Math 100C
Fall/2006
Senior Lecturer: Mrs. Susan Riner

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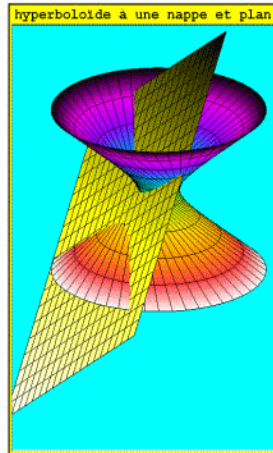
Thoughts on mathematics……….

A mathematician may say anything he pleases, but a physicist must be at least partially sane.
Josiah Willard Gibbs.

From *Alice's Adventures in Wonderland* by Lewis Carroll: The Mock Turtle went on. 'We had the best of educations ... Reeling and Writhing, of course, to begin with, and then the different branches of Arithmetic: Ambition, Distraction, Uglification, and Derision.'

A seven-year-old acquaintance claimed that the last number of all was 23,000. "What about 23,000 and one?" she was asked. After a pause she said: "Well, I was close."
Anonymous

In the company of friends, writers can discuss their books, economists the state of the economy, lawyers their latest cases, and businessmen their latest acquisitions, but mathematicians cannot discuss their mathematics at all. And the more profound their work, the less understandable it is.
Alfred Adler

Mathematicians are like Frenchmen: whatever you say to them they translate into their own language and forthwith it is something entirely different.
Johann Wolfgang von Goethe

A man whose mind has gone astray should study mathematics.
Francis Bacon

Medicine makes people ill, mathematics make them sad and theology makes them sinful.
Martin Luther

In mathematics you don't understand things. You just get used to them.
Johann von Neumann

From *The Times* [London] article titled *Pupils sum up math teachers as fat nerds* by Simon de Bruxelles: MATHEMATICIANS are fat, scruffy and have no friends -- in any language. Youngsters from seven countries, asked to come up with a portrait of the typical mathematician, showed a badly dressed, middle-aged nerd with no social life…..
Most children drew white men with glasses, often with a beard, bald head or weird hair, and shirt pockets filled with pens, who were working at a blackboard or computer. Finnish children had an even more disturbing view of math teachers: several portrayed them forcing children to do sums at gunpoint….

In the pure mathematics we contemplate absolute truths which existed in the divine mind before the morning stars sang together, and which will continue to exist there when the last of their radiant host shall have fallen from heaven.
Edward Everett

It is here [in mathematics] that the artist has the fullest scope of his imagination.
Havelock Ellis

The mathematical sciences particularly exhibit order, symmetry, and limitation; and these are the greatest forms of the beautiful.
Aristotle

And my personal favorite:
Life is good for only two things, discovering mathematics and teaching mathematics.
Siméon Poisson

Math 100C
Syllabus
Fall, 2006

Senior Lecturer: Mrs. Susan Riner
Office: Pierce Hall 120B
Phone: 784-8316

Text: <u>Algebra and Trigonometry</u> by Keedy/Bittinger, 6th edition

Purpose: This course is designed to prepare students for Math 120 (Geometry), Math 107 (Statistics), and Math 110A (Calculus). If credit is received for Math 110A, the 2-hour credit for Math 100C will be deleted. **Only those students making an A or high B in Math 100C should take Math 110A.** Math 100C will provide each student with an opportunity to increase his or her proficiency in and understanding of the basic concepts of Algebra, graphing, combinatorics, probability, and basic trigonometry. You may not drop Math 100C after September 5th.

Goals and Objectives: Students should - without the aid of a calculator – demonstrate the following: proficiency in algebraic and trigonometric calculations, graphing lines, parabolas, absolute values, hyperbolas, circles, sine and cosine curves, logarithmic and exponential functions; rules of probability, and methods of counting; retention of algebraic and trigonometric formulas; understanding of basic concepts, rules, and theorems in algebra, trigonometry, probability, and counting.

Attendance: Students are expected to be on time and attend all classes and are responsible for all material covered in class as well as any changes made in the attached schedule regarding topics, homework, quizzes, and test dates. Attendance and consistent preparation for class will determine the success or failure the student realizes in this course. Missing classes, tests, assignments, etc. due to observance of religious holidays should be worked out in advance with the professor.

Homework: Homework problems will not be collected but are assigned to benefit you. You will need to study 2-3 hours outside of class for every hour spent in class.

Tutoring: Student tutors are scheduled for a limited amount of time per week in the evenings. You may want to consult tutors if you are having trouble with homework problems. Tutoring schedules are posted in the Seney Hall classrooms and mathematics offices.

