Course Description

A course in select topics from contemporary math focused on applications in business, economics and finances. Topics include the concept of function and its rate of change, a review of algebraic and graphical aspects of polynomial functions, a study of exponential and logarithmic functions, mathematical modeling, and operations on systems of linear equations including matrix operations. A graphing calculator is used throughout the course.

- Time: 12:30 pm - 1:45 pm
- Classroom: E202

Course Outcomes

Upon successful completion of this application- centered course, the student should be able to:

1. Identify a function (from a table, graph or equation).
2. Use function notation.
3. Graph a linear function, and interpret the slope of a linear function as a rate of change.
4. Sketch graphs of quadratic functions, other selected polynomial functions, exponential functions, and logarithmic functions.
5. Identify and interpret critical values of functions, including maxima, minima, intercepts and zeros.
6. Use modeling concepts and graphing technology to find linear, quadratic, cubic, quartic, exponential, logarithmic, and logistic models for raw data.
7. Develop familiarity and facility with a graphing calculator as a tool for understanding mathematical concepts and as a technological tool for solving mathematical problems.
8. Interpolate and extrapolate from mathematical models.
9. Solve applied problems on business and economics.
10. Solve applied problems involving simple and compound interest, annuities.
11. Solve systems of linear equations in two or more variables using matrices.
12. Solve selected applied matrix problems.
13. Solve selected linear programming problems.

Text

Mathematics with Applications in the Management, Natural, and Social Sciences by Lial, Hungerford, Holcomb, Mullins, 11th ed.

BlackBoard

All students are required to monitor the Blackboard site for announcements, class material postings, and updates to the schedule. Grades will be posted on Blackboard.

Attendance

Students with a known conflict with class will make the instructor aware of such conflict prior to missing a class. Accommodations will be made for students with a reasonable excuse (e.g., religious holidays, extra-curricular activities, and emergencies). If the instructor is not notified in advance, it will be treated as an absence. Please be sure to silence cell phones prior to class.

Expectations

Our expectation is that you are spending 2-3 hours of reading and doing homework for this class for every "academic" hour we meet in class. We meet 3 "academic" hours per week, therefore you should expect to spend at least 6 - 9 hours per week on this class, outside of class meetings, every week!

Grading

Course grade will be based on assessment in the following areas:

- Homework – 30%
- Four Exams – 15% each
- Class participation – 10%

The exams will be scheduled and announced prior to being administered. No late homework assignments will be accepted. If you are not in class on Tuesday morning to turn in the assignment, determine an alternate means of delivery (e.g., email).

Plagiarism and Academic Honesty

At Three Rivers, we expect the highest standards of academic honesty. The Board of Trustees' Proscribed Conduct Policy prohibits cheating on examinations, unauthorized collaboration on assignments, unauthorized access to examinations or course materials, plagiarism.

Academic integrity is essential in all aspects of college coursework and learning. I have zero tolerance for academic dishonesty. Communication or collaboration of ANY sort is ABSOLUTEY PROHIBITED during any exam. Academic Misconduct is punishable in a number of ways, including a score of a zero on the assignment where the cheating took place, a grade of an F in the course and/or possible censure on your permanent record. All cases of academic dishonesty will be referred to the Academic Dean. Do not let yourself come under the suspicion of academic dishonesty.

IF IN DOUBT, ASK.

Professionalism and respect is demonstrated through a clear understanding of what is yours and what you learned from others. Be proud for your accomplishments; respect those of others.

Getting Help

- Tutoring and Academic Support Center
- Peer tutoring
- Extra help from the instructor (after class or by appointment)

Calculator Policy

A scientific or graphing calculator is allowed for all exams and homework. You may **not** use a tablet, phone, or computer as a calculator. Using these devices on an exam will result in your exam receiving a grade of 0.

