

# El Paso Community College

## Syllabus

### Part II

## Official Course Description

SUBJECT AREA	<u>Mathematics</u>		
COURSE RUBRIC AND NUMBER	<u>MATH 1333</u>		
COURSE TITLE	<u>Math in the Modern World</u>		
COURSE CREDIT HOURS	<u>3</u>	<u>3</u>	<u>0</u>
	Credits	Lec	Lab

### I. Catalog Description

Provides an introduction to some of the great ideas of mathematics, including current applications of logic, algebra, geometry, statistics, and other topics. **Prerequisite:** MATH 0303 or MATH 0404 with “C” or better or NCBM 0103 with a “CR” or better or ME03 or by placement exam. (3:0).

### II. Course Objectives

This course is designed to introduce the student to the big picture of what mathematics is, and what it means to do mathematics. Upon completion of this course the student will know and understand some of the great ideas of mathematics, and will be able to express this understanding in verbal form and by solving problems.

- A. Unit I – Learning to think like a mathematician. When this unit is completed, the student should be able to:
  1. Use various strategies for problem solving.
  2. Understand how to estimate answers.
  3. Discover patterns in numbers (Fibonacci numbers)
  4. Understand how the prime numbers are the building blocks of all natural numbers.
  5. Encode and decode messages.
  6. Understand what an irrational number is.
- B. Unit II – Investigating the properties of infinity. When this unit is completed, the student should be able to:
  1. Explain what is meant by infinity.
  2. Use a one-to-one correspondence to determine if a set is infinite.
  3. Distinguish between the various sizes of infinities.
  4. Explain where infinities can be found in geometry.
- C. Unit III – Exploring geometry. When this unit is completed, the students should be able to:
  1. Prove the irrationality of the square root of 2.
  2. Explain what the Golden Rectangle is and its relationship to life, art, and math.
  3. Understand the geometry of tiling.
  4. Explain, in words, what is meant by the fourth dimension.
  5. Name the platonic solids.
  6. Know the relationships between vertices, edges, and faces of geometric figures.

- D. Unit IV – Understanding basic ideas in probability and statistics. When this unit is completed, the student should be able to:
1. Use probability to measure uncertainty.
  2. Explain how the principles of probability can be used to understand coincidences and random behavior.
  3. Describe data in a meaningful way with graphs, pictures, and number measurements.

### III. Evaluation

There will be at least three in class exams (100 points each) and one required in class comprehensive final exam to evaluate student learning for the course. Since there will be a large amount of time spent in class discussion, a portion of the final grade should represent participation in that discussion (possibly equivalent to ½ an exam). There should be homework, and a grade for that should be equal to about one exam. There can also be special writing assignments/projects equal to about ½ an exam each.

The homework grade will be weighted no more than the weight of one exam; the comprehensive final exam will be weighted at least as much as one exam. The final exam cannot be dropped.

I and W Grades: The student is responsible for completing the necessary forms for I or W (except as noted below). I and W grades may be assigned whenever appropriate deadlines are met. To be eligible for an I, the student must complete 80% of the course with at least a 75% average. The proper forms must also be signed by both the student and the instructor before being submitted to the registrar.

The following grading scale will be used:

90 – 100	A
80 - 89	B
70 – 79	C
60 – 69	D
Below 60	F

### IV. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm. C-112 (831-2426); TM Rm. 1400 (831-5808); RG Rm. B-201 (831-4198); NWC Rm. M-54 (831-8815); and MDP Rm. A-125 (831-7024).

### V. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.