



## Walters State Community College Course Syllabus

### Course Information

**Course Number and Name:** MATH 1530 Introductory Statistics

**Section ID:** 81048.202380

**Semester and Year:** Fall 2023

**Credit Hours:** 3

**Start Date:** August 21, 2023

**End Date:** December 08, 2023

**Course Format:** CON - Conventional Methodology

**Catalog Course Description:** An introduction to probability and statistics without calculus including descriptive statistics, probability distributions, the normal distribution, testing hypotheses, the t-test, and estimates and sample sizes. The student should check transfer institution catalogs to decide between MATH 1530 and MATH 2050 Probability and Statistical Applications. Prerequisite(s): Two years of high school algebra or Learning Support mathematics. Co-prerequisite(s): MATH 0030 required for students with ACT math score below (or equivalent score as determined by the college placement and assessment procedure) or have not completed all learning support mathematics requirements. **F, S, SU**

**General Education Course Designation:** General Education Course

**Meeting Details:** MW; 09:35AM - 11:00AM; MBSS 225

**Course Drop Deadline:** October 27, 2023

### Instructor Information

**Name:** Jill Romines

**Role:** Associate Professor of Mathematics

**Office Location:** MBSS 232

**Office Hours:** Posted on E-learn course home page. Office hours are times the professor is available in her office or on-line. It is recommended that students make an appointment.

**Office Phone:** 423-585-2635

**Email:** Jill.Romines@ws.edu

**Supervisor Name:** Chris Knight, Dean of Mathematics

**Supervisor Phone:** 423-585-6879

**Secretary Name:** Tammy Holt, Executive Aide

**Secretary Phone:** 423-585-6864

## Required Textbook(s) and Materials

### No Required Textbook

#### Additional Information

A Texas Instruments TI-83 or TI-84 calculator is required for the course.

Students will need a [Myopenmath.com](https://myopenmath.com) account for accessing homework.

## Supplemental or Optional Materials

Optional Textbook:

Introductory Statistics at [OpenStax.org](https://openstax.org)

## Student Learning Outcomes/Objectives

- 1. Organize and summarize data using frequency distributions, histograms, and descriptions of central tendency and variation.
- 2. Compute probabilities including the use of the addition rule, the multiplication rule, conditional probabilities.
- 3. For applied problems, compute probabilities using the normal distribution and the central limit theorem and find percentile scores using normal distributions.
- 4. Make inferences about population means and proportions from sample data using confidence intervals. Determine sample sizes required to estimate means.
- 5. Make scatterplots of paired data, analyze the data using linear regression and correlation, and make predictions.
- 6. Test claims about population means and proportions using hypothesis testing.
- 7. Use computer programs and/or a graphing calculator to perform statistical analysis.

## Instructional Approach and Methods

Regular attendance is mandatory for your success in this course. Students are expected to bring their handouts and calculator to class. This course will require that you spend about 6 hours per week outside of class to review material and complete homework and projects. Students will receive homework assignments each class meeting. Students are expected to do the assignments in preparation for discussion during the next class meeting.

The best way of contacting me is through Elearn, <https://elearn.ws.edu>, which I will use to communicate with you at times. You may also use [jill.romines@ws.edu](mailto:jill.romines@ws.edu).

## Assessment, Evaluation and Testing Procedures

1. Homework: Homework will be completed at the website [MyOpenMath](#). Homework assignments will have an unlimited number of attempts up to the deadline assigned. If a homework assignment is not completed by the deadline, it will receive a grade of 0. The homework grade is worth 100 points and will be based on the percent of problems completed correctly at the end of the semester.
2. Exams: Four unit exams and a final exam will be given. In the event of an absence on the day of an exam, the final exam grade will count for that missed exam. If an exam will be missed due to a **documented school sponsored event**, the student must contact Mrs. Romines **before** the scheduled absence and make arrangements to take the exam early. Failure to do so will result in a zero on the exam and the final exam grade will count for the missed exam. Any further missed exams will receive scores of zero.
3. Projects: Four projects will be assigned during the semester. Each project is worth 25 points and must be submitted on time for full credit. Projects will be accepted up to one class late with a 5 point penalty.

