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

Syllabus (Fall 2019)
MAT172 – College Algebra
CRN 32618 – Sec. T6 – 3 credits
Mon. and Wed., 9:30 – 10:45 a.m.
Classroom D224

COURSE INFORMATION

- **Instructor Information**
    Mrs. Mary Anne Stewart
    Email: mstewart@trcc.commnet.edu
    Office Hours: **Mon. and Wed. 11:00 – 12:00** in Adjunct Faculty Office **D207**

- **Course Description**

    Prerequisite: MAT* K137 or MAT* K137S with a "C" grade or better or appropriate placement through multiple-measures assessment process.

    This course is a thorough and rigorous algebra course that strengthens the understanding of functions, their properties, multiple representations, and operations with functions. The function families studied include: polynomial, exponential, logarithmic, rational, and radical functions. Students will also learn linear and quadratic inequalities, absolute value equations and inequalities, linear and nonlinear systems.

- **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) Define absolute value, find distances on the number line and the coordinate plane.
2) Simplify expressions with rational exponents, write them in radical form, simplify, combine and rationalize radical expressions.
3) Solve linear and quadratic inequalities, absolute value equations and inequalities, express answers in interval form.
4) Perform operations on complex numbers, conjugates, represent complex numbers graphically.
5) Perform operations on radical expressions, rational exponents, solve radical equations.
6) Find the domain and range of functions, combine functions, identify even and odd functions, graph piece-wise functions, find composition of functions, inverse and transforms of functions.
7) Find the characteristics of polynomial functions, solve polynomial equations, find zeros (roots) and x-intercepts of polynomials, apply the Fundamental Theorem of Algebra, The Remainder Theorem, The Factor Theorem, analyze end behavior.
8) Graph rational functions, find vertical, horizontal and slant asymptotes.
9) Graph exponential and logarithmic functions, use properties of exponents and logarithms, solve exponential and logarithmic equations.
10) Solve systems of linear equations in several variables.

GRADING

- **Methods of Evaluation**

  o **Quizzes** (highest 10 quiz grades) .... **30% of course grade**
  *Quizzes will be given at the beginning of each **Monday** 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.*

  o **Project Problems** .... **20% of course grade**
  *Weekly project problems will be distributed each **Monday** and are due the following **Monday** 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.*

  o **Mid-Term Exam – Wed., Oct. 23 at 9:30 a.m.** .... **25% of course grade**
  The mid-term is cumulative, required, and will only be given on this date and time.
  ***No** makeup. **No** retake. If a student does not take the mid-term exam, the student's final exam grade will be used in its place.*

  o **Final Exam – Wed., Dec. 11 at 9:30 a.m.** .... **25% of course grade**
  The final exam is cumulative, required and will only be given on this date and time.
  ***No** makeup. **No** retake.*

  o **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 6–9 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 **Monday**.*

- **Grading Policies**

  ♦ **Late Work**: Ten (10) points will be deducted from the grade. Late work will be accepted up to one week past the due date and time.

  ♦ **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. Students who arrive late for class will be seated at the discretion of the instructor.

- **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 school is cancelled, notification of cancellation due to inclement weather will be available by telephone by 6:00 a.m. for daytime classes and by 2:30 pm for evening classes by calling the College's main telephone at (860) 215-9000, pressing 1, and listening to the taped announcement. The College's website will also have announcements available by accessing the www.threerivers.edu home page. The myCommnet Alert Notification System will also be used to deliver important information regarding weather-related class cancellations, via both email messages and text messages, to registered individuals. To register, log on to your myCommnet account at http://my.commnet.edu/ and follow the link to myCommnet Alert.

  If class is cancelled by the instructor, a notice will be placed on the classroom door. If time permits, students may be notified by a message via email.

- **Withdrawal Policy:** You may withdraw from this class any time up to and including **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 during class time, in whole or in part, 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.

- **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

Chapter 1:   Relations, Functions, and Graphs
*1.1) Rectangular Coordinates, Graphing Circles and Other Relations
*1.2) Linear Equations and Rates of Change
*1.3) Functions, Function Notation, and the Graph of a Function
*1.4) Linear Functions, Special Forms, and More of Rates of Change
1.5) Solving Equations and Inequalities Graphically; Formulas
1.6) Linear Function Models and Real Data

Chapter 2:   More on Functions
2.1) Analyzing the Graph of a Function
2.2) The Toolbox Functions and Transformations
2.3) Absolute Value Functions, Equations, and Inequalities
2.4) Basic Rational Functions and Power Functions
2.5) Piecewise-Defined Functions
2.6) Variation: The Toolbox Functions in Action

Chapter 3: Quadratic Functions and Operations on Functions
*3.1) Complex Numbers
*3.2) Solving Quadratic Equations and Inequalities
3.3) Quadratic Functions and Applications
3.4) Quadratic Models: More on Rates of Change
3.5) The Algebra of Functions
3.6) The Composition of Functions

Chapter 4: Polynomial and Rational Functions
4.1) Synthetic Division: the Remainder and Factor Theorems
4.2) The Zeros of Polynomial Functions
4.3) Graphing Polynomial Functions
4.4) Graphing Rational Functions
4.5) Additional Insights to Rational Functions
4.6) Polynomial and Rational Inequalities

Chapter 5: Exponential and Logarithmic Functions
5.1) One-to-One and Inverse Functions
5.2) Exponential Functions
5.3) Logarithms and Logarithmic Functions
5.4) Properties of Logarithms
5.5) Solving Exponential and Logarithmic Equations
5.6) Applications from Business, Finance, and Science
5.7) Exponential, Logarithmic, and Logistic Equation Models

Chapter 9: Systems of Equations and Inequalities
9.1) Linear Systems in Two Variables with Applications
9.2) Linear Systems in Three Variables with Applications