SOUTHEASTERN LOUISIANA UNIVERSITY DUAL ENROLLMENT PROGRAM

MATHEMATICS 2410 COURSE INFORMATION SHEET/STUDENT SYLLABUS
2024-2025

COURSE TITLE: Elementary Statistics	**CREDIT:** 3 semester hours
ONLINE TEXT: *Fudamentals of Statistics,* 6th Edition, by Sullivan accessed through the *MathXL* website	**PUBLISHER:** Pearson Education

SOUTHEASTERN INSTRUCTORS OF RECORD:

Ronni Settoon*
ronni.settoon@southeastern.edu
(985)549-2175
*Southeastern Contact Person

Jamie Baham
jamie.baham-2@southeastern.edu
(985)549-2175

Craig Courville
craig.courville@southeastern.edu
(985)549-2175

Paige Foto
paige.foto@southeastern.edu
(985)549-2175

DUAL ENROLLMENT (DE) MATH 2410 is a blended course that provides high school students the opportunity to earn college credit for Elementary Statistics while still in high school. The course content is primarily delivered online through *MathXL* and/or *Canvas*. The Southeastern instructors of record develop course content and provide online instructional materials such as videos and step-by-step learning aids, ungraded instructional assignments, and ungraded exam study guides to help prepare students to complete the graded assignments and the exams, which are also provided by the Southeastern instructors of record. The high school teachers act as facilitators; they assist with student registration and enrollment, proctor exams, provide supplemental instruction, and serve as a daily learning resource for students as they assimilate course content. The Southeastern instructors of record are assigned to specific schools, and will visit the classes periodically. The students' final course grades are assigned by the instructors of record.

PREREQUISITE: Credit in MATH 1610, and eligibility for Southeastern Mathematics Dual Enrollment courses, as outlined in the Southeastern Dual Enrollment Eligibility Guidelines.

TRANSFERRING COURSE CREDIT: It is incumbent upon all students and parents to determine the transferability of Dual Enrollment course credit to other institutions. For in-state institutions, Southeastern courses can be cross-referenced using the Statewide Articulation Matrix to determine transferability (https://regents.la.gov/articulationandtransfer/).

COURSE DESCRIPTION: Mathematics 2410 is an introduction to statistical reasoning. Topics include graphical display of data, measures of central tendency and variability, sampling theory, the normal curve, standard scores, Student's T, Chi Square, and correlation techniques. The typical weekly structure of the course includes in-class instruction, computer laboratory work, and out-of-class assignments. Computer and internet access are necessary for completion of all assignments, both in and out of class. Evaluations will be based on homework, quizzes, tests, and a final exam.

CALCULATORS: Any ACT-approved calculator and the *MathXL StatCrunch* utility are allowed.

BREAKDOWN OF MATERIAL COVERED

Test	Textbook Sections Covered	Corresponding Quizzes
Unit 1	1.1, 1.2, 1.3, 1.5, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5	Quiz 1 (1.1, 1.2, 1.3, 1.5), Quiz 2 (2.1, 2.2), Quiz 3 (3.1, 3.2, 3.3), Quiz 4 (3.4, 3.5)
Unit 2	4.1, 4.2, 4.3, 5.1, 5.2, 5.3, 5.4, 5.5	Quiz 5 (4.1, 4.2, 4.3), Quiz 6 (5.1, 5.2, 5.3), Quiz 7 (5.4, 5.5)
Unit 3	6.1, 6.2, 7.1, 7.2, 7.3, 8.1, 8.2	Quiz 8 (6.1, 6.2), Quiz 9 (7.1, 7.2, 7.3), Quiz 10 (8.1, 8.2)
Unit 4	9.1, 9.2, 9.3, 10.1, 10.2, 10.3, 10.4, 11.1, 11.2, 11.3, 11.4	Quiz 11 (9.1, 9.2, 9.3), Quiz 12 (10.1, 10.2), Quiz 13 (10.3, 10.4), Quiz 14 (11.1, 11.2, 11.3, 11.4)

COURSE GRADES: Percentages earned as follows determine the course grade.

