



# Course Syllabus

## STA 201 L1

### Introduction to Statistics

### Fall 2025

#### Class Information

**Day and Time:** Tuesdays and Thursdays 9:30-10:15am

**Room Number:** E207

#### Contact Information

**Instructor Name:** Dr. Brandon Seitzler

**Instructor Email:** [bseitzler@criswell.edu](mailto:bseitzler@criswell.edu)

**Instructor Phone:** 214.818.1309

**Instructor Office Hours:** [Monday's 9:30-10:45am](#); [Wednesdays 9:30-10:45am](#); [Thursday 11am-12:30pm](#)

[Schedule meetings at www.calendly.com/bseitzler](http://www.calendly.com/bseitzler)

#### Course Description and Prerequisites

An introductory course covering data collection, analysis, presentation, and interpretation of data and probability. Topics include descriptive statistics, estimation, confidence intervals, hypothesis testing, and correlation and regression. (This course satisfies for a Math/ Natural Science course.)

#### Course Objectives

At the end of this course, the student should be able to:

1. Define and summarize research design and data collection principles and concepts.
2. Create and interpret graphical data summaries.
3. Calculate and interpret summary statistics.
4. Calculate probabilities.
5. Perform hypothesis tests.

Adam Smith reminds us that when we were born none of us could do statistics. When you feel lost this semester, find solace in Smith's words. What you are experiencing is normal: *"The difference of natural talents in different men is, in reality, much less than we are aware of; and the very different genius which appears to distinguish men of different professions, when grown up to maturity, is not upon many occasions so much the cause, as the effect of the division of labour. The difference between the most dissimilar characters, between a philosopher and a common street porter, for example, seems to arise not so much from nature, as from habit, custom, and education. When they came into the world, and for the first six or eight years of their existence, they were, perhaps, very much alike, and neither their parents nor playfellows could perceive any remarkable difference. About that age, or soon after, they come to be employed in very different occupations. The difference of talents comes then to be taken notice of, and widens by degrees, till at last the vanity of the philosopher is willing to acknowledge scarce any resemblance."* Adam Smith, *The Wealth of Nations* (New York: The Modern Library, 1965), 15-16.

## Required Textbooks

Diez, David M., Christopher D. Barr, Mine Cetinkaya-Rundel. *OpenIntro Statistics*. 4<sup>th</sup> ed. 2019.

<https://www.openintro.org/book/os/>

**Note** that OpenIntro Statistics, 4<sup>th</sup> ed. may be downloaded for free at [openintro.org/os](https://www.openintro.org/os). Physical copies are also available to purchase on Amazon. I recommend that you purchase a physical copy.

Additional readings and resources (videos, podcasts, etc.) will be assigned but do not need to be purchased.

## Recommended Reading

- [www.khanacademy.org](https://www.khanacademy.org) - Use this website to catch up on any basic math skills that you find lacking.
- [www.pewforum.org](https://www.pewforum.org) - Use this website to inspire a passion for statistics and social science research.
- Statistics tutor in the Criswell Tutoring Center.

## Course Requirements and Assignments

- **Participation (10%)**: Class preparation, attendance, and participation are **required**. If you miss classes in this course you will fall behind **very** quickly. If you read the chapter before class our time together will make much more sense to you. If you are not in class by 9:30am, you will be counted absent.
- **Problem Sets (20%)**: Homework assignments are open book and may be completed as a group. You will upload your problem set (individually) to Canvas, as a PDF. Do not include your name on your Problem Set.
- **2 Exams (35% each)**: Students will have two exams over the course of the semester. These exams are not cumulative. All exams are in class and open note/open book.
- Additional in-class quizzes and assignments will not count toward your final grade.

## Course/Classroom Policies and Information

- The ideas expressed by readings, resources, and outside guests in this course should not be interpreted as implying the instructor's or college's endorsement. Course materials and outside speakers are selected for their perceived value in helping to meet the course goals and objectives.
- At all times and especially when we are working in and with the community you are expected to exhibit the college's graduate profile:
  - **Ambassadors** who communicate effectively across various platforms and contexts.
  - **Cultivators** who seek to understand diverse populations and develop purposeful relationships.
  - **Peacemakers** who pursue truth and righteousness through mercy and reconciliation.
  - **Problem-solvers** who think critically, creatively, and collaboratively.
  - **Professionals** who demonstrate competence in their field of study and intentionality in their vocation.
- You may not have your cell phone anywhere in sight during class.
- The one exception to my cell phone rule is using your cell phone as a calculator or to look something up online as a part of class participation. Other than these two exceptions, phones belong in bags.
- You may not use your laptop during class for anything other than class-related activities.

