

Columbus State Community College
Mathematics Department
Student Syllabus

Course and Number: MATH 1130 – Business Algebra **Credits:** 5 **Class Hours Per Week:** 5

Prerequisites: MATH 1075 Minimum grade of “C” or MATH 1099 completion of MATH 1075 module or placement equivalent

COURSE DESCRIPTION: This course focuses on college algebra topics for students majoring in economics and business. It presents a review of applications of equations, inequalities, and function notation. This course serves as an introduction to: graphs of functions, translations and reflections of graphs of functions, asymptotic behavior; algebra of functions including function composition and inverses, difference quotients and average rates of change, direct and inverse variation, behavior and modeling of functions including: linear, quadratic, polynomials functions of higher degree, rational, radical, exponential, logarithmic and piecewise functions; matrices: addition, subtraction, multiplication, row reduction, and solving systems using row reduction; and the mathematics of finance: compound interest, annuities, amortization and sinking funds. Business applications evidenced throughout.

COURSE GOALS: To develop mathematical thinking and communication skills and learn to apply precise logical reasoning to problem solving. A broad range of examples and applications will be used involving business and other disciplines. This course will also prepare students for MATH 1131: Calculus for Business and will satisfy five hours of the liberal arts requirement of the AA degree.

INSTITUTIONAL LEARNING GOALS:

Columbus State Community College's Institutional Learning Goals are an integral part of the curriculum and central to the mission of the college. For this course (MATH 1130), students are expected to demonstrate the skills associated with the Institutional Learning Goals identified below:

- #1 Critical Thinking
- #3 Quantitative Skills

Students are assessed on their achievement of these outcomes. Names will not be used when reporting results. Outcomes-based assessment is used to improve instructional planning and design and the quality of student learning throughout the college.

TEXTBOOK, MANUALS, REFERENCES, AND OTHER REQUIRED MATERIALS:

- **Textbook and MyMathLab (MML) Homework System:** A customized textbook containing: College Mathematics for Business, Economics, Life Sciences, and Social Sciences, 14th Ed., by Barnett, Ziegler, Byleen, and Stocker and certain sections of Algebra & Trigonometry Enhanced with Graphing Utilities, 7th Ed., by Sullivan and Sullivan will be used as the textbook in this course. **You do NOT need to purchase the textbook (an e-book) or access to MyMathLab (MML) from CSCC's Bookstore (or anywhere else).** These items are included in your tuition. Instructions on how to access the e-book and MML will appear on Blackboard three days before the semester starts via

Redshelf Course Materials Instant Access. When you register on MML, you will be prompted to enter a Course ID provided by your instructor.

- **Graphing Calculator:** A graphing calculator is **REQUIRED**. The Texas Instruments' TI-84 (regular, Plus, Silver, etc.) graphing calculator is strongly recommended, fully supported, and approved for use during proctored assessments.
 - *Calculator Alternatives:* Some students may prefer to use a CASIO-FX-9750GII, TI-Nspire (non CAS version), or a TI-83. These are less expensive options that are similar to the TI-84, and that are approved for use during proctored assessments. However, note that your instructor will primarily use the TI-84 when teaching, meaning that you will need to learn how to perform any necessary operations, using these other calculators, without your instructor's help.
 - Other graphing calculators may be permitted. If you own a different calculator, please check with your current instructor to see if your calculator will be allowed during their proctored assessments.
 - The TI-89, TI-92, TI-Nspire CAS, or other Computer Algebra System (CAS) calculators, are never allowed during proctored assessments.
 - Your instructor may require that your graphing calculator's memory be reset (all RAM cleared) prior to each proctored assessment.
 - The Columbus State Bookstore sells both the TI-84 and CASIO-FX-9750GII for your convenience. Additional resources supporting the use of the TI-84 and CASIO-FX-9750GII may be available at:
<http://www.csc.edu/academics/departments/math/graphing-calculator.shtml>.
- **Graph Paper**

SPECIAL COURSE REQUIREMENTS: None.

NOTE TO STUDENTS: To achieve a mastery of the course material, the Mathematics Department recommends that the student should be prepared to spend an average of 15 hours per week on this course.

Audio-and videorecording, transmission, or distribution of class content (e.g., lectures, discussions, demonstrations, etc.) is strictly prohibited unless the course instructor has provided written permission via the syllabus or a signed form. Authorization to record extends solely to students in that course. Transmitting, sharing, or distributing course content onto public, commercial, or social media sites is strictly prohibited.

GENERAL INSTRUCTIONAL METHODS: Lecture, discussion, demonstration, exploration, and discovery exercises with the use of visual aids, graphing calculators, and/or computer resources.

UNITS OF INSTRUCTION:

B: Represents sections from *College Mathematics for Business, Economics, Life Sciences, and Social Sciences*, 14th Ed., by Barnett, Ziegler, Byleen, and Stocker.

S: Represents sections from *Algebra & Trigonometry Enhanced with Graphing Utilities*, 7th Ed., by Sullivan and Sullivan.

