Moberly Area Community College
Common Syllabus

MTH165 Finite Mathematics

Current Term

Instructor:
Office number:
Office hours:
Response Time: I typically respond to student emails within 24 hours, Monday through Friday.
Contact information:
Classroom number:
Section number(s):
Class days and time:

Catalog Description: MTH165 Finite Mathematics (3-0-3)
Topics include matrices, solving systems of linear equations, linear programming, mathematics of finance, set theory, combinatorics, probability, and statistics.

Prerequisite: Eligible placement score, or grade of "C" or higher in MTH140, or grade of "C" or higher in MTH150.

Text: No text required

Other Required Materials: scientific calculator (recommended TI-30XS Multiview)

Purpose of Course: This course is designed to help students develop basic skills and concepts in college mathematics necessary for the managerial, social and life sciences. A special emphasis will be given to real world applications from these disciplines.

Course Objectives (CO): Upon successful completion of this course, students will have:

1. Enhanced mathematical reasoning and problem solving skills.
2. Explored various methods to solve systems of linear equations.
3. Applied a geometric approach to linear programming problems.
4. Solved maximum and minimum problems with the simplex method, given certain constraints.
5. Developed an understanding of finance topics such as interest, annuities, sinking funds, amortization, and their applications to the world of finance.
6. Applied counting principles in the computation of simple and compound probabilities.

Course Content:

Chapter 2-Matrices
Chapter 3-Linear Programming

Chapter 5-Sets and Counting
Chapter 6-Probability
Chapter 7-Probability and Statistics

Statement to Connect Course with Institutional Student Level Outcomes:
In compliance with MACC's Institutional Student Level Outcomes, the student who successfully completes this course will be able to meet the following institutional learning outcomes:

- **Higher Order Thinking**: Students will demonstrate the ability to distinguish among opinions, facts, and inferences; to identify underlying or implicit assumptions; to make informed judgments; to solve problems by applying evaluative standards; and to reflect upon and refine those problem-solving skills. This outcome involves creative thinking, critical thinking, and quantitative literacy.

Evaluation of Student Learning:

Grades will be calculated in the Canvas gradebook where 60% mastery will be necessary for completion of the course, however students who wish to transfer or who are enrolled in special programs may have a minimum of 70% mastery required. Please check with your transfer institution or program director. Grades will be updated at least after each chapter test throughout the semester in the Canvas gradebook.

The grading scale will be structured as follows:
A - 90 - 100%
B - 80 - 89%
C - 70 - 79%
D - 60 - 69%
F - 59% or below

Points will be accumulated by:
Homework/Quizzes: 20%
Chapter/Unit Tests: 60%
Final Exam: 20%

Testing Expectations: This is a credit-bearing course. Retakes of tests are not allowed for individual students. Contact the Math Department Coordinator and/or refer to the course pages in the Math Department Canvas Shell for guidelines.

Make-up and late work:
Per instructor's policy

Tardiness:
Per instructor's policy in relationship to points given in the course and not in relationship to attendance.

Schedule of Student Assignments/Activities:

Instructors will identify a Student Assignment/Activities schedule. Instructors have the prerogative to construct the schedule by class periods or weeks in order to cover the entire curriculum. A sample schedule is attached.

Collegewide Policies:

All faculty and students need to be aware of collegewide policies and procedures. Statements on Academic Dishonesty, ADA, Attendance, Title IX, and other important collegewide policies can be accessed by clicking on the following: **Collegewide Policies in Student Resources**.

Tentative Schedule MTH 165 – Finite Mathematics

This content is a minimum requirement.		
Week 1	10.1 Interest	10.2 Annuities
Week 2	10.2 Annuities	10.3 Amortization of Loans
Week 3	Review	Exam 1
Week 4	2.1 Matrices 2.2 General Systems of Equations	2.3 Arithmetic Operations on Matrices 2.4 The Inverse of a Matrix
Week 5	2.5 The Gauss Jordan Method	2.6 Input Output Analysis
Week 6	Review	Exam 2
Week 7	3.1 A Linear Programming Problem 3.2 Fundamental Theorem of Linear Programing	3.3 Linear Programming
Week 8	5.1 Sets 5.2 Fundamental Counting Principle	5.3 Venn Diagrams 5.4 Multiplication Principle
Week 9	Review	Exam 3
Week 10	5.5 Permutations and Combinations	5.6 Further Counting Techniques
Week 11	6.1 Experiments 6.2 Assignment of Probabilities 6.3 Calculating Probabilities	6.4 Conditional Probability 6.5 Tree Diagrams 6.6 Bayes Theorem
Week 12	Review	Exam 4
Week 13	7.2 Frequency and Probability Distributions	7.3 Binomial Trials
Week 14	7.4 The Mean	7.5 Variance and Standard Deviation
Week 15	Review	Exam 5
Week 16	FINALS WEEK	