



MATH 1113 Pre-Calculus COURSE SYLLABUS Spring Semester 2016

Semester: Spring 2016

Course Title: Pre-Calculus

Course Number: MATH 1113

Credit Hours/ Minutes: 3 / 2250

Class Location: Room 323

Class Meets: 2:30-3:45 – M,W

CRN: 40120

Instructor: Dr. Bee Hart

Office Hours: : T,R – 2:30-4:00

Office Location: Room 324

Email Address: bhart@southeasterntech.edu

Phone: 912-538-3131

Fax Number: 912-538-3156

Tutoring Hours: See office hours above or by appointment

REQUIRED TEXT: Blitzer, R. Precalculus (4th edition). New Jersey: Prentice Hall 2010. This textbook package includes the required MATHXL Access Code, the Student Solutions Manual, the CD Lecture Series, and the Prentice Hall Tutor Center. Students must either purchase the package or the textbook and a standalone mathxl access code.

REQUIRED SUPPLIES & SOFTWARE: **Supplies:** 3 ring binder notebook, computer access, loose-leaf paper, pencils, notebook, highlighter, graphing calculator (TI-83+ preferred), and graph paper. **Software:** The text may come with Web Assign software. The instructor will guide the class if the software is used for the class.

COURSE DESCRIPTION: **MATH 1113 – Pre-Calculus** (3 credit hours, 2250 minutes)

Prepares students for calculus. The topics discussed include an intensive study of polynomial, rational, exponential, logarithmic, and trigonometric functions and their graphs. Applications include maximum and minimum problems, exponential growth and decay.

MAJOR COURSE COMPETENCIES/OUTLINE:

1. Define a logarithm and use logarithmic properties
2. Define and graph a logarithmic function; find domain and range; and solve applications
3. Define, determine domain and range, and graph the six circular functions
4. Define the six trigonometric functions; use to solve right/oblique triangles and solve applications
5. Use trigonometric identities to prove other identities and work with the inverse trig. Functions
6. Define and work with vectors
7. Define and work with complex numbers
8. Define basic concepts related to functions and their graphs
9. Graph a function using a graphing calculator
10. Define and graph linear functions and solve applications involving them
11. Define and graph quadratic functions and solve applications involving them
12. Perform operations involving functions including finding the inverse of a functions
13. Define and graph polynomial functions including end behavior and zeros (real and imaginary)
14. Define and graph rational functions including basic characteristics and transformations
15. Define, evaluate, and graph exponential functions and use them to model phenomena

PRE-REQUISITE: Regular Admission and MATH 1111 with C or better

GENERAL EDUCATION CORE COMPETENCIES: STC has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

All students pursuing a degree, a diploma, or a Technical Certificate of Credit with a General Education component will be required to pass the General Education Competency Exams prior to graduation.

ATTENDANCE GUIDELINES: Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and also interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of F and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an F in a course.

SPECIAL NEEDS: *Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact Jan Brantley, Room 1208 Swainsboro Campus, 478-289-2274, or Helen Thomas, Room 108 Vidalia Campus, 912-538-3126, to coordinate reasonable accommodations.*

SPECIFIC ABSENCES: Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

PREGNANCY: Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with the Special Needs Office. Swainsboro Campus: Jan Brantley, Room 1208, (478) 289-2274 -- Vidalia Campus: Helen Thomas, Room 108, (912) 538-3126.

WITHDRAWAL PROCEDURE: Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of 'F' being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must also speak with a representative of the Financial Aid Office to determine any financial penalties that may be accessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

MAKEUP GUIDELINES (Tests, quizzes, homework, projects, etc...): A grade of zero will be assigned for any missed assignment regardless of the reason.

ACADEMIC DISHONESTY POLICY: The STC Academic Dishonesty Policy states *All forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline.* The policy can also be found in the *STC Catalog and Student Handbook.*

Procedure for Academic Misconduct

The procedure for dealing with academic misconduct and dishonesty is as follows:

--First Offense--

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

--Second Offense--

Student is given a grade of "WF" for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

--Third Offense--

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION: Southeastern Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, disabled veteran, veteran of Vietnam Era or citizenship status, (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

GRIEVANCE PROCEDURES: Grievance procedures can be found in the Catalog and Handbook located on STC's website.