## Assignments

4 Unit Exams	100 points each
4 Projects	25 points each
Homework	100 points
Final Exam	100 points

## Grading Scale

A	630 - 700 points
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B	560 - 629 points
C	490 - 559 points
D	420 - 489 points
F	0 - 419 points

## Additional Course Requirements/Details/Information

	OpenStax Textbook
<b>Data Collection</b>	
Introduction to the Practice of Statistics	1.1
Observational Studies versus Designed Experiments (Optional)	1.4
Simple Random Sampling	1.2
Other Effective Sampling Methods	1.2
<b>Organizing and Summarizing Data</b>	
Organizing Quantitative Data: The Popular Displays	2.2
<b>Numerically Summarizing Data</b>	
Measures of Central Tendency	2.5
Measures of Dispersion	2.7
Measures of Position and Outliers	2.1, 2.7
The Five-Number Summary and Boxplots	2.4
<b>Probability</b>	
Probability Rules	3.1
The Addition Rule and Complements	3.2, 3.3
Independence and the Multiplication Rule	3.2, 3.3
Conditional Probability and the General Multiplication Rule	3.2, 3.3
<b>The Normal Probability Distribution</b>	
Properties of the Normal Distribution	6.1
Applications of the Normal Distribution	6.2
Assessing Normality (Optional)	
<b>Sampling Distributions</b>	
Distribution of the Sample Mean	7.1
Distribution of the Sample Proportion	
*Only: Introduction of sample proportion necessary for confidence	

intervals	
<b>Estimating the Value of a Parameter</b>	
Estimating a Population Mean	8.1, 8.2
Estimating a Population Proportion	8.3
<b>Hypothesis Tests Regarding a Parameter</b>	
The Language of Hypothesis Testing	9.1, 9.2
Hypothesis Tests for a Population Proportion	9.3, 9.4
Hypothesis Tests for a Population Mean	9.3, 9.4
<b>Inferences on Two Samples</b>	
Inference about Two Means: Independent Samples	10.1
Inference about Two Means: Dependent Samples	10.4
<b>Describing the Relation between Two Variables</b>	
Scatter Diagrams and Correlation	12.2
Least Squares Regression	12.3

## Academic Honesty

Faculty expect all students to refrain from acts of academic misconduct including but not limited to:

1. Plagiarism - refers to using another person's ideas or writing without giving proper credit to the original source. Indulging in this type of conduct will subject the student to disciplinary sanctions, which may be imposed through the regular institutional procedures of Walters State Community College as outlined in the Student Handbook. Plagiarism will result in a grade of "0" for the paper/exam/presentation. Student Conduct and Disciplinary Sanctions contained in the college Catalog/Student Handbook apply (see policy 04:18:02 Disciplinary Sanctions).  
Plagiarism includes, but is not limited to the following:
  - a. Using cut/paste tool from original document with no references given.
  - b. Copying another student's work and submitting it as one's own.
  - c. Forging or otherwise altering signatures.
  - d. Giving or falsifying academic documents or materials.
2. Cheating - construed as attempting to deceive or mislead which includes, but is not limited to the following:

- a. Utilizing old tests, projects, notes or written papers.
  - b. Providing unauthorized information to a fellow student about exam content.
  - c. Receiving unauthorized aid from any source with quizzes, examinations, or other assignments.
  - d. Seeking information in an unacceptable manner during/preceding an exam or other assigned work (cheat sheet, verbal exchange, looking at another person's paper or electronic device, utilizing headphones, using textbook when the test/quiz is not an open book test/quiz, using textbook test bank etc.).
  - e. Consulting with a classmate or others when taking a computerized test.
  - f. Disregarding other specific policies and procedures outlined for a particular class.
  - g. Utilizing unapproved technology/electronic equipment during testing (i.e.: mobile devices such as cell phones, smart devices, or tablets, etc.).
  - h. Using the same Internet Protocol network address (IP address) as another student for testing without approval from the course faculty.
3. The use of any generative artificial intelligence (AI) tool, such as OpenAI's ChatGPT, Google's Bard, or any other pre-trained language model (commonly referred to as "chatbot"), must be cited for any assignment where it has been used and may not be used unless specifically allowed by your instructor. Please see your instructor or the course policies within the syllabus if you have questions.

## Student Resources

### TUTORING SERVICES

Students in need of tutoring assistance are encouraged to contact the Office of Student Tutoring located as follows:

- Morristown Campus - Student Services Building Room L107 - (423) 585-6920
- Niswonger Campus - GRNV 226 - (423) 798-7982
- Sevierville Campus - MMH Room 210 - (865) 286-2787
- Claiborne Campus - Room 123A - (423) 851-4761

Specific tutoring assistance in mathematics and writing is available in-person and online as follows:

- Morristown Campus - English Learning Lab - HUM 120 - (423) 585-6970

[Walters State English Learning Lab \(opens in new window\)](https://www.walters.edu/academics/humanities/writing-lab)  
[ws.edu/academics/humanities/writing-lab](https://www.walters.edu/academics/humanities/writing-lab)

- Morristown Campus - Mathematics Lab - MBSS 222 - (423) 585-6872

[Walters State Mathematics Learning Lab \(opens in new window\)](https://ws.edu/academics/mathematics/learning-lab)  
[ws.edu/academics/mathematics/learning-lab](https://ws.edu/academics/mathematics/learning-lab)

## TECHNOLOGY SUPPORT

Students who need assistance with computing and technology issues should contact the IET Helpdesk by phone at Morristown: (423) 318-2742; Niswonger: (423) 798-8186; or Sevierville: (865) 286-2789 or on-line access.

