DE MATHEMATICS 161
STUDENT SYLLABUS
2020-2021

COURSE TITLE: College Algebra **CREDIT:** 3 semester hours

ONLINE TEXT: *College Algebra and Trigonometry*, 11th 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

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

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

Catherine Ramsey
catherine.ramsey@southeastern.edu
(985)549-2175

MATH 161 is a hybrid course with all content delivered online through *MathXL* OR face-to-face by Southeastern faculty. The Southeastern instructors of record will develop course content and provide online instructional materials such as videos and step-by-step learning aids, ungraded instructional assignments, ungraded quizzes that are similar to exams, and 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 will act as facilitators and assist with student registration and enrollment, proctor exams as necessary, and through supplemental instruction, serve as a daily learning resource for students as they assimilate course content. The students' final course grades are assigned by the instructors of record.

PREREQUISITE: 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/master-course-articulation).

COURSE DESCRIPTION: Mathematics 161 is a study of families of functions and their graphs. Topics include linear, polynomial, rational, exponential and logarithmic functions. Functions will be used to model and solve application-based problems. 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, a final exam, and course participation.

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.

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.

BREAKDOWN OF MATERIAL COVERED		
Test	**Textbook Sections Covered**	**Corresponding Quizzes**
Unit 1 Test	1.1, 1.5, 1.2, 1.4	Quiz 1 (1.1, 1.5, 1.2), Quiz 2 (1.4)
Unit 2 Test	3.1, 3.2, 3.3, 3.4, 3.5, 2.3, 4.1, 4.3	Quiz 3 (3.1, 3.2, 3.3), Quiz 4 (3.4, 3.5), Quiz 5 (2.3, 4.1, 4.3)
Unit 3 Test	5.1, 5.2, 5.3, 5.4, 5.5, 6.1, 6.2	Quiz 6 (5.1, 5.2, 5.3), Quiz 7 (5.4, 5.5), Quiz 8 (6.1, 6.2)
Unit 4 Test	6.3, 6.4, 6.5, 6.6, 6.7, 6.8	Quiz 9 (6.3, 6.4), Quiz 10 (6.5, 6.6), Quiz 11 (6.7, 6.8)

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

Tests (18% each)	= 72% of course grade
Quizzes	= 14% of course grade
Homework	= 14% of course grade

COURSE GRADING SCALE

90% - 100%	= A
80% - 89.9%	= B
70% - 79.9%	= C
60% - 69.9%	= D
below 60%	= F

Note that your current overall course grade is available to you at all times through *MathXL*.
You may access your course grade through the *Results* page in your *MathXL* account.

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.

Deadline to Withdraw	Course Format
Friday, October 30, 2020 at 12:30 p.m.	Fall-only (course ends before semester break)
Friday, March 26, 2021 at 12:30 p.m.	Year-long or Spring-only (course ends in the spring)

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, November 20, 2020	Fall-only (course ends before semester break)
Friday, April 23, 2021*	Year-long (begins in August/September, ends in the spring)
Friday, April 30, 2021*	Spring-only (begins in January, ends in the spring)
* Spring semester deadlines are subject to change due to the evolving COVID-19 situation. Watch *MathXL* announcements, MoodleDE and email for details.	

HOMEWORK: Homework will be assigned for each textbook section of material covered. Some homework assignments will require you to watch a video and take a short quiz on the video before you are allowed to access the homework problems. Homework need not be completed in one sitting, but it must be completed before the due date and time. ***You must click the "Check Answer" and "Save" buttons after each homework question in order for it to be recorded properly***. Each homework assignment is worth 10 points, and there is a total of 22 homework assignments. At the end of the semester, the two lowest homework scores will be dropped; the remaining 20 homework scores make up 14% of the course grade.