ACCESS TO TECHNOLOGY: Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the STC website at www.southeasterntech.edu.

GRADING POLICY

- 25% Math XL
- 10% Quizzes
- 40% Tests
- 25% Comprehensive Final Exam

GRADING SCALE

- A: 90-100
- B: 80-89
- C: 70-79
- D: 60-69
- F: 0-59

TCSG GUARANTEE/WARRANTY

STATEMENT: *The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.*

TUTORING OPTIONS – You Have So Many Options!!

- 1. Mathxl Provides a Study Plan Button which will allow you to work examples from each section of your book. It will provide hints and explanations. A few of my students have used this and have bragged about it. You must register for mathxl using your mathxl access code and my course id code before you can use this option. If your instructor does not use Mathxl, you can just use www.interactmath.com which looks the same as mathxl.**
- 2. We have tutoring hours through an online program called SmartThinking. This connects you with a real online tutoring. We will have to get you a username and password through the General Education Dean of Instruction, Ms. Cheryl West.**
- 3. Your textbook provides a tutorial website for your specific book at www.interactmath.com. The problems will look almost exactly like the Mathxl Study Plan problems. If your instructor requires mathxl, you should use the Study Plan instead.**
- 4. STC provides tutoring. The tutors are usually campus instructors who have designated specific times they are available for tutoring.**
- 5. You may know a math tutor. As long as you are just getting help with homework and a basic learning of the material, it is fine to use your own tutor. It is not appropriate to use a tutor on things like quizzes and tests. Your complete honesty is expected. Academic Dishonesty is a serious offense. You do not want to be associated with cheating in any way. Your career could be at stake if you give in to the temptation.**
- 6. We often have volunteer tutors within our classes. This option varies on the availability of the volunteer tutors.**

Math 1113 Pre-calculus – Assignment Schedule

HOURS/MINUTES 37.5hr = 2250min	CHAPTER	OBJECTIVES	ASSIGNMENTS	COMP.
1-3	1	<p>First day of class/Introduction to Course—Syllabi, Outline, Rules, Regulations Coverage; Completion of Forms</p> <p>1.1 Graphs and Graphing Utilities</p>	<p>Specific Homework Problems will be announced during class and and posted on MatXL. The use of a technology program called WebAssign will be considered and assigned if needed.</p> <p>Additional websites Include Purplemath and Algebasics.</p> <p>Set 1.1 1-46 EOO</p>	<p>8, 9,10 *a,b,d</p>
		<p>1.2 Basics of Functions and their graphs</p> <p>1.3 More on Functions and their graphs</p> <p>1.4 Linear Functions and their slopes</p>	<p>Set 1.2 1-92 EOO</p> <p>Set 1.3 1-82 EOO</p> <p>Set 1.4 1-72 EOO</p>	<p>8, 9,10 *a,b,c,d</p>
		<p>1.5 More on slope</p> <p>1.6 Transformations of functions</p> <p>1.7 Combinations of functions; Composite functions</p>	<p>Set 1.5 1-20 EOO</p> <p>Set 1.6 1-118 EOO</p> <p>Set 1.7 1-80 EOO</p>	<p>8, 9,10 *a,c,d</p>
		<p>1.8 Inverse Functions</p> <p>1.9 Distance and Midpoint;Circles</p>	<p>Set 1.8 1-52 EOO</p> <p>Set 1.8 1-64 EOO</p>	<p>8, 9,10, 12 *a,b,c,d</p>
		<p>Review Chapter 1</p>	<p>Pages 269-74</p>	<p>8, 9,10, 12 *a,b,c</p>
4-9	2	<p>2.1 Complex Numbers</p> <p>2.2 Quadratic Functions</p>	<p>Set 2.1 1-50 EOO</p> <p>Set 2.2 1-44 EOO</p>	<p>11 *a,b,c,d</p>