[Walters State Helpdesk \(opens in new window\)](https://helpdesk.ws.edu)  
[helpdesk.ws.edu](https://helpdesk.ws.edu)

## STUDENTS WITH DISABILITIES SUPPORT SERVICES

Students with disabilities must register with Student Support Services each semester in the Student Services Building, Room U134 (phone (423) 585-6892) if they need any special facilities, services, or consideration.

[Walters State Student Support Services \(opens in new window\)](https://ws.edu/student-services/disability/)  
[ws.edu/student-services/disability/](https://ws.edu/student-services/disability/)

## SUICIDE PREVENTION STATEMENT

Walters State is committed to and cares about all students. Support services are available for any person at Walters State who is experiencing feelings of being overwhelmed, hopelessness, depression, thinking about dying by suicide, or is otherwise in need of assistance. For immediate help, contact the National Suicide Prevention Lifeline by calling or texting 9-8-8 or the Trevor Lifeline at 1-866-488-7386. Veterans may also contact the Veterans Crisis Line at 1-800-273-8255 (press 1) or Text 838255.

Walters State has a relationship in place with the following community agencies to provide services (may include crisis referral services, prevention screenings, etc.):

- Cherokee Health Systems 423-586-5032
- Frontier Health 423-467-3600

## Optional Textbook Sections

**OPTIONAL Online Textbook:** To access the free OpenStax textbook go to <https://openstax.org/> , click on “Subjects” and select “Math” on the dropdown menu. Then select “Introductory Statistics” and click on the “Table of contents”.

**OPTIONAL Textbook: Fundamentals of Statistics: Informed Decisions using Data 5<sup>th</sup> edition, by Michael Sullivan, III. This is a Pearson publishing company product and can be purchased as a MyLab (with the ebook included) or as a hardback.**

<b>Topics</b>	<b>Sullivan Textbook</b>	<b>OpenStax Textbook</b>
<b>Data Collection</b>		
Introduction to the Practice of Statistics	1.1	1.1
Observational Studies versus Designed Experiments (Optional)	1.2	1.4
Simple Random Sampling	1.3	1.2
Other Effective Sampling Methods	1.4	1.2
<b>Organizing and Summarizing Data</b>		
Organizing Quantitative Data: The Popular Displays	2.2	2.2
<b>Numerically Summarizing Data</b>		
Measures of Central Tendency	3.1	2.5
Measures of Dispersion	3.2	2.7
Measures of Position and Outliers	3.4	2.1, 2.7
The Five-Number Summary and Boxplots	3.5	2.4
<b>Describing the Relation between Two Variables</b>		
Scatter Diagrams and Correlation	4.1	12.2
Least Squares Regression	4.2	12.3
The Coefficient of Determination (Optional)	4.3	12.3
<b>Probability</b>		
Probability Rules	5.1	3.1
The Addition Rule and Complements	5.2	3.2, 3.3
Independence and the Multiplication Rule	5.3	3.2, 3.3
Conditional Probability and the General Multiplication Rule	5.4	3.2, 3.3
<b>The Normal Probability Distribution</b>		
Properties of the Normal Distribution	7.1	6.1
Applications of the Normal Distribution	7.2	6.2
Assessing Normality (Optional)	7.3	



Topics	Sullivan Textbook	OpenStax Textbook
<b>Sampling Distributions</b>		
Distribution of the Sample Mean	8.1	7.1
Distribution of the Sample Proportion	8.2	
*Only: Introduction of sample proportion necessary for confidence intervals		
<b>Estimating the Value of a Parameter</b>		
Estimating a Population Proportion	9.1	8.3
Estimating a Population Mean	9.2	8.1, 8.2
<b>Hypothesis Tests Regarding a Parameter</b>		
The Language of Hypothesis Testing	10.1	9.1, 9.2
Hypothesis Tests for a Population Proportion	10.2	9.3, 9.4
Hypothesis Tests for a Population Mean	10.3	9.3, 9.4
<b>Inferences on Two Samples</b>		
Inference about Two Means: Dependent Samples	11.2	10.4
Inference about Two Means: Independent Samples	11.3	10.1

## College Policies

### STUDENTS HANDBOOK AS OFFICIAL GOVERNING DOCUMENT

This class is governed by the policies and procedures stated in the current Walters State Community College Student Handbook. All students attending Walters State Community College, regardless of the time, location, or format of the class, must abide by the rules and regulations outlined in the current Walters State Catalog/Student Handbook and the current Walters State Timetable of Classes.

