Precalculus III

Course. Precalculus III (Math 43.09).

Time and Location. Fall 2015, MTWThF, 11:30 am – 12:20 pm, Room: G7.

Instructor. Francisco Villarroya Alvarez.

Office hours. W 10-11am; 2-3pm

Prerequisites. Mathematics 41 and 42. Advisory: English Writing 211 and Reading 211 (or Language Arts 211), or English as a Second Language 272 and 273.

Hours. Five one-hour lectures per week (60 hours total per quarter).

Textbook. Precalculus with Limits, 2nd Edition, by Ron Larson, Brooks/Cole.

Required Materials. A scientific calculator is recommended.

Course Description.

- Systems of linear and non-linear equations and inequalities

- Analytic Geometry: parametric equations, vectors, lines and planes, polar coordinates

- Sequences and series, mathematical induction, the binomial theorem, hyperbolic functions

Student Learning Outcome.

- Analyze, investigate, and evaluate linear systems, vectors, and matrices related to two or three dimensional geometric objects.

- Graph and analyze regions/curves represented by inequalities or trigonometric, polar, and parametric equations, including conic sections.

- Analyze, develop, and evaluate formulas for sequences and series; justify those formulas by mathematical induction. Work with hyperbolic and trigonometric functions.

Grading Criteria. Two one-class-hour midterm examinations will be given in class. A mandatory comprehensive final exam will be given at the end of the quarter.

The contribution of each exam to the final grade will be as follows:

- Midterm tests: 36%

- Final exam: 64%

Tentative Schedule. Classes will take place according to the following approximate timetable:

Week	Lecture	Tasks	Exams
1	Systems of equations (7.1, 7.3, 7.3)		
2	Systems of equations (7.5) Matrices and Determinants (8.1)	Rev/Prob	
3	Matrices and Determinants (8.2, 8.3, 8.4-)		
4	Matrices and Determinants (-8.4, 8.5) Analytic Geometry (10.6)		
5	Analytic Geometry (10.7r, 10.8r)		Test 1
6	Analytic Geometry (10.8r, 10.9)	Rev/Prob	
7	Analytic Geometry in 3 dimensions (11.1, 11.2, 11.3)		
8	Analytic Geometry in 3 dimensions (11.3, 11.4) Sequences, series (9.1)		
9	Sequences, series (9.2, 9.3)		Test 2
10	Sequences, series (9.4, 9.5)		
11	Hyperbolic Functions	Rev/Prob	
12	Hyperbolic Functions		Exam

Extra Help. The Math and Science Tutorial Center (S43) offers free individual and group tutoring. Please take advantage of these free services. Tutorial assistance often means the difference between students earning a passing or failing grade. Dot not hesitate to come to my office hours to discuss a homework problem or any aspect of the course.

Accommodations for students with disabilities. Disability Support Services (DSS) provides support services for students with disabilities. For more information or to make an appointment to request services, contact DSS at 408-864-8753.