574 New London Turnpike, Norwich, CT 06360 - 860-915-2000 (main phone number)
www.trcc.commnet.edu or www.threerivers.edu

Syllabus (Fall 2019)

MAT186 – Precalculus (EB)
CRN 33700 – Sec. EEB – 4 credits
Tues. and Thur., 8:30 a.m. – 10:15 a.m.
NL Facility 802 Room AB300

COURSE INFORMATION

- **Instructor Information**
  Mrs. Mary Anne Stewart
  Email: mstewart@trcc.commnet.edu
  Office Hours at E.B.: **Tues. and Thurs. before and after class.**
  Office Hours at TRCC: **Mon. and Wed. 11:00 – 1:00 p.m.** at TRCC, adjunct office D207
- **Course Description**
  Prerequisite: MAT* K172 College Algebra with a "C" grade or better or appropriate placement.

  The course prepares students for the study of calculus. Students will expand their knowledge of algebraic and some early transcendental functions, and develop skills required for higher level math courses. Topics include: trigonometric functions, trigonometric identities and applications, and introductory sequences and series.

- **Required Materials**

  Textbook

  Precalculus: Graphs & Models, 1st Ed., Coburn & Herdlick, McGraw Hill, 2012.
  ISBN 9780073519531. *(This class does NOT use software, i.e. ALEKS, MyLab, etc.)*

  Supplies

  - One (1) three-ring notebook and paper for note-taking and homework.
  - Graph paper *(free graph paper at www.mathbits.com)*
  - Pencils and erasers. Do not use pens on quizzes or exams.
  - Graphing calculator. (TI-83 and TI-84) Calculators associated with any type of communications device cannot be used on quizzes or exams.

- **Learning Outcomes**

  Upon successful completion of this class a student should be able to:

  1) Evaluate a function at any given value of x.
  2) Find the domain and range of a function.
  3) Graph the functions, using tables and transformations.
  4) Graph piece-wise functions.
  5) Determine whether the functions are even, odd, or neither.
  6) Identify local maxima, minima on the graphs of functions and intervals of increase/decrease.
  7) Model with functions.
  8) Combine functions and find their compositions and inverse.
  9) Find the angle measure in radians and degrees.
  10) Find all trigonometric ratios in a right triangle.
  11) Find trigonometric functions of real numbers using unit circle approach.
  12) Find the values of trigonometric functions on the coordinate plane from the information given.
  13) Graph the trigonometric functions, apply transformations of graphs.
  14) Model the real life problem with a trigonometric function.
  15) Use the trigonometric identifies, addition, subtraction, double, half-angle formulas.
  16) Evaluate inverse trigonometric functions.
  17) Solve trigonometric equations.
  18) Solve right triangles.
  19) Use the Law of Sines and the Law of Cosines to solve a triangle.
  20) Plot the complex numbers on nthe complex plane.
  21) Write the trigonometric form of a complex number.
  22) Use De Moivre's theorem.
  23) Work with sequences, series, and factorials.
  24) Work with arithmetic and geometric sequences.
  25) Model real-life problems with arithmetic and geometric sequences.

GRADING

- **Methods of Evaluation**

  - **Quizzes** (highest 10 quiz grades) ..... **20% of course grade**
    *Quizzes will be given at the beginning of each **Tuesday** class and will consist of vocabulary and/or problems similar to homework problems from the previous week.*
    ***No** makeups. **No** retakes. If a student arrives late, the quiz cannot be made up.*

  - **Project Problems** ..... **20% of course grade**
    *Weekly project problems will be distributed each **Tuesday** and are due the following **Tuesday** at the beginning of class. Students may work together in small groups and receive help from tutors. Ten points will be deducted from each project turned in after the due date/time up to one week.*

  - **Two (2) Tests** (each test is 20% of course grade) ..... **40% of course grade**
    ***No** makeup. **No** retake. If a student does not take a test, the student's grade on the final exam will be used in its place.*