- Instructors work closely with the Student Success Manager. To help provide resources to students who may need it most, I will communicate the names of students who have two consecutive absences, low grades, or any other signs that they may be struggling. The Student Success Manager will reach out to these students and help find appropriate resources.
- Class participation requires both attendance and preparation. If you miss classes, you will fall behind very quickly. If you read the chapter before class, our time together will make much more sense to you.
- The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.
- The following language is quoted from Criswell College’s Credit Hours policy: “For academic purposes, Criswell College uses “Carnegie” units to measure semester credit hours. A Carnegie unit of credit is awarded to students for the satisfactory completion of at least one 50-minute session of classroom or direct faculty instruction and at least 100 minutes of out-of-class work per week for not less than 15 weeks.”
  - This policy does not mean that attending class or doing work for a certain amount of time guarantees a certain grade or credit for the course.
  - This policy does mean that you must complete this many hours of work to qualify for course credit.
  - Therefore, one way that you might think of your time being divided up, **per week**, over the course of the semester, for a 3-credit course is the following:
    - 150 minutes of class instruction (two 75-minute course sessions per week).
    - 300+ minutes of out-of-class work. A possible allocation of this out-of-class time could be:
      - 180 minutes of reading
      - 120 minutes of homework
  - This means that each 3-hour course you register for requires a **minimum** of 7.5 hours of work per week.
    - If you are taking 12 hours this semester, you should think of your school commitment as a 30-hour per week job.
    - If you are taking 15 hours this semester, you should think of your school commitment as a 37.5-hour per week job.

### Video Recording

To ensure FERPA compliance when a course is live-streamed or recorded, students can opt out of video recordings by requesting seating in a designated area off camera. Students who sit outside of this area are giving implicit permission to be recorded.

### Class Attendance:

Students should only enroll in courses they are able to attend regularly.

- **On-campus** students are expected to attend class **in person** according to the course syllabus.
- Students enrolled in the **online section** must pay any applicable online course fees.
- Online students are expected to attend class **synchronously** at the scheduled time via the designated video conferencing platform, Zoom, found in the left-hand global menu in Canvas.
- Online students must have their **cameras turned on with sound muted** during class, and actively participate in discussions and activities. In order to be properly identified, students must upload a picture ID to their Canvas Account Profile *prior to the first online meeting*. For instructions on how to upload a profile picture, [click here](#).

**Missed Classes:**

- Each instructor may decide how attendance impacts your grade and learning objectives. Details are provided within the course syllabus.
- Students are responsible for catching up on any material missed due to absence or tardiness.
  - Instructors are **not required** to allow make-up work for missed classes.

**Attendance & Financial Aid:**

- Students receiving **grants, loans, or scholarships** must meet participation requirements set by the college.
- It is the student's responsibility to:
  - Review relevant sections of the Academic Catalog.
  - Contact the **Financial Aid Office** for details on how attendance affects aid.
  - Understand the consequences of non-participation.

**Census Period Attendance Requirement:**

- Though Criswell College does not officially take attendance, it must verify that students **begin their courses** to meet federal aid regulations.
- **During the census period** (first two weeks of a 16-week semester or first week of shorter terms), students must participate in **academically related activities**, or they may be dropped from the course.

**Examples of Qualifying Activities:**

- Attending class in person or via live video with the instructor present
- Submitting an assignment, quiz, or exam
- Taking part in assigned tutorials, study groups, or discussion boards
- Having documented communication with the instructor about course content

**Important Note:**

Simply logging into Canvas or a Zoom session without participating (e.g., camera off, no interaction) **does not count** as attendance.

**Canvas:**

- Criswell College uses Canvas as its web-based Learning Management System (LMS).
- **For online courses** at Criswell College, instructors use Canvas to:
  - Organize course content on a module basis using organizational tools within Canvas
  - Control the timing of course requirements through module control or assignment due dates to ensure that students are engaged for the full length of the semester or term
  - Accept assignments from students only inside the Canvas course (emailed assignments are not acceptable)
  - Provide written feedback on assignments only within Canvas, preferably through Speedgrader
  - Use the Announcement or e-mail feature in Canvas to communicate with the students rather than by broadcasting to a class email listserv outside of canvas
  - Use Zoom in Canvas for all "live" (synchronous) class sessions

**Important Note:**

Students needing assistance with Canvas should contact the Canvas Help Support line at 844-358-6140. Tech support is available at this number, twenty-four hours a day.

