

**MATHEMATICS 131 – INTRODUCTION TO MATHEMATICS**  
**SECTION A – Winter 2003**

**Instructor:** Prof. Ted Sundstrom                      **Office:** 2268 Mackinac Hall

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**Instructor's Home Page:**                      <http://faculty.gvsu.edu/sundstrt/>

**Class Schedule:** Tu Th                      11:30 – 12:45                      2050 Mackinac Hall

**Office Hours**      Mon. 11:00 – 12:00                      Tue. 2:00 – 3:00  
                            Thur. 9:30 – 10:30                      Fri. 9:00 – 10:00      and by appointment

**Prerequisite:** MTH 110

**Textbook:**      *Excursions in Modern Mathematics*, Fourth Edition by Peter Tannenbaum and Robert Arnold, Prentice Hall, copyright 2001.

**Internet Access and Student e-mail:**      Most of the materials and information for this course will be posted to the course home page. This homepage is part of one of Grand Valley's internet sites called "GVSU Blackboard." The internet address for the GVSU Blackboard System is <http://bb.gvsu.edu>. (A link to this page is also on the instructor's home page.)

**Students are expected to check the course home page daily since the course schedule and assignments will be posted on this home page. Students are also expected to use the e-mail provided by GVSU as the instructor will frequently send e-mail messages to the entire class.**

**Absences:**      Students are responsible for material covered and announcements made during absences from class. Since material that is not in the text will be presented in class, it is advised that students miss as few classes as possible.

**Tentative Course Content:**      The Mathematics of Social Choice (the mathematics of voting, weighted voting systems, the mathematics of fair division, and the mathematics of apportionment); Growth (spiral growth in nature, the mathematics of population growth); Symmetry; Fractal Geometry. The plan is to cover the following chapters in the textbook:

- |    |                                      |   |                             |
|----|--------------------------------------|---|-----------------------------|
| 1  | The Mathematics of Voting            | 2 | Weighted Voting Systems     |
| 4  | Apportionment                        | 5 | Euler Circuits              |
| 6  | The Traveling Salesman Problem       | 7 | The Mathematics of Networks |
| 8  | The Mathematics of Scheduling        | 9 | Spiral Growth in Nature     |
| 10 | The Mathematics of Population Growth |   |                             |

- Honor System:** All work that you submit for this course must be your own work (or the work of your team on the assignments). *Plagiarism is not acceptable* and will not be tolerated. No credit will be given for the solutions of problems in which plagiarism is involved.
- Writing in Mathematics:** Writing is an important part of communicating mathematical results. The homework and writing assignments, tests, and final examination will frequently require you to write solutions to mathematical problems or write about mathematics. Mathematical writing means more than writing formulas and circling an answer. It requires explanations of all significant steps taken in the solution of a problem. These explanations must be written in complete sentences and paragraphs with appropriate formulas and graphs included. Grading will be based on the quality of the writing, the quality of the mathematical content, and the logical organization of the writing. Students are encouraged to use Microsoft Word and its Equation Editor.
- Homework Assignments:** Almost every week, a homework assignment consisting of some exercises from the text will be posted on the home page for this course. These assignments must be completed before class on Thursday. Each assignment will be graded on a 15 point scale, and the lowest homework score for each student will be dropped. Since discussing mathematical results with your colleagues is an important part of this course, these assignments can be done individually or in teams of two or three students. See the comments about writing in mathematics and about academic honesty earlier in this syllabus.
- Writing Assignments:** There will be two major writing assignments for the course. These assignments can be done individually or in teams of two or three students. Each assignment will be worth 75 points. Assignment #1 will be due on Tuesday February 25, 2003 and Assignment #2 will be due on Thursday April 10, 2003. More information about the assignments will be provided later. See the comments about writing in mathematics and about academic honesty earlier in this syllabus.
- Tests:** There will be two tests worth 100 points each. The date for each test will be announced in class and on the course home page at least one week prior to the test. No make-up tests will be given without permission from the instructor prior to the date of the test.

**Final Examination:** The final examination will be a cumulative exam worth 100 points. It is scheduled for Wednesday April 23, 2003 from 12:00 noon to 1:50 p.m.

**Grading:** Grades will be determined by the scores on the homework assignments, writing assignments, tests, and final examination according to the following scale:

Grade	Minimum Score	Grade	Minimum Score
A	90%	C+	74%
A-	87%	C	70%
B+	84%	C-	67%
B	80%	D+	64%
B-	77%	D	60%