# MATH 155: INTEGRATED MATHEMATICS I

## Syllabus

**Instructor:** **Dr. Smith**
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**Colorado Springs, CO 80920**

## CREDIT HOURS:

Three Semester Hours

## PREREQUISITES:

MATH 099: Intermediate Algebra

## CATALOG DESCRIPTION:

This is the first of a 2-course sequence presenting arithmetic and algebra from a modern perspective. Students work to understand and be able to articulate connections among mathematical structures, including natural numbers, integers, rational numbers, relations, functions, and equations.

## STUDENT LEARNING OUTCOMES:

The student will:

- Utilize the key mathematical processes of communicating, reasoning, solving problems, and making connections.
- Demonstrate an understanding of structure, properties, and operations in the real number system.
- Utilize mental computation and estimation techniques.
- Demonstrate an understanding of basic number theory concepts and processes.
- Solve problems using ratios, proportions.

## COURSE REQUIREMENTS:

There are seven homework lessons. The first six each require assigned exercises to be submitted to the instructor. The seventh is the development of a lesson plan. There are three proctored tests (each with a 2-hour time limit) and one final test (2-hour time limit)**.**

**COURSE MATERIALS:**

To order textbooks or obtain information about book titles you may go to www.exstudies.adams.edu and click on the "ASC Bookstore" icon.
Use **Section Number: 992** to order books from Bookstore site.

**Required Textbook:**

Billstein, Rick; Libeskind, Shlomo; Lott, Johnny W. *A Problem Solving Approach to Mathematics for Elementary School Teachers*, 9th Edition. Boston: Pearson Education/Addison Wesley, 2007. ISBN 0-321-33179-6.

**Optional Textbook:**

Levy, Louis L. *Student's Solutions Manual*, 9th Edition. Boston: Pearson Education/ Addison Wesley, 2007. ISBN 0-321-33126-5.

This book contains detailed, worked-out solutions to all odd-numbered section exercises and all Chapter review exercises.

This solutions manual is highly recommended by your instructor.

**GRADE DISTRIBUTION AND SCALE:**

In alignment with ASC academic policies, no D may apply to a major or minor field.

**Grade Distribution:**

| | |
|---|---|
| Written Homework Assignments | 150 points |
| Lesson Plan | 100 points |
| CAPS Assignments | 100 points |
| Exam 1 (Lessons 1, 2) | 150 points |
| Exam 2 (Lessons 3, 4) | 150 points |
| Exam 3 (Lessons 5, 6) | 150 points |
| Final Exam (Lessons 1-6) | 200 points |
| Total Points | 1,000 points |

**Scale:**

| | |
|---|---|
| 90-100% | A |
| 80-89% | B |
| 70-79% | C |
| 60-69% | D |
| 59% and below | F |

## COURSE INSTRUCTIONS

### Written Homework Assignments:

All lesson assignments are to be submitted to the instructor. This can be done via e-mail (scanned as necessary) or U.S. mail. Every problem must be attempted on all assignments. I will grade the even problems and verify that the odd ones are completed. You must show all work on homework for full credit. This means you are to show the steps you took to solve the problems. View each problem as an example you would present to your own math students. Looking at your problem should provide sufficient information for them to follow the steps to arrive at the solution you did. The examples in the text are one example of this. The solutions manual also provides examples of what is expected here. Note that all graphs must be done on graph paper.

For the "questions from the classroom," a typed, well-written paragraph is required for each. This means a minimum of three sentences for each question. This will be combined with the problem sets to make up the homework portion of your grade.

### CAPS Assignments:

CAPS means Collected and Assessed Problems. There is one CAPS Assignment for each of the first five lessons. Each CAPS Assignment is worth 20 points. These assignments are the preliminary problem found on the title page of each chapter. Note that there is a hint before the "Questions from the Classroom." The write-up for these should include a paragraph of introduction, a paragraph detailing the strategy, diagrams, figures, and/or formulas as necessary to explain the solution, and the steps taken to arrive at the solution. This will be graded based on the thoroughness of the explanation and the correctness of the solution.

### Examinations:

All exam questions are taken from exercises in the book or are similar to the homework problems. The best way to study for the exams is to do extra problems from the book. You will be asked mathematical problems, not vocabulary or essay type questions. While it will not be possible to cover every type of problem, you can expect that most (if not all) objectives will be covered in these exams. Please refer to the Guidelines for Proctored Exams and Submit your Exam Request Form three weeks BEFORE you plan to take the exam.

### ADA Statement:

Students who need special accommodation to complete this class should contact the instructor and the Office of Student Affairs, 719.587.7221 as soon as possible.

**Note: Web sites are constantly changing and you may find that some have moved or are simply no longer available; contact your instructor with any questions.**