## Campus Closure

To ensure the health and safety of students and employees, college administrators may decide it is necessary on rare occasions to close the campus. Once this decision is announced, instructors will contact students to provide further details regarding the campus closure's impact on those courses. Students are responsible to watch for communication from their instructors and respond appropriately. (Unless otherwise specified by the instructor in this syllabus, this communication will be sent to the student's Criswell College e-mail account.)

In order to make progress toward the courses' objectives, instructors have the freedom during most campus closures to require students to participate in activities as alternatives to meeting on campus. An instructor may, for example, hold class remotely (through Zoom) at the scheduled time, provide a recording of a class or presentation for students to watch independently, or assign other activities that students are to accomplish before returning to campus. Students are responsible for accomplishing these alternative activities as well as any course requirements listed in this syllabus during the period of the campus closure. If, during the period of the campus closure, personal circumstances prohibit a student from accomplishing these alternative activities or course requirements and assignment listed in the syllabus during the campus closure, the student is responsible for communicating with the instructor as soon as possible. Instructors will not penalize students who do not have the means to accomplish the alternative activities during the period of the campus's closure and will work with students whose circumstances during the campus closure prohibited their timely completion of course requirements and assignments in the syllabus.

## Grading Scale

			Grade Definitions
A	93-100	4.0 grade points per semester hour	Exceptional
A-	90-92	3.7 grade points per semester hour	
B+	87-89	3.3 grade points per semester hour	
B	83-86	3.0 grade points per semester hour	Above Average
B-	80-82	2.7 grade points per semester hour	
C+	77-79	2.3 grade points per semester hour	
C	73-76	2.0 grade points per semester hour	Average
C-	70-72	1.7 grade points per semester hour	
D+	67-69	1.3 grade points per semester hour	
D	63-66	1.0 grade point per semester hour	Below Average
D-	60-62	0.7 grade points per semester hour	
F	0-59	0.0 grade points per semester hour	Unacceptable

## Incomplete Grades

Students requesting a grade of Incomplete (I) must understand that incomplete grades may be given only upon approval of the faculty member involved. An "I" may be assigned only when a student is currently passing a course and in situations involving extended illness, serious injury, death in the family, or employment or government reassignment, not student neglect.

Students are responsible for contacting their instructors prior to the end of the semester, plus filing the appropriate completed and approved academic request form with the Registrar's Office. The "I" must be removed (by completing the remaining course requirements) no later than 60 calendar days after the close of the term or semester in which the grade was awarded, or the "I" will become an "F."

## Academic Honesty

Absolute truth is an essential belief and basis of behavior for those who believe in a God who cannot lie and forbids falsehood. Academic honesty is the application of the principle of truth in the classroom setting. Academic honesty includes the basic premise that all work submitted by students must be their own and any ideas derived or copied from elsewhere must be carefully documented.

Academic dishonesty includes, but is not limited to:

- cheating of any kind,
- submitting, without proper approval, work originally prepared by the student for another course,
- plagiarism, which is the submitting of work prepared by someone else as if it were his own, and
- failing to credit sources properly in written work.

## Course Policy on the use of Artificial Intelligence (AI)

**(Note to students: Instructors may use, modify or replace these guidelines as appropriate for their course. So, AI policies and guidelines may change from course to course and/or professor to professor.)**

Examples of AI-related functions you **may not use** without permission:

- Text Generation – You may not use AI to generate text for use in an assignment.
- Outline Generation – You may not use AI to generate an outline for an assignment.

AI-related tools you **may use** without permission:

- Spellcheck and grammar – built into Word, Pages, and Google Docs
- AI research and summarize – tools that help you find sources to cite, such as the new AI tools built into Logos Bible Software.)

## Institutional Assessment

Material submitted by students in this course may be used for assessment of the college's academic programs. Since programmatic and institutional assessment is done without reference to specific students, the results of these assessments have no effect on a student's course grade or academic standing at the college. Before submitting a student's work for this type of assessment, the course instructor redacts the work to remove anything that identifies the student.