[Walters State Catalog.\(opens in new window\)](https://catalog.ws.edu/)  
[catalog.ws.edu/](https://catalog.ws.edu/)

[Walters State Timetable of Classes.\(opens in new window\)](https://ws.edu/admissions/registration/)  
[ws.edu/admissions/registration/](https://ws.edu/admissions/registration/)

### PURPOSE, LIMITATIONS AND MODIFICATION OF SYLLABUS

This syllabus sets forth the expectations for the course content, work, and grading as well as expectations for student performance and conduct. The syllabus does not constitute a contract

between the student and the instructor or the College. The information contained here is subject to change at any time. The instructor reserves the right to modify this syllabus at any time with written notification to the students. Though changes are possible, it is expected that the course will be conducted as described in this syllabus for the semester/year specified in the Course Information section of the syllabus. This syllabus is only valid for the semester/year specified and course requirements are not guaranteed for future semesters.

## **COURSE GROUND RULES**

- Students must attend the first day of on-ground class or contact the instructor prior to the first class. Failure to do this may result in being dropped from the class. Excessive absences may substantially lower the course grade.
- Regular class attendance is a student's obligation for any course regardless of format. (See the Walters State Catalog/Student Handbook). If a student misses class, it is his or her responsibility to contact the instructor regarding missed assignments and/or activities and to be prepared for the next class assignment.
- Students enrolled in web courses must follow the course attendance policy defined for online attendance during the first week of class and throughout the term. Failure to do this may result in being dropped from the class during week one OR may result in the accrual of absences which may negatively impact the student's grade in the course.
- Students who have not paid fees on time and/or are not correctly registered for this class and whose names do not appear on official class rolls generated by the Walters State student information system (MyWS) will not be allowed to remain in class or receive credit for this course.
- Electronic devices must not disrupt the instructional process or college-sponsored academic activity. Use of electronic devices is prohibited unless use of the device is relevant to the activity and use is sanctioned by the faculty member in charge. Electronic devices that are not relevant to the activity or sanctioned by the faculty member in charge should be set so that they will not produce an audible sound during classroom instruction or other college-sponsored academic activity.

## **FINANCIAL AID**

Students receiving any type of financial aid or scholarship should contact the Financial Aid Office before making any changes to their schedule. Schedule changes without prior approval may result in loss of award for the current term and future terms.

All forms of student Financial Aid may be jeopardized or lost due to the lack of Satisfactory Academic Progress in one or multiple courses. Lack of Satisfactory Academic Progress may negatively impact a student's degree/certificate completion pace and further jeopardize Financial Aid eligibility.

## **CANCELLATION OF CLASSES AND ACADEMIC CONTINUITY**

For information related to the cancellation of classes due to inclement weather or other events, please check the Senators Emergency Text system or the college's Web site at:

[Walters State Homepage \(opens in new window\)](#)

[ws.edu/home/](http://ws.edu/home/)

[Walters State Facebook page \(opens in new window\)](#)

<https://www.facebook.com/WaltersState/>

[Walters State Twitter page \(opens in new window\)](#)

<https://twitter.com/waltersstate>

or call the college's student information line, 1-800-225-4770, option 1; the Sevier County Campus, (865) 774-5800, option 7; the Niswonger Campus (423) 798-7940, option 7; or the Claiborne County Campus, 423-636-6200, option 7. Also, please monitor local TV and radio stations for further announcements.

When an event or disaster interrupts the scheduled operations of the college and the ability to proceed with the academic course activities as planned, the college and your instructor may alter the course plan outlined in the syllabus. Should an event occur, students should refer to their course e-Learn pages and/or class materials previously delivered to receive guidance from their instructor. Students should continue to monitor the official college channels of communication listed in the above paragraph. If you would like to sign up for the Senators Emergency Text system, please go to the following Web site:

[Senator Emergency Text System \(opens in new window\)](#)

[ws.edu/set/](http://ws.edu/set/)

Dual Enrollment students attending on a high school campus should refer to the high school inclement weather cancellations.

## **LEARNING MANAGEMENT SYSTEM**

Brightspace (commonly known as eLearn or D2L) is the college's Learning Management System (LMS).

Brightspace is committed to accessibility by "deliver[ing] a learning experience that meets the needs of all people, regardless of age or ability." [Brightspace Accessibility Standard \(opens in new window\)](#)

Brightspace is also committed to guarding student data and privacy. [Brightspace Privacy Policy \(opens in new window\)](#)