- Applications of Equations and Inequalities; Equations of Lines (B: Sec. 1.1 - 1.3)
- Functions: Properties, Operations, and Transformations (B: Sec. 2.1, 2.2, S: Sec. 3.2, 3.3)
- Functions: Quadratic, Polynomial and Rational; Function Composition (B: Sec. 2.3, 2.4, S: Sec. 5.1, 5.4 - 5.6, 6.1)
- Functions: Exponential and Logarithmic Functions (B: Sec. 2.5, 2.6)
- Mathematics of Finance (B: Sec.3.1 – 3.4)
- Matrices, Matrix Operations, Solving Linear Systems by Matrices (B: Sec. 4.1 – 4.4)

STANDARDS AND METHODS FOR EVALUATION:

Final Exam = 25% of course grade (final exam is 100% departmental).

The remainder of the grade is to be determined by the instructor, subject to the following departmental policies:

- Award NO CREDIT for attendance and/or class participation.
- Award NO CREDIT for assignments that are checked for completion, but not graded for accuracy. (i.e., giving points for doing homework, but not grading the problems for correct answers.)
- At least 70% of the course grade must be determined using closed book, proctored, individual assessments (standard tests and quizzes). Eliminate extra credit assignments or limit them to no more than 2% of the overall grade for the course.

GRADING SCALE:

Letter grades for the course will be awarded using the following scale:

≥ 90% - A 80-89% - B 70-79% - C 60-69% - D < 60% - E/EN

Regarding E and EN grades: If you submit a quiz, test, assignment, etc. for a grade, it is defined that you “completed” that assignment (assessment) in the context of the discussion below.

- Your instructor will assign an “EN” grade if you fail the course and you complete less than 70% of the coursework: quizzes, tests, assignments, etc. measured in total points possible.
- Your instructor will assign an "E" grade If you fail the course and you complete 70% or more of the coursework: quizzes, tests, assignments, etc. measured in total points possible.

Grades will not be curved, skewed, or otherwise inflated.

FACE-TO-FACE CLASSES: (In the event the course changes from face-to-face to online)

Although not anticipated, the pandemic might force our course to change to an online modality. In the event this happens, the course will be presented using prerecorded online videos and/or live online lectures during the scheduled days and times of our class. Assessments such as quizzes and tests will be made available online through Blackboard or other stated method. Your instructor will discuss with you a contingency plan specific to your class if the changeover to online instruction becomes necessary.

ATTENDANCE/LATE WORK POLICY: Students are expected to attend class every time it meets. You are also expected to arrive on time, stay to the end of class, and participate. Your instructor will insert their attendance/late work policy here.

LAST DAY TO WITHDRAW FROM COURSE: If you should decide to drop this course, but do not officially do so through Records & Registration, a failing grade will be recorded on your transcript. See CSCC's academic calendar for the last day to drop this course. Drops will be allowed after this date. Drop forms are available from the Counseling/Advising Center and from Records and Registration.

ASSESSMENT: Columbus State Community College is committed to assessment (measurement) of student achievement of academic outcomes. This process addresses the issues of what you need to learn in your program of study and if you are learning what you need to learn. The assessment program at Columbus State has four specific and interrelated purposes: (1) to improve student academic achievements; (2) to improve teaching strategies; (3) to document successes and identify opportunities for program improvement; (4) to provide evidence for institutional effectiveness. In class you are assessed and graded on your achievement of the outcomes for this course. You may also be required to participate in broader assessment activities.

MATHEMATICS DEPARTMENT PROCTORING STATEMENT:

The CSCC Mathematics Department requires proctored testing in all courses, in all modalities. Due to the COVID-19 emergency, that requirement may be waived as necessary. However, proctored testing (virtual or in person) may be required at any time if/when the college establishes an appropriate process.

MATHEMATICS DEPARTMENT DIVERSITY, EQUITY, AND INCLUSION:

The CSCC Mathematics Department faculty value diversity of thought, perspective, and experience, and respect your identities (including but not limited to race/ethnicity, age, gender identity or expression, class, sexual orientation, religion, and ability). The education, rights, and well-being of all students are encouraged and cultivated. Our goal is to foster and support safe and inclusive learning environments with equitable opportunities for all students to participate, contribute, and succeed.

COLLEGE SYLLABUS STATEMENTS: Columbus State Community College required College Syllabus Statements on College Policies and Student Support Services can be found at www.csc.edu/syllabus or on the College website Quick Link "Syllabus Statement".

TUTORING RESOURCES:

The following are ways of obtaining free tutoring:

- Visit the Learning Resource Center (DH 313, DH 314 & AQ 213) during posted hours. **You will be required to sign in using your Cougar ID number.** Tutoring is also available at the Delaware Campus and the Dublin, Westerville, and Reynoldsburg branch locations. LRC hours change each semester. For current schedules, please visit: <http://www.csc.edu/academics/departments/math/tutoring.shtml>
Tutoring runs on a drop-in basis; no appointment necessary.
- Peer Tutoring – Students can sign up for one-on-one Peer Tutoring in WD room 1095 or call the Peer Tutoring office at 614-287-2474 for additional information.
- Supplemental Instruction (SI) – Students can attend a group SI study session. Please call the Supplemental Instruction office at 614-287-2474 for additional information.
- Online Tutoring – NetTutor provides free online tutoring. Login through Blackboard. Look for the green and black “n”.