## Institutional Email Policy

All official college email communications to students enrolled in this course will be sent exclusively to students' institutional email accounts. Students are expected to check their student email accounts regularly and to respond in an appropriate and timely manner to all communications from faculty and administrative departments.

Students are permitted to setup automatic forwarding of emails from their student email accounts to one or more personal email accounts. The student is responsible to setup and maintain email forwarding without assistance from college staff. If a student chooses to use this forwarding option, he/she will continue to be responsible for responding appropriately to all communications from faculty and administrative departments of the college. Criswell College bears no responsibility for the use of emails that have been forwarded from student email accounts to other email accounts.

## **Disabilities**

Criswell College recognizes and supports the standards set forth in Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and similar state laws, which are designed to eliminate discrimination against qualified individuals with disabilities. Criswell College is committed to making reasonable accommodations for qualifying students, faculty, and employees with disabilities as required by applicable laws. For more information, please contact the Student Services Office.

## **Intellectual Property Rights**

Unless otherwise specifically instructed in writing by the instructor, students must neither materially nor digitally reproduce materials from any course offered by Criswell College for or with the significant possibility of distribution.

## **Research and Writing Standards**

The default writing style for written assignments in Criswell College Courses is the latest edition of *A Manual for Writers of Research Papers, Theses and Dissertations* by Kate Turabian. However, instructors are free to require alternative writing styles in their courses. These styles include but are not limited to the American Psychological Association (APA), Chicago Manual of Style, Modern Language Association (MLA), and Society of Biblical Literature (SBL) writing guides.

## **Resources and Supports**

Canvas and SONIS: Criswell College uses Canvas as its web-based learning tool and SONIS for student data. Students needing assistance with Canvas should contact the Canvas Help Support line at (844) 358-6140. Tech support is available at this number, twenty-four hours a day. Students needing help with SONIS should contact the Campus Software Manager at [studenttechsupport@criswell.edu](mailto:studenttechsupport@criswell.edu).

Student Services: The Student Services Office exists to foster and encourage success in all areas of life—physical, intellectual, spiritual, social, and emotional. Students are encouraged to reach out for assistance by contacting the office at 214.818.1332 or [studentservices@criswell.edu](mailto:studentservices@criswell.edu). The Student Services Office also works with local counseling centers to ensure that every student has access to helpful mental health resources. More information is located on the college website at [Criswell College Mental Health Resources](#), and students may contact the Director of Student Services if they have any questions.

Wallace Library: Students can access a wide range of academic resources and receive research assistance by contacting or visiting the Wallace Library, located on the second floor of the Education Building.

Login credentials for accessing the library's databases are emailed to students near the beginning of each semester.

For more information or assistance, email the Wallace Library at [library@criswell.edu](mailto:library@criswell.edu) or visit [www.criswell.edu/academics/wallace-library/](http://www.criswell.edu/academics/wallace-library/).

Tutoring Center: Students are encouraged to consult with tutors to enhance their skills and build confidence. All tutors are recommended by faculty to ensure they are qualified to support the student body. To meet with a tutor, students can schedule an appointment through Calendly at <https://calendly.com/criswell-tutoringcenter>. The Tutoring Center is located in room E203 of the Education Building.

For questions, email [tutoringcenter@criswell.edu](mailto:tutoringcenter@criswell.edu).

## Course Outline/Calendar

***The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.***

		Readings Due	Assignments Due
Week 1	Tues 8/19 MLK Day	None	
	Thurs 8/21	None	
Week 2	Tues 8/26	<ul style="list-style-type: none"> <li>• 1.1 Case Study: using stents to prevent strokes</li> <li>• 1.2 Data Basics</li> <li>• 1.3 Sampling principles and strategies</li> <li>• 1.4 Experiments</li> <li>• Videos: 1.1, 1.2, 1.3A, 1.3B, 1.4</li> </ul>	
	Thurs 8/28		• Ch. 1.1-4 Problem Set
Week 3	Tues 9/2	<ul style="list-style-type: none"> <li>• 2.1 Examining numerical data</li> <li>• 2.2 Considering categorical data</li> <li>• 2.3 Case study: malaria vaccine</li> <li>• Videos: 2.1, 2.2, 2.3</li> </ul>	
	Thurs 9/4		• Ch. 2.1-3 Problem Set
Week 4	Tues 9/9	<ul style="list-style-type: none"> <li>• 4.1 Normal Distribution</li> <li>• Video: 4.1</li> </ul>	
	Thurs 9/11		
Week 5	Tues 9/16	• ...still 4.1 Normal Distribution (read it again)	
	Thurs 9/18		• Ch. 4. 1 Problem Set