COURSE GRADE COMPONENTS

4 Unit Tests	= 40% of course grade
Comprehensive Final Exam	= 30% of course grade
14 Quizzes	= 15% of course grade
36 Homework Sets	= 15% of course grade

COURSE GRADING SCALE

A	89.50% - 100%
B	79.50% - 89.49%
C	69.50% - 79.49%
D	59.50% - 69.49%
F	below 59.50%

Homework, quiz and test scores are reported immediately by *MathXL* upon submission. The current overall course grade is available at all times through the *Results* page in *MathXL*.

WITHDRAWAL DEADLINE: The last day to withdraw from this course depends on whether the format of the course is fall-only, year-long, or spring-only. The withdrawal deadlines are given in the table below. No withdrawals from this course can be made after the date given here for each course format. Note that it is the student's responsibility to complete withdrawal forms and file them with the appropriate high school personnel.

Deadline to Withdraw	Course Format
Friday, November 1, 2024 at 12:30 p.m.	Fall-only (course ends in December)
Friday, April 4, 2025 at 12:30 p.m.	Year-long or Spring-only (course ends in April/May)

COMPLETION DEADLINE: All coursework must be completed by the deadline shown in the table below, depending on whether the format of the course is fall-only, year-long, or spring-only. These deadlines are absolute; no credit will be given for coursework completed after the date given here for each course format.

Deadline to Complete All Coursework	Course Format
Friday, December 6, 2024	Fall-only (course ends in December)
Thursday, April 17, 2025	Year-long (begins in August/September, ends in April)
Friday, May 9, 2025	Spring-only (begins in January, ends in April/May)

HOMEWORK: Homework will be assigned for each textbook section of material covered and will be completed online through *MathXL*. Nearly every homework assignment contains at least one short instructional video (1-4 minutes) that must be watched in order to access the corresponding subset of homework questions. Watching each video is worth 1 point within that homework assignment. Homework need not be completed in one sitting, but it must be completed before the due date and time. ***Students must click the "Check Answer" and "Save" buttons after each homework question in order for it to be recorded properly***. There are 36 homework assignments in total, worth 10 points each. At the end of the course, the two lowest homework scores will be dropped; the remaining 34 homework scores make up 15% of the course grade.

QUIZZES: There will be a quiz given approximately once per week, usually on material covered in 2 – 4 homework sets. Quizzes will be completed online through *MathXL*. Students will be able to submit each quiz up to 10 times, with the best score counted toward the course grade. Quizzes must be completed before the due date and time. ***Students must click the "Submit Quiz" button in order for it to be recorded properly***. There are 14 quizzes in total, worth 10 points each. At the end of the course, the two lowest quiz scores will be dropped; the remaining 12 scores make up 15% of the course grade.

TESTS: There are 4 unit tests, all completed through *MathXL*. There will be a practice assignment for each unit, available at least one week prior to the test through *MathXL*. The practice assignments cover the same topics as the tests and are intended to aid in studying for the tests; however, they are not timed and are not intended to mimic the tests. Each test is worth 100 points, and the lowest test grade is dropped at the end of the course. The remaining three grades make up 40% of the course grade. Note that all tests must be taken; if a test is skipped, it will receive a grade of 0 and be ineligible for dropping.

FINAL EXAM: The final exam is comprehensive and is completed through *MathXL*. There will be a practice assignment for the exam, available at least one week prior through *MathXL*. The practice assignment covers the same topics covered on the exam and is intended to aid in studying for the exam; however, it is not timed and is not intended to mimic the exam. The exam is worth 100 points, and the grade cannot be dropped. The final exam makes up 30% of the course grade.

DUE DATES AND MAKE-UP POLICY:
- Refer to the calendar in *MathXL* for all due dates on homework assignments, quizzes and tests. These dates will be determined and posted by your facilitator.
- Make-up work will be allowed only in the event of a valid, documented excuse. Any missed work not meeting the criteria will be assigned a grade of zero and will be ineligible for dropping.
- Contact your facilitator immediately if you miss a test or an assignment for instructions on how to proceed.
- All make-up work, including tests, must be completed upon return to school, no later than two weeks after the original due date as posted on the *MathXL* calendar for the assignment in question. Exceptions will be possible only in the event of documented extenuating circumstances, and will be considered on a case-by-case basis. Any request for consideration of special circumstances must be submitted by your facilitator to the Southeastern Louisiana University Mathematics Department within two weeks of the original due date for the assignment.
- All make-up homeworks/quizzes must be completed before the corresponding unit test is