QUIZZES: There are two types of quizzes: video check quizzes and regular quizzes. The video check quizzes are short quizzes designed to verify that you have watched the required videos. The regular quizzes cover the material covered in the course, according to the breakdown given above. Regular quizzes occur approximately once per week, usually on material covered in two or three homework sets. You will be able to submit all quizzes up to 10 times, with the best score counted toward your course grade. All quizzes must be completed before the due date and time. ***You must click the "Submit Quiz" button in order for it to be recorded properly***. The video check quizzes are very short, worth only a few points each, and make up 1% of the course grade. Each regular quiz is worth 10 points, and there is a total of 11 regular quizzes. At the end of the semester, the two lowest regular quiz scores will be dropped; the remaining 9 regular quiz scores along with all of the video check quiz scores make up 14% of the course grade.

TESTS: There are 4 tests, one per unit, all subject to the testing rules given below. There will be a practice test available at least one week prior to each test. The practice tests mimic the actual tests in format, length and level of difficulty. They are designed to review the important topics from each unit in order to aid the student in studying for tests. While they do cover all of the same concepts as the regular tests, they do not contain the same problems. Each test is worth 100 points, and each test counts for 18% of the course grade.

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.

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 accompanied by a valid, documented excuse will be assigned a grade of zero.
- Contact your facilitator immediately if you miss a test or an assignment. He/she will instruct you 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 in question.
- All make-up homeworks, quizzes and/or supplements must be completed before the corresponding unit test is made up.

WORKING FROM HOME: The online material for this course can be accessed from any computer with an internet connection. Internet access and the appropriate plug-ins are required in order to use the website where the notes, homework, and exercises are found. The website for this course is www.mathxl.com. Once you have registered for your class site in *MathXL*, you will be able to login to the site from home with your login and password. Click into your course and run the **Browser Check** found on the main page of your course to ensure the correct setup on your own computer. NOTE: Ensure that all homework and quizzes submitted from home are properly saved on the site. You should check your 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, you may not be able to make up the work.

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 your test. Each and every test 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 is taken out and/or used during a test, it will result in a charge of academic misconduct and a score of ZERO on the test.
6. **No IPODS or other music devices** may be used during tests. Use of any such device during a test will result in a charge of academic misconduct and a score of ZERO on the test.
7. Any ACT-approved calculator and the *MathXL* StatCrunch utility are allowed for use during testing. No other devices or websites are allowed.
8. **No website other than *MathXL* and no other area of *MathXL*** may be accessed during tests. Accessing any such website during a test will result in a charge of academic misconduct and a score of ZERO on the test.
9. You may **not** write down any information pertaining to test questions to take with you when you leave the classroom after an exam. All scratch paper will be collected before you are allowed to leave. You may not share any test information with anyone who has not taken the test.

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 (Ms. 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. For more information about grade appeals, see http://www.southeastern.edu/resources/policies/policy_detail/instruction_practices.html.

COURSE OBJECTIVES: Upon completion of Mathematics 161, students will be able to: solve linear, polynomial, rational, exponential and logarithmic equations; perform operations with linear, polynomial, exponential and logarithmic functions; analyze the graphs of linear, polynomial, exponential and logarithmic functions; use linear, polynomial, rational, exponential and logarithmic functions to model and solve application-based problems.