  - **Final Exam – Thur., Dec. 12 at 8:30 a.m.** ..... **20% of course grade**
    The final exam is cumulative, required and will only be given on this date and time.
    ***No** makeup. **No** retake.*

  - **Notebook, Homework**
    - *Keep all class materials in your three-ring notebook through the end of the semester.*
    - *For each hour in class, students spend approximately 2–3 hours reading, studying, and working on homework. Students should schedule at least 8–12 hours per week for assignments and studying outside of class meeting times.*
    - *Contact Mrs. Stewart or TASC for help with homework and projects.*
    - *If a student misses a class, it is the student's responsibility to request any missed work or assignments before the next class.*
    - *Homework and notebooks will be reviewed each **Tuesday**. Homework will not be collected or will not be graded. It is up to the student to keep up with the homework and to ask for help.*

- **Grading Policies**

  - **Late Work**: Late work will be accepted up to one week past the due date and time, and, ten (10) points will be deducted from the grade.
  - **Missed Work Make-Up Policy:** Stated above under "Methods of Evaluation".
  - **Extra Credit:** Determined at the sole discretion of the instructor for the class only.

- **Letter Grade Equivalents**

Letter Grade	Points
A	94–100
A–	90–93
B+	87–89
B	83–86
B–	80–82
C+	77–79
C	73–76
C–	70–72
D+	67–69
D	63–66
D–	60–62
F	below 60
UF	is a grade notation that is entered by the faculty with a date of last participation, which immediately converts to a grade of "F" and appears as such on the student's transcript.

FREE TUTORING at TASC (Tutoring and Academic Success Center)

- TASC is located in room C-117, next to the Library/Learning Resource Center.
- TASC Phone: 860-215-9082
- TASC Email: TASC@trcc.commnet.edu
- Weekly appointments
- Computer Lab, videos, textbooks and more!

Classroom Policies

- **Attendance:** Students should attend all classes, arrive on time, and remain for the entire class. Students who regularly arrive late, leave class early, and/or walk in and out of class cause a distraction which disrupts the class environment and the learning process.

- **Communication:** All communication will occur by email. Please make sure that you check your TRCC email or set it up to forward to another account. Check your email regularly to be informed of any changes in schedule or other important updates or information. Important class announcements and updates will be conveyed via email and as an announcement in BlackBoard.

- **Class Cancellation:**

  If class is cancelled by the instructor, you will be notified as soon as is reasonably possible. An assignment will be emailed to the students.

- **Withdrawal Policy:** You may withdraw from this class any time up to and including **Tuesday, Nov. 5** and you will receive a W grade on your transcript. However, you must complete a withdrawal form in the Registrar's Office at the time of withdrawal; *if you merely stop attending classes you will be assigned a grade of F*. Any eligibility for refund of tuition is based on the date that the registrar receives the withdrawal.

- **Academic Integrity:** The effective operation of any organization is dependent on the honesty and goodwill of its members. In an organization devoted to the pursuit of knowledge, acting with integrity is essential to effective teaching and learning. Furthermore, academic dishonesty erodes the legitimacy of every degree awarded by the College. To emphasize the importance of academic integrity, Three Rivers Community College adheres to the Student Code of Conduct and Discipline Policy, as provided by the Connecticut State Colleges and Universities (CSCU) - Board of Regents for Higher Education. (Please refer to BlackBoard for the complete statement.)

  Some of the behaviors that will be considered cheating are:
  - Communicating with another student during a quiz or exam.
  - Copying material from another student during a quiz or exam.
  - Allowing another student to copy from your quiz or exam.
  - Use of unauthorized notes or books during a quiz or exam.
  - Providing or receiving a copy of a quiz or exam used in the course.
  - Use of a cell phone, pager, or similar to transmit information during a quiz or exam.