TECHNOLOGY REQUIREMENTS AND WORKING FROM HOME: Students are expected to have reliable internet and computer access outside of class, and they will be expected to complete homework assignments and quizzes outside of class. The online material for this course can be accessed from any computer with an internet connection. Learning aids, videos, and all homework assignments, quizzes and exercises are found on *MathXL* at www.mathxl.com. Additional videos, learning aids, and course documents are found on *Canvas*. Once registered for the class site in *MathXL*, students will be able to login to the site from home with their logins and passwords. It is the student's responsibility to ensure that any computer used outside of class has the appropriate plugins for *MathXL* to function properly. This is done by clicking into the course and running the **Browser Check** found on the main page of the *MathXL* course. NOTE: It is the student's responsibility to ensure that all homework and quizzes submitted from home are properly saved on the site. Students should check their scores online to ensure that credit has been assigned upon submission of each and every assignment. If homework and quiz grades are not successfully sent from home and the deadline passes, the student may not be able to make up the work.

CLASS MEETINGS: Classes will meet at times determined by the high schools. Refer to your high school schedule for times and locations of all class meetings.

ATTENDANCE AND PARTICIPATION POLICIES:
- **Class Meetings**: Every student is expected to attend and actively participate in class.
- **Computer Work**: Every student is **required** to work on assignments for this course both in and out of class every week.
- If you wish to withdraw from this course, it is your responsibility to complete all procedures for withdrawing from a course.

TESTING: *All testing will be done in class, under strict supervision, following guidelines set forth by the Southeastern Louisiana University Mathematics Department.*

Students are expected to maintain the highest standards of academic integrity. Behavior that violates these standards is not acceptable. Actions that violate our standards of academic integrity include, but are not limited to, the following: use of unauthorized material, use of any website other than *MathXL*, use of an unauthorized calculator, communication with fellow students and/or other individuals during an examination, attempting to benefit from the work of another student, and similar behavior that defeats the intent of an examination or other class work. Cheating on examinations and plagiarism are considered very serious offenses and shall be grounds for disciplinary action as outlined in Southeastern Louisiana University's current General Catalogue. (http://www.southeastern.edu/resources/policies/policy_detail/acad_integrity.html)

TESTING RULES: Southeastern Louisiana University Mathematics testing guidelines include, but are not limited to, the following:

1. Arrive on time for testing. Each and every test/exam is only available for a certain pre-determined amount of time.
2. Your facilitator will provide you with scratch paper. No other paper is allowed.
3. All tests and final exams must be taken on school-owned Chromebooks or computers.
4. ALL belongings, including cell phones, smart watches and review materials, must be put away during testing, and should not be near your personal testing area.
5. Absolutely **no cell phones, smart watches or any other handheld communication devices** are allowed during testing. All cell phones must be turned OFF and put away out of sight. If a cell phone or smart watch is taken out and/or used during testing, it will result in a charge of academic misconduct and a score of ZERO on the test/exam (ineligible for dropping).
6. **No personal music devices** may be used during testing. Use of any such device during testing will result in a charge of academic misconduct and a score of ZERO on the test/exam (ineligible for dropping).
7. **No calculator other than an ACT-approved calculator or the calculator/***StatCrunch*** utility contained within *MathXL* may be used during testing.** Use of another unsanctioned calculator during testing will result in a charge of academic misconduct and a score of ZERO on the test/exam (ineligible for dropping).
8. **No website other than *MathXL* and no other area of *MathXL*** may be accessed during testing. Accessing any such website during testing will result in a charge of academic misconduct and a score of ZERO on the test/exam (ineligible for dropping).
9. You may **not** write down any information pertaining to test or exam questions to take with you when you leave the classroom after testing. All scratch paper will be collected before you are allowed to leave. You may not share any test/exam information with anyone who has not taken the test/exam.

COMMUNICATION POLICY: Students are expected to use their Southeastern email addresses in all correspondence with their instructors of record.

DISABILITY ACCESS STATEMENT: If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, you are required to self-identify with your facilitator and/or the appropriate office at your school. That office or your facilitator will be required to forward all relevant information and paperwork to Southeastern Louisiana University. No accommodations will be granted without documentation from your school.

