

**WALTERS STATE COMMUNITY COLLEGE  
COURSE SYLLABUS**

**COURSE NAME AND NUMBER:** Finite Mathematics - MATH 1630

**SEMESTER AND YEAR:**

**INSTRUCTOR:**

Mathematics Division Fax: 423-585-6873

Division Secretary: 423-585-6864

Tutoring: Ms. Sharon Duff – tutor hours and location will be posted on ACAD 221

Office Hours: Posted on Office Door or by Appointment.

**REQUIRED TEXTBOOK:** Mathematical Applications, eighth edition, by Harshbarger/Reynolds published by Houghton Mifflin Company

**REQUIRED TECHNOLOGY:** TI-83 or TI-84 graphing calculator required for course – discuss with instructor if you own a different graphing calculator

**CATALOG DESCRIPTION OF COURSE:**

A course in algebraic, logarithmic, and exponential functions. Other topics include systems of linear equations and inequalities, matrices, linear programming, and mathematics of finance. (Prerequisite: Two years of algebra and one year of geometry in high school or completion of developmental mathematics).

**3 Semester Credits**

**COURSE OUTCOMES:**

The student will develop and demonstrate the ability to:

1. Apply the concept of function and mathematical modeling in business, economics, and management applications.
2. Graph and use linear and polynomial functions in applications.
3. Graph and use exponential and logarithmic functions in applications.
4. Calculate interest, present and future value, annuities, and amortization tables.
5. Solve and use systems of linear equations and inequalities in two variables in applications.
6. Use Gauss-Jordan elimination to solve linear systems of equations with two or more variables in applications.
7. Understand the concept of matrices and their usage and perform operations on matrices.
8. Formulate and solve linear programming problems graphically and by using the Simplex Method.
9. Use calculators and computers in learning and doing mathematics.

**GENERAL EDUCATION DESIGNATION: Mathematics (3 hours)**

**COURSE CONTENT:** *The instructor may change the order of the topics.*

Chapter 1 – Linear Equations and Functions

1.1 Solution of Linear Equations and Inequalities in One Variable

1.2 Functions

1.3 Linear Functions

1.4 Graphs and Graphing Utilities

- 1.5 Solutions of Systems of Linear Equations
- 1.6 Applications of Functions in Business and Economics

## Chapter 2 – Quadratic and Other Special Functions

- 2.1 Quadratic Equations
- 2.2 Quadratic Functions; Parabolas
- 2.3 Business Applications of Quadratic Functions
- 2.4 Special Functions and Their Graphs
- 2.5 Modeling; Fitting Curves to Data with Graphing Utilities

## Chapter 3 – Matrices

- 3.1 Matrices
- 3.2 Multiplication of Matrices
- 3.3 Gauss-Jordan Elimination: Solving Systems of Equations
- 3.4 Inverse of a Square Matrix; Matrix Equations

## Chapter 4 – Inequalities and Linear Programming

- 4.1 Linear Inequalities in Two Variables
- 4.2 Linear Programming: Graphical Methods
- 4.3 The Simplex Method: Maximization

## Chapter 5 – Exponential and Logarithmic Functions

- 5.1 Exponential Functions
- 5.2 Logarithmic Functions and Their Properties
- 5.3 Solution of Exponential Equations: Applications of Exponential and Logarithmic Functions

## Chapter 6 – Mathematics of Finance

- 6.1 Simple Interest; Sequences
- 6.2 Compound Interest; Geometric Sequences
- 6.3 Future Value of Annuities
- 6.4 Present Value of Annuities
- 6.5 Loans and Amortization

Note: Are you enrolled in the correct course for your major? Some majors and some 4-year colleges require MATH 1530, 1710, 1720, or 1910 instead of MATH 1630. Are you enrolled in the correct course for your mathematical background? If you have a strong mathematics background including advanced high school mathematics, talk to your instructor about enrolling in MATH 1710, 1720, 1830, or 1910

### **INSTRUCTIONAL AND EVALUATION METHOD:**

### **FINAL EXAM:**

The final examination for this class will be:

### **COURSE GROUND RULES:**

All students attending Walters State Community College, regardless of the time and location of the class, must abide by the rules and regulations outlined in the current *Walters State Catalog/Student Handbook* and the current *Walters State Timetable of Classes*. A copy of the Catalog /Handbook and the Timetable of Classes may be obtained from the admissions office on the main campus or at any of our off-campus sites. You may also access the Catalog/Handbook on-line at the following web address: <http://www.ws.edu/catalog>

Students should attend the first day of class or contact the instructor prior to the first class. Failure to do this may result in being dropped from the class.

Plagiarism, cheating, and other forms of academic dishonesty are prohibited.

Students with disabilities must register with Student Support Services (CCEN), Room 262 (phone 423-585-6892) if they need any special facilities, services, or consideration.

Students in need of tutoring assistance are encouraged to contact the Office of Student Tutoring located in the College Center (CCEN), Room 261. The phone number is 423-585-6920.

Students receiving any type of financial aid or scholarship should contact the Financial Aid Office before making any changes to their schedule. Schedule changes without prior approval may result in loss of award for the current term and future terms.

Students who have not paid fees on time and/or are not correctly registered for this class and whose names do not appear on official class rolls generated by the Admissions and Records Office will not be allowed to remain in class or receive credit for this course.

**Cellular phone use during classroom interaction is prohibited.** Cellular phones must be turned to the non-audible mode until after class, at which time calls can be received or checked. (See *the Walters State Catalog/Handbook*)

For information related to the cancellation of classes due to inclement weather, please check the college's Web site at [www.ws.edu](http://www.ws.edu) or call the college's student information line, 1-800-225-4770, option 1; InfoConnect, (423) 581-1233, option 1045; the Sevier County Campus, (865) 774-5800, option 9; or the Greeneville/Greene County Center for Higher Education, (423) 798-7940, option 4. Also, please monitor local TV and radio stations for weather-related announcements. For additional information on this policy see the college catalog.

In the event of a pandemic or other college declared critical event that impacts the college's ability to proceed with academic course activities as planned, the college reserves the right to alter this course plan. In the event of a pandemic or other event, please refer to the college's home web page, [www.ws.edu](http://www.ws.edu) or call InfoConnect, (423) 581-1233 for further information.

Regular class attendance is a student's obligation. (See *the Walters State Catalog/Student Handbook*) If for some reason a student misses class, it is his or her responsibility to see the instructor regarding missed assignments and/or activities and to be prepared for the next class. Excessive absences may substantially lower the semester grade. The college requires the instructor to keep accurate records and to report when students are not attending class.

**DROP DEADLINE:**

**ACCESS FULL SYLLABUS:** <https://elearn.ws.edu>