, persist through difficulty, be inspired (not threatened) by the success of others, seek out support, communicate and advocate for yourself.
- If you have a disability of any sort that may affect your performance in this class, please consult with me and with the Office for Disability and Access. I am committed to meeting the needs of all students in my class.
- You can often get a free, individual peer tutor from the AARC.
- **I want you to succeed, and I want to help you succeed.** Please let me know how I can help!