Week 6	Tues 9/23	<ul style="list-style-type: none"> <li>• 5.1 Point estimates and sampling variability</li> <li>• Videos: 5.1, “Why do we use 0.05 as a significance level?”</li> </ul>	
	Thurs 9/25		<ul style="list-style-type: none"> <li>• Ch. 5.1 Problem Set</li> </ul>
Week 7	Tues 9/30	<ul style="list-style-type: none"> <li>• 5.2 Confident intervals for a proportion</li> <li>• 5.3 Hypothesis testing for a proportion</li> <li>• Videos: 5.2, 5.3, “Inference for other estimators”</li> </ul>	
	Thurs 10/2		<ul style="list-style-type: none"> <li>• Ch. 5.2-3 Problem Set</li> </ul>
Week 8	Tues 10/7	<ul style="list-style-type: none"> <li>• Review day</li> </ul>	
	Thurs 10/9		<ul style="list-style-type: none"> <li>• Midterm Exam in class</li> </ul>
Week 9	Tues 10/14	<b>No Class – Student Development Week</b>	
	Thurs 10/16	<b>No Class – Student Development Week</b>	
Week 10	Tues 10/21	<ul style="list-style-type: none"> <li>• 6.1 Inference for a single proportion</li> <li>• 6.2 Difference of two proportions</li> <li>• Video: “6.1 + 6.2”</li> </ul>	
	Thurs 10/23		<ul style="list-style-type: none"> <li>• 6.1-2 Problem Set</li> </ul>
Week 11	Tues 10/28	<ul style="list-style-type: none"> <li>• 6.3 Testing for goodness of fit using chi-square</li> <li>• 6.4 Testing for independence in two-way tables</li> <li>• Videos: 6.3, 6.4</li> </ul>	
	Thurs 10/30		<ul style="list-style-type: none"> <li>• Ch. 6.3-4 Problem Set</li> </ul>
Week 12	Tues 11/4	<ul style="list-style-type: none"> <li>• 7.1 One-sample means with the t-distribution</li> <li>• 7.2 Paired data</li> <li>• 7.3 Difference of two means</li> <li>• Videos: 7.1A, 7.1B, 7.2, 7.3</li> </ul>	
	Thurs 11/6		<ul style="list-style-type: none"> <li>• Ch. 7.1-3 Problem Set</li> </ul>
Week 13	Tues 11/11	<ul style="list-style-type: none"> <li>• 7.4 Power calculations for a difference of means</li> <li>• 7.5 Comparing many means with ANOVA</li> <li>• Videos: 7.4, 7.5A, 7.5B, 7.5C</li> </ul>	
	Thurs 11/13		<ul style="list-style-type: none"> <li>• Ch. 7.4-5 Problem Set</li> </ul>
Week 14	Tues 11/18	<ul style="list-style-type: none"> <li>• 8.1 Fitting a line, residuals, and correlation</li> <li>• 8.2 Least squares regression</li> <li>• Videos: 8.1, 8.2 – Fitting a LS..., 8.2 – Detailed overview...</li> </ul>	
	Thurs 11/20		<ul style="list-style-type: none"> <li>• Ch. 8.1-2 Problem Set</li> </ul>

Week 15	Tues 11/25	<ul style="list-style-type: none"> <li>• 8.3 Types of outliers in linear regression</li> <li>• 8.4 Inference for linear regression</li> <li>• Videos: 8.3, 8.4</li> </ul>	
	Thurs 11/27		<ul style="list-style-type: none"> <li>• Ch. 8.3-4 Problem Set</li> </ul>
Week 16	Tues 12/2	<ul style="list-style-type: none"> <li>• Catch-up day</li> </ul>	
	Thurs 12/4	<ul style="list-style-type: none"> <li>• Catch-up day</li> </ul>	
Week 17	Tues 12/9	<ul style="list-style-type: none"> <li>• Final Exam review in class</li> </ul>	
	Thurs 12/11		<ul style="list-style-type: none"> <li>• Final Exam in class</li> </ul>

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