Labs: There will be four Math 100C labs. During these labs, students will work in groups on problems related to the material currently being covered in class. Students may use textbooks, calculators, and class notes. Each group will turn in one lab and receive one grade. Attendance is mandatory. Since lab assignments are to be done as a group rather than individually, **there is no provision for making up a missed lab.**

Honor Code: **The Honor Code of Oxford College applies to all work submitted for credit. You will pledge with your signature that the work you submit for credit is yours and yours alone.**

Assessment Procedures: Tests will be given on Tuesdays during the lab period. Quizzes will be given during class time. Labs not used for tests will be used for graded group assignments. Each test should be passed with 70 points or more with provisions made for one re-test per section. 70 will be the highest grade given on a re-test. If any student needs special accommodations, the appropriate paperwork should be turned in to the professor and arrangements made prior to the first graded assignment. There is no provision for making up tests. **If a student has a note from a doctor or a documented family emergency**, that student may take the re-test. The lowest quiz grades will be dropped. Therefore, **there is no provision for making up a quiz**.

A STUDENT MUST MAKE 70% OR ABOVE ON THE FINAL EXAM IN ORDER TO PASS MATH 100C.

Points will be distributed as follows:

4 Tests	100 points each	400 points
4 Labs	25 points each	100 points
Quizzes	100 points total	100 points
Final Exam	200 points total	200 points
Total		800 points

Grades will be assigned as follows:

A (90 - 100): 720-800 points
B (80 - 89): 640-719 points
C (74 - 79): 592-639 points
D (70 - 73): 560-591 points
F: Below 560 points

Math 100C - Topics

Wed., Aug. 30	1.2 - Exponential Notation
Fri., Sept. 1	1.3, 1.4 - Algebraic Operations
Mon., Sept. 4	Labor Day Holiday
Wed., Sept. 6	1.5 - Factoring
Fri., Sept. 8	1.6 - Rational Expressions
Mon., Sept. 11	1.6 - Rational Expressions (cont.)
Tues., Sept. 12	**Lab I**
Wed., Sept. 13	1.7 - Radical Expressions
Fri., Sept. 15	1.8 - Rational Exponents
Mon., Sept. 18	Review
Tues., Sept. 19	**Test I**

Wed., Sept. 20	2.1 - Solving equations
Fri., Sept. 22	2.2 - Rational Equations
Mon. Sept. 25	2.5 - Quadratic Equations
Wed., Sept. 27	2.7 - Radical Equations
Fri., Sept. 29	2.8 – Equations Reducible to Quadratic
Mon., Oct. 2	3.1 - Graphs
Tues., Oct. 3	**Lab II**
Wed., Oct. 4	3.2 - Distance, Circles
Fri., Oct. 6	3.3 - Functions
M-T, Oct. 9, 10	Midsemester Breaks
Wed., Oct. 11	3.4 - Lines
Fri., Oct. 13	3.7 - Combinations of Functions
Mon. Oct. 16	Review
Tues., Oct. 17	**Test II**

Wed., Oct. 18	3.8 - Transformations
Fri., Oct. 20	4.1 - Quadratic Functions
Mon., Oct. 23	4.2, 4.3 –Absolute Value, Interval Notation
Wed., Oct. 25	5.2 – Exponential Functions
Fri., Oct. 27	5.3 – Logarithmic Functions
Mon., Oct. 30	5.4 – Properties of Logarithmic Functions
Tues., Oct.31	**Lab III**
Wed., Nov. 1	5.7 – Solving Equations/Natural Logs
Fri., Nov. 3	6.1, 6.2 - Unit Circle, Sine and Cosine
Mon., Nov. 6	Review
Tues., Nov. 7	**Test III**

Wed., Nov. 8	6.3 - Trigonometric Functions
Fri., Nov. 10	6.4 - Angles and Rotations
Mon., Nov. 13	6.5 - Triangle Trig
Wed., Nov. 15	6.7 – Trigonometric Graphs
Fri., Nov. 17	6.7 – (Continued)
Mon., Nov. 20	11.5 - Fundamental Counting
W-F, Nov. 22-24	Thanksgiving Break
Mon., Nov. 27	11.5 – Permutations
Tues., Nov. 28	**Lab IV**
Wed., Nov. 29	11.6 - Combinations
Fri., Dec., 1	11.7 - Binomial Theorem
Mon., Dec., 4	Review
Tues., Dec., 5	**Test IV**
Wed. Dec., 6	11.8 - Probability
Dec. 8,11	Exam Review