Topics in Algebra, Trigonometry and Pre-Calculus (NSC556)

Credits: 1–4
Level: Introductory
Location: Sci216, TuTh 11.30–12.50pm, Fall 2008
Instructor: John Arhin, `jarhin@marlboro.edu`
Website: `http://cs.marlboro.edu/courses/TATP/home`

1 Blurb

This course covers a wide range of math topics prerequisite for further study in mathematics and science and of interest in their own right. The course is divided into over 50 units (listed on the course web page). One credit will be earned for each group of 6 units completed. Students select units to improve their weak areas. There are also tailored streams for students who wish to go on to study calculus or statistics and for those who wish to prepare for the GRE exam. Over the course of the academic year, around 45 units will be offered in the timetabled sessions. Individual tutorial–style arrangements can be made to study the non-timetabled units or to study units earlier than their scheduled session.

2 Homework and Grades

Each unit will occupy one timetabled session. Prior to the session you should have reviewed the material and attempted the exercises. During the session we will talk about the material and work on the problems. There will be a short quiz at the end of each session and a homework sheet with further questions of similar standard and style to those in the course material will be given out. Your answers to the homework sheet should be handed in no later than one week after the session. There will be round-up sessions to consolidate what we have learned up to that point, and round-up homeworks on these sessions will be distributed (the questions on this homework will have topic indicators; you only have to complete the questions related to topics you have taken).

There is no textbook. Review material is available at the course web page:

`http://cs.marlboro.edu/courses/TATP/home`

Grades are calculated as follows: 20% round–up quiz (best two marks from three quizzes); 60% homework; 20% round–up homework (best two marks from three such homeworks).

Attendance in selected units, punctuality, class participation and prompt submission of homework are expected. Your performance in these areas will influence your final result by up to one letter grade.

3   Unit timetable for Fall 2008

See Table 1.

4   A couple of final comments

You are expected to be aware of the college's policy on academic integrity and to abide by it. It can be found on the college website, and is linked from the course website. Please come and talk to me if anything is unclear.

As a rough guide, taking this course for four credits means that you should be expecting to spend in the region of twelve hours each week (including class time) working on it.

If you have a medical condition or disability that I (as your instructor) should be aware of please contact Megan M. Littlehales in the Health Center, who will in turn contact me.

Sept	9	Arithmetic of fractions
	11	Arithmetic of exponents
	16	Simplifying expressions
	18	Factoring expressions
	23	Linear equations
	25	Word problems: linear equations
	30	Word problems: percentages
Oct	2	Round-up
	7	Geometry: angles and triangles
	9	Geometry: areas and volumes
	14	Systems of linear equations
	16	Linear inequalities
	23	Quadratic equations
	28	Word problems: counting and probability
	30	Statistical concepts
Nov	4	Primes and divisibility
	6	Round–up
	11	Polynomial equations I
	13	Polynomial fractions
	18	Word problems: polynomial equations
	20	Division of polynomials
	25	Polynomial equations II
Dec	2	Trigonometry
	4	Applications of trigonometry
	9	Round–up

Table 1: Proposed timetable