TITLE IX STATEMENT: Southeastern faculty and staff are committed to supporting our students and upholding gender equity laws as outlined by Title IX. Please be aware that if you choose to confide in a faculty or staff member regarding an issue of sexual misconduct, dating violence, or stalking, we are obligated to inform the university's Title IX Coordinator or Deputy Title IX Coordinator, who can assist you in connecting with all possible resources both on- and off-campus. For students who would like to speak with someone confidentially, the Student Counseling Center (985-549-3894) and the Student Health Center (985-549-2242) are both confidential resources.

FERPA GUIDELINES: Southeastern DE students have the same rights and responsibilities as any other Southeastern student. This includes the privacy protections afforded by the Family Educational Rights and Privacy Act (FERPA). Student are free to share their progress in their courses with their parent(s) if they so choose; however, course instructors may not speak with any parent about a student's progress in the course without the student first waiving FERPA rights. Southeastern's FERPA policy can be found here:
http://www.southeastern.edu/resources/policies/policy_detail/ferpa.html.
For more information on the US Department of Education FERPA, visit the website
https://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html

APPEAL AND CHANGE OF GRADE: After a final course grade is recorded in the Records and Registration Office, a change of grade must be approved in sequence by the instructor of record/coordinator for DE math (Ms Ronni Settoon), the instructor's department head, and the academic dean of the College of Science and Technology. In the event of a contested final course grade, a student's written appeal of the grade must be submitted to the instructor within **thirty (30)** calendar days of final grades for the term being due. The grade appeal should also be submitted to Dr. Jeffrey Temple, Assistant Vice President for Academic Programs. Students wishing to appeal their final course grades should refer to the university's official Appeal and Change of Grade Policy here:
http://www.southeastern.edu/resources/policies/policy_detail/appeal_grade.html.

OTHER UNIVERSITY AND DE POLICIES: Please see the University Policy Statements posted on *MoodleDE* in the Course Information section. Note that students are **required** to complete the Course Syllabus and Policy Validation and the Online Learning Validation on *MoodleDE*. More information and other important university policies and requirements can be found at these links:
- University General Catalogue
  https://www.southeastern.edu/admin/registrar/university_catalog/index.html
- Student Handbook
  https://www.southeastern.edu/admin/stu_affairs/handbook/

For Dual Enrollment Program information, including transcript requests, password resets, academic dishonesty, student eligibility, and tuitions costs, see the program website here:
https://www.southeastern.edu/future_students/dual_enrollment/

COURSE OBJECTIVES: Upon completion of Mathematics 2410, students will be able to read and interpret graphical display of data, calculate measures of central tendency and variability, apply sampling theory, interpret the normal curve, calculate standard scores, and use correlation techniques.

DE MATHEMATICS 2410 UNIT LEARNING OUTCOMES	
Textbook Section	**Student will be able to…**
1.1 Introduction to the Practice of Statistics	Define statistics and statistical thinking; Explain the process of statistics; Distinguish between qualitative and quantitative variables; Distinguish between discrete and continuous variables; Determine the level of measurement of a variable.
1.2 Observational Studies versus Designed Experiments	Distinguish between an observational study and an experiment; Explain the various types of observational studies.
1.3 Simple Random Sampling	Define a simple random sample.
1.5 Bias in Sampling	Explain the sources of bias in sampling.
2.1 Organizing Qualitative Data	Organize qualitative data in tables; Construct bar graphs and pie charts.
2.2 Organizing Quantitative Date: The Popular Displays	Organize discrete data in tables; Construct histograms of discrete data; organize continuous data in tables; construct histograms of continuous data; draw step-and-leaf plots; Identify the shape of a distribution.
3.1 Measures of Central Tendency	Determine the arithmetic mean, median, and mode of a variable from raw data; Explain what it means for a statistic to be resistant.
3.2 Measures of Dispersion	Determine the range, standard deviation, and variance of a variable from raw data; Use the Empirical Rule to describe data that are bell-shaped; Use Chebyshev's inequality to describe any set of data.
3.3 Measures of Central Tendency and Dispersion from Grouped Data	Approximate the mean and standard deviation of a variable from grouped data and compute the weighted mean.
3.4 Measures of Position and Outliers	Determine and interpret z-scores, percentiles, and quartiles; Check a set of data for outliers.
3.5 The Five-Number Summary and Boxplots	Compute the five-number summary; Draw and interpret boxplots.
** End of Unit 1 **	
4.1 Scatter Diagrams and Correlation	Draw and interpret scatter diagrams; Describe the properties of the linear correlation coefficient; Compute and interpret the linear correlation coefficient; Determine whether a linear relation exists between two variables; Explain the difference between correlation and causation.
4.2 Least-Squares Regression	Find the least-squares regression line and use the line to make predictions; Interpret the slope and the y-intercept of the least-squares regression line; Compute the sum of squared residuals.
4.3 The Coefficient of Determination	Compute and interpret the coefficient of determination.
5.1 Probability Rules	Apply the rules of probabilities; Compute and interpret probabilities using the empirical and classical methods.
5.2 The Addition Rule and Complements	Use the Addition Rule for disjoint events; use the General Addition Rule; compute the probability of an event using the Complement Rule.
5.3 Independence and the Multiplication Rule	Identify independent events; use the Multiplication Rule for independent events; compute at-least probabilities.
5.4 Conditional Probability and the General Multiplication Rule	Compute conditional probabilities; compute probabilities using the General Multiplication Rule.
5.5 Counting Techniques	Solve counting problems using the Multiplication Rule of Counting, Permutations and Combinations.
** End of Unit 2 **	

