DE MATHEMATICS 162
STUDENT SYLLABUS
2019 – 2020

COURSE TITLE: Plane Trigonometry **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 162 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: Credit in MATH 161, 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/master-course-articulation).

COURSE DESCRIPTION: Mathematics 162 is a study of trigonometric functions. Topics include the trigonometric functions and their graphs, inverse trigonometric functions, trigonometric identities and trigonometric equations. Trigonometry and trigonometric functions will be used to model and solve real world applications. 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, supplemental in-class paper assignments, 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	7.1, 7.2, 7.3, 7.4, 7.5	Quiz 1 (7.1, 7.2), Quiz 2 (7.3, 7.4), Quiz 3 (7.5)
Unit 2 Test	7.6, 7.7, 7.8, 8.1, 8.2	Quiz 4 (7.6, 7.7, 7.8), Quiz 5 (8.1, 8.2)
Unit 3 Test	8.3, 8.4, 8.5, 8.6	Quiz 6 (8.3, part 1), Quiz 7 (8.3, part 2), Quiz 8 (8.4), Quiz 9 (8.5, 8.6), Quiz 10 (8.6)
Unit 4 Test	9.1, 9.2, 9.3, 9.4, 10.4	Quiz 11 (9.1, 9.2, 9.3), Quiz 12 (9.4, 10.4)

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

4 Tests (17% each)	= 68% of course grade
Supplemental Paper Assignments	= 12% of course grade
Quizzes	= 10% of course grade
Homework	= 10% 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 listed 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. 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 20 homework assignments. At the end of the semester, the two lowest homework scores will be dropped; the remaining 18 homework scores make up 10% of the course grade.

QUIZZES: There will be a quiz given approximately once per week, usually on material covered in two homework sets. You will be able to submit each quiz up to 10 times, with the best score counted toward your course grade. These must also be completed before the due date and time. ***You must click the "Submit Quiz" button in order for it to be recorded properly***. Each quiz is worth 10 points, and there is a total of 12 quizzes. At the end of the semester, the two lowest quiz scores will be dropped; the remaining 10 scores make up 10% of the course grade.

SUPPLEMENTAL PAPER ASSIGNMENTS: There are 3 supplemental paper assignments, worth 50 points each. These assignments will be done in class and will be monitored by your facilitator. The dates will be given to you by your facilitator. The scores on these three assignments make up 12% 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, and are intended to aid the student in studying for the tests. Each test is worth 100 points, and each test counts for 17% 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 162, students will be able to: interpret and use trigonometric functions and their graphs; interpret and use inverse trigonometric functions; use basic trigonometric identities; prove trigonometric identities; solve trigonometric equations; use trigonometric functions to model and solve real world applications.

DE MATHEMATICS 162 UNIT LEARNING OUTCOMES	
Textbook Section	**Student will be able to…**
7.1 Angles and Their Measure	Determine the measure of an angle in degrees or radians; Draw an angle with a given measure; Convert an angle measure from degrees to radians or from radians to degrees; Use the formula for the arc length of a circle; Use the formula for the area of a sector of a circle; Solve applications involving angles and their measures.
7.2 Right Triangle Trigonometry	Find the values of trigonometric functions of acute angles; Find the values of the remaining trigonometric functions, given the value of one or two of them; Use the Fundamental Identities and Complementary Angle Theorem.
7.3 Computing the Values of Trigonometric Functions of Acute Angles	Find the exact values of trigonometric functions; Use a calculator to approximate values of trigonometric functions of acute angles; Solve applications involving the values of trigonometric functions of acute angles.
7.4 Trigonometric Functions of Any Angle	Find trigonometric function values given points on terminal sides of angles in standard position; Use coterminal angles to find exact values of trigonometric functions; Name the quadrant in which a given angle lies; Find reference angles; Use reference angles to find exact values of trigonometric functions; Find exact values of trigonometric functions, given a value and information about the quadrant.
7.5 Unit Circle Approach; Properties of the Trigonometric Functions	Find the values of trigonometric functions using the unit circle or a circle of radius r; Use the periodic properties to find the exact values of trigonometric functions; Use even-odd properties to find the exact values of trigonometric functions; Use periodic and even-odd properties to evaluate trigonometric expressions; Identify the domain and range of trigonometric functions and whether they are even, odd, or neither.
7.6 Graphs of the Sine and Cosine Functions	Determine the properties, amplitude, and period of sinusoidal functions; Graph sinusoidal functions using amplitude, period, and key points; Graph functions of the form y=Asin(wx) and y=Acos(wx) using transformations; Find an equation for a sinusoidal graph; Solve applications involving sine and cosine functions.
7.7 Graphs of the Tangent, Cotangent, Cosecant and Secant Functions	Use graphs of trigonometric functions to determine characteristics of the function; Graph functions of the form y=Atan(wx)+B and y=Acot(wx)+B; Graph functions of the form y=Acsc(wx)+B and y=Asec(wx)+B
7.8 Phase Shift; Sinusoidal Curve Fitting	Graph functions of the form y=Asin(wx-theta)+B or y=Acos(wx-theta)+B; Find an equation for a sinusoidal function from properties or data; Graph other trigonometric functions using amplitude, period, and phase shift; Solve applications involving sinusoidal functions.
8.1 The Inverse Sine, Cosine and Tangent Functions	Find the exact value of an inverse sine, cosine, or tangent function; Find an approximate value of an inverse sine, cosine, or tangent function; Use properties of inverse functions to find exact values of certain composite functions; Solve applications involving inverse sine, cosine, and tangent functions.
8.2 The Inverse Trigonometric Functions (Continued)	Find the exact values of expressions involving the inverse sine, cosine, and tangent functions; Find the exact values of expressions involving the inverse secant, cosecant, and cotangent functions.
8.3 Trigonometric Equations	Solve equations involving a single trigonometric function; Solve trigonometric equations using a calculator; Solve trigonometric equations quadratic in form; Solve trigonometric equations using fundamental identities; Solve trigonometric equations with half-angles and double-angles.
8.4 Trigonometric Identities	Use algebra to simplify trigonometric expressions; Establish trigonometric identities.
8.5 Sum and Difference Formulas	Use sum and difference formulas to find exact values; Use sum and difference formulas to establish identities; Use sum and difference formulas involving inverse trigonometric functions.
8.6 Double-angle and Half-angle Formulas	Use double-angle and half-angle formulas to find exact values; Use double-angle and half-angle formulas to establish identities; Solve trigonometric equations using identities; Solve trigonometric equations with half-angles and double-angles.
9.1 Applications Involving Right Triangles	Solve right triangles; Solve applications involving right triangles.
9.2 The Law of Sines	Solve SAA or ASA triangles; Solve SSA triangles; Solve applications using the Law of Sines.
9.3 The Law of Cosines	Solve SAS triangles; Solve SSS triangles; Solve applications involving the use of the Law of Cosines.
9.4 Area of a Triangle	Find the area of SAS triangles; Find the area of SSS triangles; Find the area of a triangle given two angles and a side; Solve applications related to finding the area of triangles.
10.4 Vectors	Graph vectors; Find a scalar multiple and the magnitude of a vector; Find a position vector; Add and subtract vectors algebraically; Find unit vectors; Find a vector from its direction and magnitude; Model with vectors.