

## MATH 255 ELEMENTARY STATISTICAL METHODS, Section 02

Class Times: MTWR, 10:00 – 10:50, Sci A202

Instructor: Daniel Harnett

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Office Hours: MT R 11:00 - 1:45 (right after class most days), or by appt.

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### Course Description:

4 cr. Fundamental concepts and techniques that underlie applications to various disciplines, including descriptive statistics; averages; dispersion; random sampling; binomial, normal, Student T, Chi-square, and F distributions; estimation and tests of hypothesis; linear regression and correlation; laboratory emphasis on sampling and applications. **This course was formerly known as MATH 355.**

### Required Materials:

1. **Text:** **Introduction to the Practice of Statistics, 10th Ed.** by Moore, McCabe and Craig.
2. **Calculator:** TI-83, TI-83+, TI-84, or TI-84+ recommended. A hand-held calculator with statistical functions including mean and standard deviation will be very helpful, though it is possible to work around this by using online apps. You can also use computer programs such as Microsoft Excel, but a hand-held calculator will be much easier in many cases.
3. **Computer access:** This course will use Microsoft EXCEL (other spreadsheets are OK, but maybe not as good for pictures). We may use other software which is available on university computers. You are expected to have access to your UWSP email and Canvas account at UWSP.

**Course Learning Outcomes:** The two branches of introductory Statistics are *descriptive* and *inferential*.

- Descriptive Statistics – numerical and graphical means to study, summarize and communicate about data.
- Inferential Statistics – mathematical methods to make conclusions or decisions based on partial information.

By the end of the course, students will understand and use some of the most popular statistical methods, including those in the catalog description above. In addition, students will be alert to issues of data quality and scientific approaches to gathering information.

**General Education Learning Outcomes:** This course satisfies the Quantitative Literacy (QL) component of the General Education Program. These general ‘deliverables’ will be emphasized throughout the course. Successful students will be able to:

- Select, analyze, and interpret appropriate numerical data used in everyday life in numerical and graphical format.
- Identify and apply appropriate strategies of quantitative problem solving in theoretical and practical applications.
- Construct a conclusion using quantitative justification.

In general, I want you to approach data like a scientist. The main tasks involved are: Exploring data, quantifying uncertainty, drawing valid conclusions; and communicating results using written and graphical methods.

**Attendance:** You are expected to attend every class. In general, this is a course in which you cannot afford to miss a class. If you are absent, for any reason, it is your responsibility to talk with others who were present and get notes from them. You are responsible for making sure that you have copies of all materials distributed in class, announcements made in class, and content covered in class. If you miss an exam (DON'T!), it is YOUR responsibility to contact the instructor ASAP.

**Written Homework:** There will be 8 to 10 written homework assignments during the semester. Homework assignments may be turned in on paper in class, or you may submit your homework online through Canvas. Assignments and due dates will be listed on the Canvas page. For written assignments, you must write a complete solution to each problem, bare answers without support will receive no credit. Graphs should be labeled. Late homework will not be accepted without the instructor’s permission. You may work on the homework with others, but each student must write and turn in their own complete assignment. Homework may be typed or handwritten, but Graphs should be produced by a computer.

**Classroom Quizzes:** There will be 1 – 3 short quizzes per week. These quizzes will be easy and are mostly an attendance device. Missed quizzes may not be made up, but up to 3 of your lowest quiz grades will be dropped.

**Exams:** There will be three exams during the semester, plus a final exam. The exam dates and content will be announced in class well in advance. The first exam will be at the end of Chapter 2, probably on Thursday, September 28.

**Final Project:** There will be a Final Project, due on the last day of class. It will be a 2-3-page paper, longer than a regular homework. You will receive details during Week 14 of class.

**Final Exam:** There will be a comprehensive final exam on Mon Dec 18 at 5:00 pm.

**Grade Calculation:**

Written Homework	18%
Classroom Quizzes	10%
3 Exams	52%
Final Project and Exam	20%
Total	100%

Grades for each assignment and exam will be recorded on your Canvas page. Questions about individual grades must be addressed within one week of the day the paper is returned to you.

The Canvas web site will record your scores, and the Canvas web site will also calculate your current grade. **Do Not Believe the Canvas Grades.** It calculates things in strange ways. You can believe the individual scores, but the current grade will not be correct until the end of the semester, after ALL items are in.

Your letter grade will be assigned based on the following scale:

A: 93-100%	A - : 90-92%	B+: 87-89%
B: 83-86%	B-: 80-82%	C+: 77-79%
C: 73-76%	C- : 70-72%	D+: 67-69%
D: 60-66%	F: 59 % or less	

The above table is a minimum guide, the instructor may make positive adjustments at the end of the semester.

**Help Available:**

INDIVIDUAL TUTORING: TLC – There is a new TLC Tutoring room in the CBB, by the coffee shop  
STUDY GROUPS: Meet with your peers on a regular basis; Free  
INSTRUCTOR OFFICE HOURS: After class time most days. See top of page 1.

**Instructor Office Hours:**

If you need to talk to your instructor, you can (1) ask me in the minutes before or after class; (2) email with questions; (3) place a Zoom call during the scheduled office hours; or (4) come to my physical office in the Science building during scheduled office hours. If you are unable to make the listed office hours, email me and we can set up a Zoom call.

**COVID-19 Provisions:**

Face Coverings (September 2022):

As of September 2022, face coverings are recommended but not required. Please respect the choices of those around you who may wish to wear a mask or not.

Other Guidance

- Please monitor your own health each day. If you are not feeling well or believe you have been exposed to COVID-19, do not come to class; email your instructor and contact Student Health Service (715-346-4646).
- Wash your hands or use appropriate hand sanitizer regularly and avoid touching your face.
- Please maintain healthy practices outside the classroom.

**Academic Integrity:** You should be fully aware of your rights and responsibilities as a UWSP student. These are detailed in the UWSP Community Bill of Rights and Responsibilities found at

[https://www.uwsp.edu/dos/Documents/UWS\\_14.docx](https://www.uwsp.edu/dos/Documents/UWS_14.docx)

Information regarding Section 504 of the Rehabilitation Act or the Americans with Disabilities Act can be found at the UWSP Disability and Assistive Technology Center site

<https://www.uwsp.edu/datc>

**Religious Beliefs:** Students' sincerely held religious beliefs will be reasonably accommodated with respect to all examinations and other academic requirements. According to UWS 22.03, you must notify the instructor within the first three weeks of classes about specific dates which require accommodation. See the link below:

[https://www.uwsp.edu/dos/Documents/UWS\\_CHAPTER\\_22.docx](https://www.uwsp.edu/dos/Documents/UWS_CHAPTER_22.docx)