

“Translation” of Course Description

Contemporary Math II is a college-level mathematics course which introduces students to 5 topics widely applied in contemporary life.

The unit on **computers and problem-solving** addresses a variety of strategies for problem-solving, and the role of algorithms. We consider definition of variables, sequencing of steps, the flowchart, and elementary BASIC programming language.

The unit on **calculators** teaches the student to use a scientific calculator. “What *do* all those keys do? What are some of the tricks that make computation easier?”

The unit on **statistics** introduces students to the notation and vocabulary of descriptive statistics. “What does the charts shown and polls reported in the news really mean? Why do we expect a store to stock more shirt with size $15\frac{1}{2}$, 16 and $16\frac{1}{2}$ necks than any other size?”

The unit on **consumer math** looks at calculations for interest earned in bank accounts, interest paid on credit cards, mortgage payments, retirement accounts, and lottery payoffs. We learn the basic mathematics of financial planning.

The unit on **graph theory** looks at problems of routing and scheduling. How is a delivery route determined? How can the power company inspect every power line most efficiently? How can you schedule two general laborers to work together to complete a complex task in the minimum length of time?

Contemporary Math II (MAT173)
COURSE POLICY
Spring, 2004

COURSE DESCRIPTION: This course presents varied mathematical topics which have application in contemporary society. Topics include statistics (sampling, measures of central tendency, measures of variation, normal distribution, frequency distributions and histograms), graph theory (modeling, Eulerian and Hamiltonian graphs, directed graphs, optimization procedures), calculators (specialized functions, number patterns, use in problem-solving), consumer math (payroll, investments, financing, budgets), and computers (algorithms, flowcharts, applications to the course's other topics). The course encourages students to interpret, analyze, and evaluate from a mathematical perspective. This course meets General Education "Quantitative Thought" requirement 5.

PREREQUISITE: MAT095 (Fundamentals of Algebra) or equivalent

INSTRUCTOR: Professor Shirley A. MacKenzie

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Website: <http://learn.aero.und.edu/htmlmez/>

Office Hours: Posted at Office and on website

Additional hours by appointment

REQUIRED TEXT: **Fundamentals of Mathematics** (9th ed.) – William M Setek, Jr. & Michael A. Gallo (Prentice-Hall, 2002)
Instructor-prepared Supplements (distributed in class)

ALSO REQUIRED: Scientific or Graphing Calculator
(*not* Hewlett-Packard, unless you are already familiar with it)

<u>SYLLABUS:</u> Unit #	<u>Unit Name</u>	<u>Text Reference</u>
1	Computers & Problem Solving	1.1-1.3, 1.6 Supplements
2	Calculators	Supplements variety of sections
3	Statistics	5
4	Consumer Math	12.5-12.7, 12.9, 12.10 Supplements
5	Graph Theory	11.9, Supplements

OBJECTIVES: A detailed list of course objectives is available from the instructor.

COURSE PROCEDURES: Course content will be presented through a variety of instructional modes including lecture, Powerpoint presentation, class workshop, group discussion, homework assignments, Internet searches, and required reading. These formats *depend heavily upon students' regular attendance and frequent interaction* with the instructor and fellow students.

ATTENDANCE: Attendance in class, coupled with required home study, is essential to successful completion of the course. In some instances, the class meeting will afford the *only direct access to course material*. **Students will be held responsible for all material presented to the class and for all assignments, regardless of absences. Students may be advised to withdraw after 3 absences.**

ASSISTANCE: You will have the assistance of **your instructor** during class and office hours (posted or by appointment) and by voice- and e-mail. Tutors in the **Tutoring and Academic Support Center** (E174) may be of assistance with **selected units**, but such assistance is *limited*. When necessary, please consult with your instructor for specific sources of supplementary help or information. The instructor's website will have postings of supplementary material and/or links to relevant sites.

ASSIGNMENTS: It is essential that you make yourself an *active participant in the learning process* for this course. *For each hour of class meeting, you should expect to study at least two hours outside of class*. Be sure to actually read the materials and do the problems assigned. **All assignments will be collected and graded.** ($+$ = 95, $=$ 85, $-$ = 75). The instructor reserves the right to refuse assignments that are not submitted in accord with Guidelines distributed by the instructor. Assignments will not be accepted after the due date of the corresponding Unit Test.

UNIT TESTS: At the end of each unit there will be a **take-home unit test**. Students will normally have 7 –10 days to complete the test. Unit tests are to be submitted ***ON TIME*** with ***WORK CLEARLY DOCUMENTED***. **Ten points PER DAY will be deducted for late submission of Unit Tests.**

FINAL EXAM: You *must* take the Final Exam to receive a grade in the course. The Final Exam will cover all five units of course content. Possible questions will be distributed approximately 2 weeks before the Exam, which is scheduled for the week of May 10. The exact time and location will be announced.

GRADING: Your grade is the weighted average of your Unit Test average (40%), your homework assignment average (30%) and your Final Exam grade (30%). The letter grade for the course will be assigned in accord with the breakdown in the College Catalog. As the course is **not self-paced**, an IP grade is available only under extraordinary circumstances. In any case, the student must have demonstrated a good attitude and motivation, paired with satisfactory home preparation and class participation.