6.1 Discrete Random Variables	Distinguish between discrete and continuous random variables; Identify discrete probability distributions; Compute and interpret the mean of a discrete random variable; Interpret the mean of a discrete random variable as an expected value; Compute the standard deviation of a discrete random variable.
6.2 The Binomial Probability Distribution	Determine whether a probability experiment is a binomial experiment; Compute probabilities of binomial experiments; Compute the mean and standard deviation of a binomial random variable; Graph binomial probability distributions.
7.1 Properties of the Normal Distribution	Use the uniform probability distribution; Graph a normal curve; State the properties of the normal curve; Explain the role of area in the normal density function.
7.2 Applications of the Normal Distribution	Find and interpret the area under a normal curve and find the value of a normal random variable.
7.3 Assessing Normality	Use normal probability plots to assess normality.
8.1 Distribution of the Sample Mean	Describe the distribution of the sample mean: normal and non-normal population.
8.2 Distribution of the Sample Proportion	Describe the sampling distribution and compute probabilities of a sample proportion.
**** End of Unit 3 ****	
9.1 Estimating a Population Proportion	Obtain a point estimate for the population proportion; Construct and interpret a confidence interval for the population proportion; Find the sample size needed for estimating a population proportion within a given margin of error.
9.2 Estimating a Population Mean	Determine t-values; State properties of Student's t-distribution; Construct and interpret a confidence interval for a population mean; Find the sample size needed to estimate the population mean within a given margin of error.
9.3 Putting it Together: Which Procedure Do I Use?	Determine the appropriate confidence interval to construct.
10.1 The Language of Hypothesis Testing	Determine the null and alternative hypotheses; Explain Type I and Type II errors; State conclusions to hypothesis tests.
10.2 Hypothesis Tests for a Population Proportion	Explain the logic of hypothesis testing; Test hypotheses about a population proportion; Test hypotheses about a population proportion using the binomial probability distribution.
10.3 Hypothesis Tests for a Population Mean	Test hypotheses about a mean and understand the differences between statistical significance and practical significance.
10.4 Putting It Together: Which Method Do I Use?	Determine the appropriate hypothesis test to perform.
11.1 Inference about Two Population Proportions	Distinguish between independent and dependent sampling; Test hypotheses regarding two proportions from independent samples; Construct and interpret confidence intervals for the difference between two population proportions; Test hypotheses regarding two proportions from dependent samples; Determine the sample size necessary for estimating the difference between 2 population proportions.
11.2 Inference about Two Means: Dependent Samples	Test hypotheses regarding matched-pairs data; Construct and interpret confidence intervals about the population mean difference of matched-pairs data.
11.3 Inference about Two Means: Independent Samples	Test hypotheses regarding the difference of two independent means; Construct and interpret confidence intervals regarding the difference of two independent means.
11.4 Putting It Together: Which Method Do I Use?	Determine the appropriate hypothesis test to perform.
**** End of Unit 4 ****	