DE MATHEMATICS 161 UNIT LEARNING OUTCOMES	
Textbook Section	**Student will be able to…**
1.1 Linear Equations	Solve linear equations, equations that lead to linear equations and problems that can be modeled by linear equations.
1.5 Solving Inequalities	Use interval notation; Solve inequalities, combined inequalities and applications involving inequalities.
1.2 Quadratic Equations	Factor a second-degree trinomial of the form $x^2 + Bx + C$ or $x^2 + Bx + C$ where A is not equal 1; Factor using the best strategy; Solve quadratic equations by factoring, by the square root method, or by using the quadratic formula.
1.4 Radical Equations; Equations Quadratic in Form; Factorable Equations	Solve radical equations and equations quadratic in form; Solve equations by factoring; Factor out the GCF of a polynomial's terms; Factor polynomials by grouping.
3.1 Functions	Determine whether a relation represents a function; Find the value of a function; Find the domain of a function defined by an equation; Form the sum, difference, product, and quotient of two functions; Find the difference quotient of a function.
3.2 The Graph of a Function	Obtain information from or about the graph of a function; Identify the graph of a function; Solve applications involving graphs of functions.
3.3 Properties of Functions	Use a graph to determine where a function is increasing, decreasing, or constant; Use a graph to locate maxima and minima; Use a graph to determine if a function is even or odd; Identify even and odd functions from their equations.
3.4 Library of Functions	Graph the functions listed in the library of functions.
3.5 Graphing Techniques: Transformations	Graph functions using multiple transformations; Graph functions using compressions and stretches; Graph functions using vertical and horizontal shifts; Graph functions using reflections about the x-axis and the y-axis.
2.3 Lines	Calculate and interpret the slope of a line: Identify the graph of a line with a given slope; Use a point and the slope of a line to graph a line or find additional points; Find the equation of a line given two points; Find equations of parallel or perpendicular lines; Write the equation of a line given a point and the slope; Identify the slope and y-intercept of a line from its equation and graph the line; Find the intercepts of a line given its equation and graph the line; Solve applications involving lines and linear equations.
4.1 Properties of Linear Functions and Linear Models	Graph linear functions and determine their characteristics; Use average rate of change to identify linear functions; Solve linear equations and inequalities based on graphs; Solve applications involving linear functions and linear models.
4.3 Quadratic Functions and Their Properties	Graph a quadratic function using transformations; Graph a quadratic function using its vertex, axis of symmetry, and intercepts; Graph and analyze quadratic functions; Find a quadratic function given its vertex and one other point; Find the maximum or minimum value of a quadratic function; Solve applications involving quadratic functions.
5.1 Polynomial Functions	Use given zeros to write and analyze polynomial functions; Identify polynomial functions and their degree; Graph polynomial functions of degree 4 or 5 using transformations; Describe the end behavior of the graph of a polynomial function; Given a graph, identify a polynomial function and construct the polynomial; Identify the real zeros of a polynomial function and their multiplicity.
5.2 Graphing Polynomial Functions; Models	Analyze polynomials and create graphs, either by hand or by graphing utility.
5.3 Properties of Rational Functions	Find the domain of rational functions; Find the domain, range, asymptotes and intercepts from the graph of a rational function; Graph rational functions using transformations; Find all asymptotes of a given rational function.
5.4 The Graph of a Rational Function	Analyze the graph of a rational function.
5.5 Polynomial and Rational Inequalities	Solve polynomial and rational inequalities graphically; Solve polynomial and rational inequalities algebraically.
6.1 Composite Functions	Evaluate composite functions; Form composite functions and find their domains.
6.2 One-to-One Functions; Inverse Functions	Determine whether a function is one-to-one; Find the inverse of a function defined by an equation; Obtain the graph of the inverse function from the graph of the function; Determine properties of the inverse of a function.

6.3 Exponential Functions	Identify linear and exponential functions and find their equations; Graph exponential functions; Solve exponential equations; Find the equations of exponential functions; Solve applications involving exponential functions.
6.4 Logarithmic Functions	Change exponential statements to logarithmic statements and vice versa; Evaluate logarithmic expressions; Determine the domains of logarithmic functions; Graph logarithmic functions; Solve logarithmic equations; Solve applications related to logarithmic functions.
6.5 Properties of Logarithms	Work with the properties of logarithms; Write logarithmic expressions as a sum or difference of logarithms; Write logarithmic expressions as a single logarithm.
6.6 Logarithmic and Exponential Equations	Solve logarithmic and exponential equations.
6.7 Financial Models	Determine the future value or the present value of a lump sum of money; Solve applications involving financial models; Determine the rate of interest or time required to double or triple lump sums of money.
6.8 Exponential Growth and Decay Models; Newton's Law; Logistic Growth and Decay Models	Find equations of populations that obey the law of uninhibited growth or the law of decay.