Classroom Policies, continued

- **Student Behavior:**
  - Be respectful to each person.
  - Silence/turn off and put away all cell phones, iPads, laptops, or similar. Do not use these devices during class. If there are extenuating circumstances which require a student to access their cell phone, contact the instructor to BRIEFLY explain the situation. The instructor and student will determine acceptable arrangements.
  - Do not record, in whole or in part, any class by any method or any technology.
  - No talking during class time. Exception: any emergency situation.
  - No eating during class. Beverages allowed.
  - Only students registered for this course may be in the classroom during class time.
  - Any student who does not comply with these policies will be given one warning. If the student continues to violate these policies or any other policies of TRCC, the student will, at minimum, be dismissed from class. All issues regarding student conduct will be referred to the Math Department, Academic Division, Student Services, or Campus Security.

School Policies

Please refer to BlackBoard for a link to the entire policy.

- **Accommodations:** Students with learning disabilities should contact the Learning Specialist, Matt Liscum, at 860-215-9265 or via email at mliscum@trcc.commnet.edu as soon as possible to ensure timely accommodations. Students with physical disabilities should contact Elizabeth Willcox at 860-215-9289 or via email at ewillcox@trcc.commnet.edu to facilitate accommodations. All testing accommodations MUST be discussed with the instructor as soon as possible before testing begins. Accommodations cannot be provided until you provide written authorization from the Specialist.

- **Digication:** All students are required to maintain an electronic portfolio using the College template within Digication. Digication can be accessed at digication.ct.edu.

- **Disability:** Three Rivers Community College (TRCC) is committed to the goal of achieving equal educational opportunity and full participation for individuals with disabilities. To this end, TRCC seeks to ensure that no qualified person is excluded from participation in, is denied the benefit of, or otherwise is subjected to discrimination in any of its programs, services, or activities.

- **Non-discrimination:** Three Rivers Community College does not discriminate on the basis of race, color, religious creed, age, sex, national origin, marital status, ancestry, present or past history of mental disorder, learning disability or physical disability, sexual orientation, gender identity and expression, or genetic information in its programs and activities.

- **Sexual Misconduct:** The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking.

COURSE CONTENT * denotes review topics

Review of Functions, Inverse Functions

*1.3) Functions, Function Notation, and the Graph of a Function
*2.1) Analyzing the Graph of a Function
*2.2) The Toolbox Functions and Transformations
*5.1) One-to-One and Inverse Functions

Review of Exponential and Logarithmic Functions

*Ch. 5 Selected topics on properties, equations, and applications and models.

Chapter 6: An Introduction to Trigonometric Functions

6.1) Angle Measure, Special Triangles, and Special Angles
6.2) Unit Circle and the Trigonometry of Real Numbers
6.3) Graphs of Sine and Cosine Functions
6.4) Graphs of the Cosecant, Secant, Tangent, and Cotangent Functions
6.5) Transformations and Applications of Trigonometric Graphs
6.6) The Trigonometry of Right Triangles
6.7) Trigonometry and the Coordinate Plane
6.8) Trigonometric Equation Models

Chapter 7: Trigonometric Identities, Inverses, and quations

7.1) Fundamental Identities and Families of Identities
7.2) More on Verifying Identities
7.3) The Sum and Difference Identity
7.4) The Double-Angle, Half-Angle, and Product-to-Sum Identities
7.5) The Inverse Trig Functions and Their Applications
7.6) Solving Basic Trig Equations
7.7) General Trig Equations and Applications

Chapter 8: Applications of Trigonometry

8.1) Oblique Triangles and the Law of Sines
8.2) The Law of Cosines; the Area of a Triangle
8.5) Complex Numbers in Trigonometric Form
8.6) De Moivre's Theorem and the Theorem on nth Roots

Chapter 10: Analytic Geometry and the Conic Sections

10.1) A brief introduction to Analytic Geometry
10.2) The Circle and the Ellipse
10.3) The Hyperbola
10.4) The Analytic Parabola
10.5) Nonlinear Systems of Equations and Inequalities

Chapter 11: Additional Topics in Algebra *(time permitting)*

11.1) Sequences and Series
11.2) Arithmetic Sequences
11.3) Geometric Sequences