

Syllabus

MATH 120 GH (1309) Pre-Calculus, 4 hrs., 4 crs.

Spring 2009

Prereq.: Math 102. Coreq.: Math 119.

Instructor	Dr. T. C. Wu	Phone	-2546
Office	2C07G	E-mail	wu@york.cuny.edu
Office Hours	M: 11-12pm, 4 – 5pm, W: 11 – 12pm	Course Schedule	Mon, Wed.: 2pm – 3:50pm, 1E05

Required Text : Precalculus (with CD), by Paul Sisson, Hawkes Learning System, 2006, ISBN 0-918091-89-6

Course Bulletin Description : Advanced topics in algebra, functions and graphs, inverse functions, composite functions, Polynomial and rational functions, trigonometry, exponential and logarithmic functions.

Course Outline

Week	Chapter and Topic	Sections	Hours	Required Reading/Homework
1	Chap 1. Number Systems and Equations and Inequalities of One Variable Real numbers and algebraic expressions; Properties of exponents and radicals; Polynomials and factoring; Complex numbers	1.1 – 1.4	4	1.1 – 1.4 Pretest
2	Linear equations and inequalities in one variable; Quadratic equations; Rational and radical equations; Appendix A: Fundamentals of Mathematica	1.5 – 1.8	4	1.5 – 1.8 HW 1
3	Chap 2. Equations and Inequalities of Two Variables Cartesian coordinates; Linear equations in two variables; Forms of linear equations; Parallel and perpendicular lines; Linear inequalities in two variables; Circles	2.1 – 2.6	4	2.1 – 2.6 HW 2 Test 1
4, 5	Chap 3. Relations, Functions, and Graphs Relations and functions; Linear, quadratic, other common functions; Variation and multi-variable functions; Transformation of functions; Combining functions; Inverses of functions	3.1 – 3.7	8	3.1 – 3.7 HW 3 Test 2
6, 7	Chap 4. Polynomial and Rational Functions Polynomial equations and graphs; Polynomial division and division algorithm; Locating real zeros of polynomials; Fundamental theorem of algebra; Rational functions and inequalities	4.1 – 4.5	8	4.1 – 4.5 HW 4 Test 3
8, 9	Chap 5. Exponential and Logarithmic Functions Exponential functions and graphs; Applications; Logarithmic functions and graphs; Properties and applications of logarithms; Exponential and logarithmic equations	5.1 – 5.5	8	5.1 – 5.5 HW 5 Test 4
10, 11, 12	Chap 6 Trigonometric Functions Radian and degree measure of angles; Trigonometric functions of acute angles; Trigonometric functions of any angle; Graphs of trigonometric functions; Inverse trigonometric functions Chap 7. Trigonometric Identities and Equations Fundamental Identities and their uses; Sum and difference identities; Product-sum identities; Trigonometric equations Chap 8. Additional Topics in Trigonometry The law of sines and cosines	6.1 – 6.5 7.1 – 7.4 8.1	12	6.1 – 6.5 7.1 – 7.4 8.1 HW 6, 7, 8 Test 5
13, 14	Optional topics in math skill, quantitative literacy, use of technology; Final reviews		8	
	Final Exam (Cumulative)		2	Date from Schedule of Classes
	Total Hours		58	

Learning Outcomes Objectives: A successful student from the course will have demonstrated an ability to:

- o Understand basic concepts and properties of numbers, equations, inequalities; relations, functions, and graphs
- o Solve and apply simple equations of differential types: polynomial, rational, exponential, logarithmic, and trigonometric
- o Describe functions, domains, ranges, inverses and operations on functions and graphs
- o Calculate values and find inverses of simple functions
- o Understand basic properties and applications of trigonometric functions, identities of trigonometric functions
- o Apply essential mathematics literacy in quantitative and mathematical reasoning

Grading Policy

Final Grade: Homework/Exercises(20%) + Tests(40%) + Final(40%)

*Students are expected to do the homework assignments timely. Final exam is departmental and cumulative
Passing the final exam is necessary for passing the course.*

Homework and Exercises

Read the book. Do assigned homework and exercises timely.

Course Requirements

Class attendance; a working CUNY portal account; a valid email address in eSIMS.

Academic Integrity

Academic dishonesty is prohibited. Penalties include failing grade, suspension, and expulsion:

<http://web.cuny.edu/academics/info-central/policies/academic-integrity.pdf>

Accommodations for Learning Disabled

Special arrangement can be made for students with verification letter from the Office in 1G02, 718-262-2272

Learning Resources

Walk-in Labs: 2E03, Academic Core; C201A, Classroom Building

Math Tutoring: Academic Achievement Center, 3H13, 718-262-2831/2303, email: aac@york.cuny.edu

IT Helpdesk: 2E03, 718-262-5300, email: helpdesk@york.cuny.edu (for CUNY portal login problems)

CUNY portal/Blackboard login: <http://cuny.edu>; general information: <http://york.cuny.edu/it/acet/blackboard>

Additional Information

Academic Calendar: <http://york.cuny.edu/academic-calendar>

York Bulletin: <http://york.cuny.edu/bulletin> Library: 3G01, <http://york.cuny.edu/library>

College websites: York College <http://york.cuny.edu>