Stony Brook University
Mathematics Department
Julia Viro

Proficiency Algebra
MAP 103
Spring 2020

Syllabus

Course description: The goal of the course is to build an algebraic foundation for pre-calculus/calculus study. We will learn how to solve linear and quadratic equations, draw graphs of linear and quadratic functions, solve linear systems in two variables, solve linear and quadratic inequalities. We will discuss exponents, polynomials, radicals, and rational expressions.

Note: This course is not for credit and does not count towards one's cumulative GPA, but the grade does appear on one's transcript, counts towards the semester GPA, and counts towards credit enrollment. It is necessary to pass this course with a grade of C or better to move onto MAT 118, 122, 123 or AMS 101 (you may also enter AMS 101 with a 2+ on the placement exam, but admittance into other courses mentioned requires a 3 or a passing grade in MAP 103). This course does NOT satisfy the DEC C requirement but does satisfy the S1 skills requirement.

Textbook:

Lynn Marecek, *Intermediate Algebra*, OpenStrax.

The book is available for free at

https://openstax.org/details/books/intermediate-algebra

The book is also available as e-book through WebAssign.

WebAssign. WebAssign is the course online platform and you need to get an access code (the first two weeks are free). The price for one semester is $37.95. You can access WebAssign through Blackboard (Tools → Access WebAssign).

Blackboard is the main resource to get the information about course materials, grades, announcements, contacts. Check it regularly.

Quizzes will be given weekly. Don't miss your classes! No make up will be given for Quizzes.

Exams: Midterm 1 is on Monday, February 24th at 8:45pm-10:15pm.
Midterm 2 is on Tuesday, April 7th at 8:45pm-10:15pm.
Final is on Wednesday, May 13th at 8:00am-10:45am.

Exams are an important part of the course. If you miss an exam without a legitimate reason, you will automatically fail the course. Please make sure that you can take all the exams!

Grading system: Your grade for the course will be based on the exams results, assignments from WebAssign, and quizzes.

In order to get the minimal passing letter grade C, you have to receive at least 45% in your cumulative score calculated as follows:

Midterm1 25%, Midterm2 25%, Final Exam 25%, WebAssign 10%, Quizzes 15%.

Retake policy: Retake exams will be given for Midterm 1 and Midterm 2 (one for each) on the dates which will be announced by the instructor.

No make-ups are allowed if you miss an exam without serious and **documented** reason. No make-ups are allowed for MyLab Math assignments, Quizzes and Final Exam.

Calculators will not be permitted on the exams. We will concentrate on conceptual aspects of the material rather than computational ones.

Math Learning Center (MLC) is a place where you can get free tutoring help with any of your math concerns. No appointment is required, just come in and ask for help. MLC is located in the basement of Math building. Website is
www.math.sunysb.edu/MLC/index.html

The Student Accessibility Support Center (SASC): If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact The Student Accessibility Support Center (631) 6326748 or http://studentaffairs.stonybrook.edu/dss/. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website:
www.stonybrook.edu/ehs/fire/disabilities/asp.

Academic integrity statement: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at www.stonybrook.edu/uaa/academicjudiciary

Critical incident management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

Weekly Plan

Week 1 (January 27-31) Numbers and variables. Operations of addition and multiplication and their properties (commutativity, associativity and distributivity). Subtraction and division as operations opposite to addition and multiplication. Parentheses and order of operations. Algebraic expressions.

Week 2 (February 3-7) Fractions and operations with them (review). Powers with integer exponents. Exponential rules.

Week 3 (February 10-14) Polynomials and operations with them. Formulas to remember: short multiplication (the square of a sum/difference) and the difference of squares.

Week 4 (February 17-21) Rational expressions and operations with them. Composing algebraic expression after word description.

Week 5 (February 24-28) Notion of equation. Equivalent equations. Solution of an equation. Linear equations. Number of solutions of a linear equation.

Midterm 1 is on Monday, February 24th at 8:45pm-10:15pm.

Week 6 (March 2-6) Word problems leading to linear equations.

Week 7 (March 9-13) Number line. Intervals. Absolute value of a real number. Linear equations involving absolute value. Linear inequalities. Equivalent inequalities. What is a solution of an inequality. Double inequalities and systems of inequalities.

Week 8 (March 16-20) Spring recess.

Week 9 (March 23-27) Rectangular coordinate system. Linear equations in two variables. Graph of a linear equation. Lines on a plane. Intercepts, slope, vertical and horizontal lines. Various forms of a linear equation: standard, two intercept, slope-intercept, point-slope form, two-points form. Parallel and perpendicular lines. Notion of a linear function. Graph of a linear function.

Week 10 (March 30-April 3) Systems of two linear equations and their geometrical interpretation. Inconsistent and dependent systems.

Week 11 (April 6-10) Midterm 2 is on Tuesday, April 7th at 8:45pm-10:15pm.
Word problems leading to systems of linear equations.

Week 12 (April 13-17) Notion of radical. Rules for radicals.

Week 13 (April 20-24) Radicals as powers with rational exponents.

Week 14 (April 27- May 1) Quadratic polynomials and quadratic equations. Quadratic formula. Factoring quadratic polynomials.

Week 15 (May 4-8) Quadratic functions and their graphs. Vertex, axis of symmetry, intercepts of a parabola. Quadratic inequalities.

Final Exam is on Wednesday, May 13th at 8:00am-10:45am