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HOURS/MINUTES 37.5hr = 2250min	CHAPTER	OBJECTIVES	ASSIGNMENTS	COMP.
		2.3 Polynomial Functions and their Graphs	Set 2.3 1-64 EOO	13 *a,b,d
		2.4 Dividing Polynomials	Set 2.4 1-46 EOO	7 *a,b,c,d
		2.5 Zeros of Polynomial Functions	Set 2.5 1-52 EOO	13 *a,b,c,d
		2.6 Rational Functions 2.7 Polynomial and Rational Inequalities	Set 2.6 1-78 EOO Set 2.7 1-60 EOO	14 *a,c,d
		Chapter 2 Review	Pages 381-4	
10-14	3	3.1 Exponential Functions 3.2 Logarithmic Functions and Their Graphs	Set 3.1 1-64 EOO Set 3.2 1-100 EOO	15 *a,b,d
		3.3 Properties of Logarithms	Set 3.3 1-82 EOO	1, 2 *a,b,c,d
		3.4 Exponential and Logarithmic Equations	Set 3.4 1-90 EOO	1, 2, 15
		3.5 Logarithmic Models	Set 3.5 1-58 EOO	1, 2 *a,b,c,d
		Chapter 3 Review	Page 453-6	
15-20	4	Trigonometry Introduction 4.1 Radian and Degree Measure	Set 4.1 1-76 EOO	3 *a,d
		4.2 Trigonometric Functions: The Unit Circle	Set 4.2 1-70 EOO	3 *a,b,c,d
		4.3 Right Triangle Trigonometry	Set 4.3 1-42 EOO	4 *a,b,c
		4.4 Trigonometric Functions of Any Angle	Set 4.4 1-86 EOO	4 *a,b,c,d
		4.5 Graphs of Sine and Cosine Functions	Set 4.5 1-60 EOO	3,4 *a,b,c,d
		4.6 Graphs of Other Trigonometric Functions	Set 4.6 1-44 EOO	3,4 *a,b,c,d
		4.7 Inverse Trigonometric Functions	Set 4.7 1-74 EOO	3,4,5

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				*a,b,c,d
		4.8 Applications of Trig Functions	Set 4.8 1-62 EOO	3, 4 *a,c,d
		Chapter 4 Review	Pages 580-2	
21-24	5	5.1 Verifying Trigonometric Identities	Set 5.1 1-60 ALL	3, 4, 5 *a,b,c,d
		5.2 Sum and Difference Formulas 5.3 Double-Angle, Power-Reducing, and Half- Angle formulas	Set 5.2 1-68 EOO Set 5.3 1-78 EOO	3, 4, 5 *a,b,c,d
		5.4 Sum and Difference Formulas	Set 5.4 1-38 EOO	3, 4, 5 *a,b,c,d
		5.5 Trigonometric Equations	Set 5.5 1-116 EOO	3, 4, 5 *a,b
		Chapter 5 Review		
25-28	6	6.1 Law of Sines	Set 6.1 1-38 EOO	3, 4, 5 *a,b,c,d
		6.2 Law of Cosines	Set 6.2 1-30 EOO	3, 4, 5 *a,b,c,d
		6.5 Trigonometric Form of a Complex Number	Set 6.5 1-76 EOO	6 *a,b,c,d
29-34		6.6 Vectors in the Plane	Set 6.6 1-52 EOO	6 *a,b,c,d
		6.7 Vectors and Dot Product	Set 6.7 1-50 EOO	6 *a,b,c,d
35-37.5		Review/Final Exam		All

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13. Define and graph polynomial functions including end behavior and zeros (real and imaginary)
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15. Define, evaluate, and graph exponential functions and use them to model phenomena

****General Core Educational Competencies**

- a) The ability to utilize standard written English. (i.e. Application Problems requiring written answers)
- b) The ability to solve practical mathematical problems. (i.e. Entire Course)
- c) The ability to read, analyze, and interpret information. (i.e. Entire Course, Applications)
- d) The ability to utilize basic computer skills. (i.e. Entire Course, Text Software, Blackboard – powerpoints, videos, etc...)

******Instructor reserves the right to change the lesson plan as necessary.**

