



St. Mary's College
Department of Math and Science

Course Title: College Math I
Course Number: MAT211
Term: Fall 2023.
Lecture– Mon/Wed/Fri. 9:30-10:20 pm.
Professor: Joseph B. Strong, PhD
Email: drstrong@smac.edu
Phone: 785-437-2471, extension 410

Prerequisites

None

Required Materials

Mathematical Ideas, 9th edition, by Miller, Heeren, and Hornsby

Simple Scientific Calculator (sin, cos, tan functions)

Course Description

This course is designed to strengthen mathematical and reasoning skills by studying math as a science. By working to understand how algorithms work, mathematics will be the matter for practicing critical thinking skills and increasing confidence when reasoning with abstract topics.

Objectives

After completing the course students will be expected to understand:

- The differences in inductive and deductive reasoning
- General problem-solving skills
- The fundamentals of Set theory
- The develop of the current numeration system
- The basic properties and relationships of numbers
- linear equations
- ratios, proportions and what they represent
- the similarities and differences of equalities and inequalities
- the purpose and procedure of factoring polynomials

Grading Policy

- Grades will be based on the following rubric:

Homework: 30%

Quizzes: 20%

Tests: 30%

Exam: 20%

- Assignments will be given periodically. Feel free to come for help but try to work on these by yourselves. You cannot build muscles by having people exercise for you!
- Quizzes will be used to check how diligently students are reviewing notes, working on assignments, and paying attention in class. They typically occur on practice days.
- There will be three tests during the semester, and a cumulative final exam. Test dates are subject to change.

Assignment Policy

- All submitted work should be on your own paper, either handwritten or typed. DO NOT submit work written in the margins of any given handout.
- Any part of any assignment that seems to be taking too long is taking too long. If you can't get through something after exercising some effort on it, put it aside and come to me for help as soon as possible. I can usually give a student a gentle nudge in the correct direction so you can accomplish the task in a more time-efficient manner.
- Please use the homework assignments for what they are meant to be - a learning tool for you to engage the material. They are not just busywork to get through. Without that engagement by you, the class will get harder instead of easier because many topics tie together to generate a cumulative understanding. With this in mind, be neat in the presentation of your work so that you can use it as a review and study guide.

Attendance Policy

You are expected, on time, for every scheduled class. If you know you are going to miss a class, please get prior approval. Any unexcused absence that occurs during a test, quiz, or lab will result in a zero. Assignments must be turned in on time even if you are absent, so please make arrangements. Any exceptions must be in writing.

Course Schedule

Week #1. 9/03 – 9/09

Hour 1. No Class - Labor Day

Hour 2. Introduction, Chapter 1.1

i. Read: Chapters 1.1 and 1.2

Hour 3. Chapter 1.2

i. HW: p8 #2,6,16,22,36,44 and p18 #4,10,18, 40

Week #2. 9/10 – 9/16

Hour 1. Chapter 1.3

i. HW: p28 #4,6,8,10,12,26,28,64,72

Hour 2. Chapter 2.1-2.2

i. HW: p57 #12,20,26,40,44,54,56,62,76

Hour 3. Practice day

i. HW: p65 #61-66,16,20,36,42,46

Week #3. 9/17 – 9/23

Hour 1. Chapter 2.3

i. HW: p78 #14, 24, 26, 38, 70, 96

Hour 2. Review and practice day

i. HW: p78 continued #98, 104, 106, 108, 110, 112, 114, 116

Hour 3. Chapter 2.4-2.5

i. HW: p85 #22,24 and p94 #12,14,18, 26, 28,40

Week #4. 9/24 – 9/30

Hour 1. Practice day

i. Chapter 1 and Chapter 2 review tests

Hour 2. **Test #1 (chapters 1 and 2)**

Hour 3. Chapters 4.1-4.2

i. HW: p177 #20, 24, 36, 50

Week #5. 10/01 – 10/07

Hour 1. Chapters 4.3

i. HW: p187 #2, 12, 22, 24, 30, 34, 46, 50, 52, 56

Hour 2. Practice day

Hour 3. Chapters 5.1-5.2

i. HW: p217 #18, 24, 34, 58 and p224 #2, 6

Week #6. 10/08 – 10/14

Hour 1. Chapter 5.3

- i. HW: p224 #18, 26, 32 and p232 #2, 28, 40, 52, 64

Hour 2. Chapter 5.4

- i. HW: p239 #8, 10, 12, 18, 24, 62

Hour 3. Chapter 5 special topic

- i. begin Chapter 4 and Chapter 5 review tests

Week #7. 10/15 – 10/21

Hour 1. Practice day

- i. Chapter 4 and Chapter 5 review tests

Hour 2. **Test #2 (chapters 4 and 5)**

Hour 3. Chapters 6.1-6.2

- i. HW: p267 #8, 10, 42, 54, 58

Week #8. 10/22 – 10/28

Hour 1. Chapter 6.3

- i. HW: p279 #34, 42, 88 and p294 #8, 14, 34, 36, 46, 52, 64, 94, 96

Hour 2. Practice day

- i. HW p294 #24, 28, 30, 32, 48, 56, 68, 84

Hour 3. Chapter 6.4-6.5

- i. HW: p306 #26, 30, 36, 40, 42, 52, 60 and p317 #26, 56, 72, 78

Week #9. 10/29 – 10/11/04

Hour 1. **Midsemester break – no classes**

Hour 2. **Feast of all Saints – no classes**

Hour 3. Chapter 6 extension

- i. HW: p325 #2,6,10,12,18,20,24,26,28,30

Week #10. 11/05 – 11/11

Hour 1. Chapter 7.1

- i. HW p339 #18, 26, 36, 40, 42, 52, 58, 70, 74

Hour 2. Practice day

- i. Chapter 6 review test

Hour 3. **Test #3 (chapter 6)**

Week #11. 11/12 – 11/18

Hour 1. Chapter 7.2

- i. HW: p351 #10, 12, 20, 24, 32, 34, 38, 40, 52, 70, 76

- Hour 2. Practice day
- Hour 3. Chapter 7.3
- i. HW: p365 #16, 20, 24, 32, 40, 44, 48, 50, 58, 64, 66, 74
- Week #12. 11/19 – 11/25
- Hour 1. Chapter 7.4
- i. HW: p377 #20, 22, 30, 38, 42, 46, 60, 62, 64, 66
- Hour 2. Thanksgiving - No class
- Hour 3. No class
- Week #13. 11/26 – 12/02
- Hour 1. Practice day
- Hour 2. Chapter 7.5
- i. HW: p390 #18, 24, 26, 42, 46, 58, 66, 78, 92, 98
- Hour 3. Chapter 7.6a
- i. HW: p400 #6, 8, 16, 24, 26, 38, 40, 44, 58, 62, 66, 76, 86, 88, 94
- Week #14. 12/03 – 12/09
- Hour 1. Practice day
- Hour 2. Chapter 7.7
- i. HW: p407 #6, 12, 26, 32, 50, 56, 60, 64, 72, 76
- Hour 3. **Feast of the Immaculate Conception – no class**
- Week #15. 12/10 – 12/16
- Hour 1. Practice day
- i. Chapter 7 review test
- Hour 2. Final thoughts
- Hour 3. Semester study day – no class