SOUTHEASTERN LOUISIANA UNIVERSITY DUAL ENROLLMENT PROGRAM

MATHEMATICS 1630 COURSE INFORMATION SHEET/STUDENT SYLLABUS 2024-2025

COURSE TITLE:	Applied Calculus	**CREDIT:**	3 semester hours
ONLINE TEXT:	*Calculus with Applications,* 12th Edition by Lial, Greenwell, and Ritchey 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 1630 is a blended course that provides high school students the opportunity to earn college credit for Applied Calculus 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 1630 is an introduction to differential and integral Calculus designed for non-STEM majors. Topics include limits, the derivative, applications of the derivative, antiderivatives, and the definite integral. Polynomial, rational, radical, exponential, and logarithmic functions will be studied. 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: The TI-30XII (solar or battery) is required. The four-function calculator found on *MathXL* will be available on exams. NO OTHER CALCULATORS ARE ALLOWED ON TESTS, and thus are not recommended for use on homework or quizzes.

BREAKDOWN OF MATERIAL COVERED

Test	Textbook Sections Covered	Corresponding Quizzes
Unit 1	3.1, 3.2, 3.3, 3.4, 3.5	Quiz 1 (Prerequisite Skills), Quiz 2 (3.1, 3.2), Quiz 3 (3.3, 3.4, 3.5)
Unit 2	4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.2	Quiz 4 (4.1, 4.2, 4.3), Quiz 5 (4.4), Quiz 6 (4.5), Quiz 7 (5.1, 5.2)
Unit 3	5.3, 5.4, 6.1, 6.2, 6.4, 6.5	Quiz 8 (5.3, 5.4), Quiz 9 (6.1, 6.2), Quiz 10 (6.4, 6.5)
Unit 4	7.1, 7.2, 7.3, 7.4	Quiz 11 (7.1, 7.2), Quiz 12 (7.3, 7.4)

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
12 Quizzes	= 15% of course grade
23 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*. 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 23 homework assignments in total, worth 10 points each. At the end of the course, the two lowest homework scores will be dropped; the remaining 21 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 two 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 12 quizzes in total, worth 10 points each, although Quiz 1 does not count toward the course grade. At the end of the course, the two lowest quiz scores from Quizzes 2-12 will be dropped; the remaining 9 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 the TI-30XII or the calculator 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 163, students will be able to define and evaluate limits, find the derivative, use the derivative to solve application problems, find antiderivatives, and evaluate definite integrals for functions of polynomial, rational, radical, exponential, and logarithmic type.

DE MATHEMATICS 163 UNIT LEARNING OUTCOMES

Textbook Section	Student will be able to…
3.1 Limits	Evaluate one-sided limits; Evaluate limits from a graph; Evaluate limits using a table, limit rules, and properties of limits; Solve applied problems using limits.
3.2 Continuity	Find left and right limits and points of discontinuity from a graph; Find points of discontinuity from a function definition; Solve applied problems involving points of discontinuity.
3.3 Rates of Change	Find the average rate of change for a function; Find the instantaneous velocity or the rate of change; Solve applications.
3.4 Definition of the Derivative	Use previous knowledge of slope and continuity to solve problems; Use the definition of the derivative to find f' or tangent lines; Find equations for tangent lines and secant lines; Use a graph to determine qualitative information about the function and/or its derivative; Solve applications.
3.5 Graphical Differentiation	Sketch or identify the graph of the derivative from the graph of the function; Solve applications.
**** End of Unit 1 ****	
4.1 Techniques for Finding Derivatives	Find derivatives and slopes of tangent lines; Solve application problems.
4.2 Derivatives of Products and Quotients	Use the product rule; Use the quotient rule; Solve application problems.
4.3 The Chain Rule	Find compositions of functions; Use the chain rule to find derivatives; Solve application problems.
4.4 Derivatives of Exponential Functions	Find derivatives of exponential functions; Solve application problems.
4.5 Derivatives of Logarithmic Functions	Find derivatives of logarithmic functions; Answer conceptual questions; Explore logarithmic differentiation; Solve application problems.
5.1 Increasing and Decreasing Functions	Determine the intervals on which a function is increasing or decreasing using a graph; Determine critical numbers and the intervals on which a function is increasing or decreasing; Solve application problems.
5.2 Relative Extrema	Locate and identify relative extrema from a graph of f or f' and algebraically; Solve application problems.
**** End of Unit 2 ****	
5.3 Higher Derivatives, Concavity, and the Second Derivative Test	Find and evaluate higher derivatives; Find inflection points and determine concavity both from a graph of f or f' and algebraically; Find critical numbers and use the second derivative test; Solve application problems.
5.4 Curve Sketching	Sketch the graph of a function given its formula; Sketch the graph of a function that satisfies certain properties; Use the graph of f or f' to determine characteristics of f, f' and f".
6.1 Absolute Extrema	Find absolute extrema from a graph; Find absolute extrema on a closed or open interval; Solve applications.
6.2 Applications of Extrema	Solve maximization/minimization problems; Solve other applications involving extrema.
6.4 Implicit Differentiation	Use implicit differentiation to find dy/dx; Use implicit differentiation to find equations of tangent lines; Solve applications.
6.5 Related Rates	Evaluate dy/dt at a point given the relationship between x and y and the value of dx/dt; Solve applications.
**** End of Unit 3 ****	

7.1 Antiderivatives	Find indefinite integrals and solve application problems.
7.2 Substitution	Use substitution to find indefinite integrals and solve application problems.
7.3 Area and the Definite Integral	Approximate areas; Use definite integrals to find exact areas; Solve application problems.
7.4 The Fundamental Theorem of Calculus	Evaluate definite integrals; Use the definite integral to find area; Solve application problems using the definite integral.
**** End of Unit 4 ****	