



On-Campus Course Syllabus

MTH 201 SP.L1

Elementary Statistics

Spring 2020

Class Information

Day and Time: Thursdays 1:30pm to 4:00pm

Room Number: E207

Contact Information

Instructor Name: Dr. Brandon Seitzler

Instructor Email: bseitzler@criswell.edu

Instructor Phone: 214.818.1309

Instructor Office Hours: Mondays: 1:15-2:15pm; Tuesdays: 10am-11am, 12-1:30pm; Thursdays: 10:30-11am

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.

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

- Salkind, Neil J. and Leslie A. Shaw. Statistics for People Who (Think They) Hate Statistics Using R. Sage. ISBN: 978-1-5443-2457-9.

Course Requirements and Assignments

- **Reading quizzes on Canvas (35%)** – Each week students will complete the chapter review quiz for that week’s reading(s). These quizzes are available on Canvas. These quizzes may be completed until the time of class (8:00am) each week. **No late quizzes may be submitted.** You are allowed unlimited attempts at each quiz. Correct answers will be displayed Thursdays at 8:00am.
- **Midterm Exam (30%)**
- **Final Exam (30%)**
- **Attendance (5%)**
- Additional quizzes and assignments will not count toward your final grade.

Course/Classroom Policies and Information

- You may not have your cell phone anywhere in sight during class.

Class Attendance

Students are responsible for enrolling in courses for which they anticipate being able to attend every class session on the day and time appearing on course schedules, and then making every effort to do so. When unavoidable situations result in absence or tardiness, students are responsible for acquiring any information missed. Professors are not obliged to allow students to make up missed work. Per their independent discretion, individual professors may determine how attendance affects students’ ability to meet course learning objectives and whether attendance affects course grades.

Grading Scale

			Grade Definitions (optional)
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 professors 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 grade was assigned, 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.

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 professor, students must neither materially nor digitally reproduce materials from any course offered by Criswell College for or with the significant possibility of distribution.

Resources and Support

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.

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. Pastoral and certified counseling services are also available to Criswell students. Appointments are scheduled through the Dean of Students, at deanofstudents@criswell.edu.

Wallace Library: Students can access academic resources and obtain research assistance by visiting the Wallace Library, which is located on campus. For more information, go to the library website, or email the Wallace Library at library@criswell.edu.

Writing Center: Students are encouraged to consult with writing tutors to improve and enhance their skills and confidence by practicing techniques of clear and effective writing. To consult with a tutor, students can visit the Writing Center located on the first floor near the Computer Lab, or they can schedule an appointment by emailing writingcenter@criswell.edu or calling 214.818.1373.

Course Outline/Calendar

Date	Class topic	Readings and assignments due
Week 1 January 23	<u>Course Introduction</u> <ul style="list-style-type: none"> • Syllabus • Tools for academic success 	None
Week 2 January 30		<ul style="list-style-type: none"> • Ch. 1 – Statistics or Sadistics? It’s Up to You • Ch. 1 Reading Quiz • Ch. 2 – Here’s Why We Love R and How to Get Started • Ch. 2 Reading Quiz • Ch. 3 – Using RStudio: Much Easier Than You Think • Ch. 3 Reading Quiz
Week 3 February 6		<ul style="list-style-type: none"> • Ch. 4 – Computing and Understanding Averages: Means to an End • Ch. 4 Reading Quiz
Week 4 February 13		<ul style="list-style-type: none"> • Ch. 5 – Understanding Variability: Vive la Difference • Ch. 5 Reading Quiz
Week 5 February 20		<ul style="list-style-type: none"> • Ch. 6 – Creating Graphs: A Picture Really Is Worth a Thousand Words • Ch. 6 Reading Quiz
Week 6 February 27		<ul style="list-style-type: none"> • Ch. 7 – Computing Correlation Coefficients: Ice Cream and Crime • Ch. 7 Reading Quiz
Week 7 March 5		<ul style="list-style-type: none"> • Ch. 8 – An Introduction to Understanding Reliability and Validity: Just the Truth • Ch. 8 Reading Quiz
Week 8 March 12	<u>Midterm Exam</u>	
Week 9 March 19	<u>Spring Break – No Class</u>	
Week 10 March 26		<ul style="list-style-type: none"> • Ch. 9 – Hypotheticals and You: Testing Your Questions • Ch. 9 Reading Quiz • Ch. 10 – Probability and Why It Counts: Fun With a Bell-Shaped Curve • Ch. 10 Reading Quiz

Week 11 April 2	<ul style="list-style-type: none"> • Ch. 11 – Significantly Significant: What It Means for You and Me • Ch. 11 Reading Quiz
Week 12 April 9	<ul style="list-style-type: none"> • Ch. 12 – The One-Sample Z Test: Only the Lonely • Ch. 12 Reading Quiz
Week 13 April 16	<ul style="list-style-type: none"> • Ch. 13 – t(ea) for Two: Tests Between the Means of Different Groups • Ch. 13 Reading Quiz • Ch. 14 – t(ea) for Two (Again): Tests Between the Means of Related Groups • Ch. 14 Reading Quiz
Week 14 April 23	<ul style="list-style-type: none"> • Ch. 15 Two Groups Too Many? Try Analysis of Variance • Ch. 15 Reading Quiz • Ch. 16 – Two Too Many Factors: Factorial Analysis of Variance – A Brief Introduction • Ch. 16 Reading Quiz
Week 15 April 30	<ul style="list-style-type: none"> • Ch. 17 – Testing Relationships Using the Correlation Coefficient: Cousins or Just Good Friends • Ch. 17 Reading Quiz
Week 16 May 7	<ul style="list-style-type: none"> • Ch. 18 – Using Linear Regression: Predicting the Future • Ch. 18 Reading Quiz
Week 17 May 14	Final Exam None

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