13874
K158 Functions, Graphs and Matrices
Syllabus v1

Chris Kmiecik
Spring 2018
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Schedule

Week	Section	Topic
15 Jan		Introductions/Course Overview
22 Jan	1.1 – 1.7	Algebra and Equations – Student Self-Assessment/Review
29 Jan	2.1	Graphs
	2.2	Equations of lines
	2.3	Linear Models, Correlation
	2.4	Linear Inequalities
5 Feb	3.3	Applications of Linear Functions
	6.1	Systems of two linear Equations
	6.2	Larger Systems of Linear equations
	6.3	Applications of Systems of Linear equations
12 Feb		**Exam I**
19 Feb	6.3	Applications of Systems of Linear equations
	6.4	Basic Matrix operations
	6.5	Matrix products and Inverses
	6.6	Applications of Matrices
26 Feb	7.1	Graphing Linear Inequalities in two variables
	7.2	Linear programming. The graphical Method
	7.3	Applications of Linear Programming
5 Mar		**Exam II**
12 Mar		Spring Break
19 Mar	5.1	Simple Interest and Discount
	4.1	Exponential Functions
	4.2	Application of Exponential Functions
	4.3	Logarithmic Functions
	4.4	Logarithmic and Exponential Equations
26 Mar	5.2	Compound Interest
	5.3	Annuities, Future Value, and Sinking Funds
	5.4	Annuities, Present Value, Amortization
2 Apr		**Exam III**
9 Apr	3.1	Functions
	3.2	Graphs of Functions
16 Apr	3.4	Quadratic functions and Applications
	3.5	Applications of Some Polynomial Functions
23 Apr		**Exam IV**
30 Apr	TBD	
7 May	TBD	
		Optional Final Exam

Sexual misconduct clause:

"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. It is the intent of the BOR and each of its colleges or universities to provide safety, privacy and support to victims of sexual misconduct and intimate partner violence."

Title IX clause:

"Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.

Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students (as well as other persons) at recipient institutions are protected by Title IX – regardless of their sex, sexual orientation, gender identity, part-or full-time status, disability, race, or national origin-in all aspects of a recipient's educational programs and activities."

If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College Campus, or fears for their safety from a threat while on campus, please contact Vicki Baker, the Diversity Officer and Title IX Coordinator: 860-215-9208 (vbaker@trcc.commnet.edu)

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 in a timely manner, that is, *at least* one to two class meetings **prior** to any scheduled test for which accommodations are needed.

Student Digication Portfolio

As a student you will maintain an online learning portfolio using a college-designed template in Digication. Through this electronic tool you will have the opportunity to monitor your own growth in college-wide learning. It may even help you determine a major that is best suited to you. You will be able to keep and maintain your learning portfolio after graduation. A Three Rivers General Education Assessment Team will select and review random works to improve the college experience for all. If your work is selected and reviewed for assessment purposes, it will remain anonymous and private. Digication provides a "place" where you will connect your learning from the classroom, college, and life in general. Sometimes when you review all of the work you have done and think about it, you end up learning something different and perhaps unexpected. Please review your course outlines to determine what assignments to upload into the TRCC Digication template and please post your own choices, as well. Have fun in learning!

MyCommNet Alert Notification System

MyCommNet is a system that sends text messages and emails to anyone signed up in the event of a campus emergency. The system will also be used to deliver important information to students, faculty, and staff regarding weather-related class cancellations. The system delivers both email messages, and text messages over cellular phones to those individuals who are registered. To register, log on to your myCommnet account at http://my.commnet.edu/ and follow the link to myCommnet Alert.

Class Cancellation

Except under rapidly changing conditions, information on the status of day classes will be available and published by 6:30 AM and by 3:00 PM for evening classes starting at 5:00 PM and later.

The College's website will also have announcements regarding any delays, cancellations or closings. This information may be obtained by accessing the www.threerivers.edu home page.

Acceptance Policy

After reading this syllabus, choosing to stay registered for this course exemplifies your acceptance of the syllabus and all policies and consequences outlined in the syllabus. If you do not agree with any of the terms in the syllabus, you are free to withdraw.