Syllabus: Course Policies and Procedures

Instructor:
Email:
Phone:
Office Hours:

Course Titles: College Algebra with Integrated Support and Integrated Support for College Algebra
Course Numbers: MATH203S and MATH065
Semester:
Class Meetings:
Classroom:

Course Descriptions and Prerequisites:

- *MATH203S College Algebra with Integrated Support*: This course covers the algebra necessary for successful completion of the Precalculus/Calculus sequence while introducing functions, graphing, and graphing utilities. Topics include the operation and use of graphing utilities, polynomial operations and functions, absolute value equations and functions, radical and rational exponent functions, piecewise functions, composite functions, and complex numbers. Corequisite: MATH065 Integrated Support for College Algebra.
- *MATH065 Integrated Support for College Algebra*: This course is designed to be paired with College Algebra to support underprepared students. Students review the skills necessary for success in College Algebra in an ongoing as-needed just-in-time fashion. Topics may include: operations on natural numbers, integers, rational numbers, and real numbers, ratio, proportions, and percentages, perimeter, area, and volume of geometric figures, solving linear equations, graphing linear equations, polynomial arithmetic, factoring polynomials, radical expressions and equations, rational expressions and equations, and solving quadratic equations. Note: credits earned in this course cannot be applied toward graduation. Corequisite: College Algebra with Integrated Support (MATH203S).

Required Materials:

- For these courses we will use two open source textbooks which are freely available online and may be downloaded and printed as needed:
    - Stitz and Zeager *Precalculus*, 3rd Corrected Edition. https://www.stitz-zeager.com/szprecalculus07042013.pdf
    - Redden *Elementary Algebra*. https://open.umn.edu/opentextbooks/textbooks/elementary-algebra
- A Texas Instruments TI-83/84 graphing calculator is required for these courses and can be rented from the college for a small fee.

Instructional Objectives:

MATH203S College Algebra with Integrated Support:

COURSE OUTCOMES	OUTCOMES ACTIVITIES
Upon successful completion of this course students should:	To achieve these outcomes students may engage in the following activities:
Use the built-in graphing capabilities of a graphing calculator in order to graph and analyze functions introduced in this course and in other mathematics and related courses.	1. Graph functions. (CT,TS) 2. Adjust the graphing window to obtain a complete graph. (TS,CT) 3. Use ZOOM and TRACE appropriately. (TS,CT) 4. Use TABLE and TBLSET appropriately. (TS,CT) 5. Use other features such as 'zero', 'minimum', 'maximum', and 'intersect' appropriately. (TS,CT) 6. Use SOLVE appropriately. (TS,CT)
Perform operations on polynomials in order to have the skills necessary to analyze and solve problems involving polynomials and polynomial functions.	1. Review addition, subtraction, and multiplication of polynomials. (CT,QS) 2. Divide polynomials, including polynomial long division. (CT,QS) 3. OPTIONAL: Divide polynomials using synthetic division. (CT,QS) 4. Solve polynomial equations and inequalities. (CT,QS) 5. Convert between interval notation, inequalities, and number line graphs. (CT,QS) 6. OPTIONAL: Apply the Remainder Theorem and the Rational Root Theorem. (CT,QS)
Apply formulas from analytic geometry and solve various types of equations in order to use these skills to solve related problems as they are introduced in this course and other mathematics and related courses.	1. Solve absolute value equations and inequalities. (CT,QS) 2. Solve radical equations and rational exponent equations. (CT,QS) 3. Apply the distance formula. (CT,QS) 4. Apply the midpoint formula. (CT,QS)
Solve problems involving circles in order to apply the technique of completing the square and to demonstrate facility in transferring knowledge back and forth between graphical and analytical.	1. Find an equation of a circle. (CT,QS) 2. Graph circles by hand and by using a graphing utility. (CT,QS, TS) 3. Find the center and radius of a circle given the equation in standard form. (CT,QS) 4. Find the center and radius of a circle given the equation in general form by completing the square. (CT,QS)
Demonstrate knowledge of the basic properties of functions in order to apply this knowledge to analyze and graph different types of functions as	1. Determine if a relation is a function. (CT,QS) 2. Find the domain and range of a function. (CT,QS) 3. Find the intercepts of a function algebraically. (CT,QS)

they are introduced in this course and other mathematics and related courses.	4. Determine if the graph of a function is symmetric with respect to the *y*-axis or the origin. (CT,QS) 5. Determine if the graph of an equation is symmetric with respect to the *x*- axis. (CT,QS) 6. Add, subtract, multiple, and divide functions and determine the domain of the resulting functions. (CT,QS) 7. Evaluate the difference quotient for polynomial and radical functions. (CT,QS) 8. Evaluate the composition of functions. (CT,QS) 9. Use the graph of a function to identify domain and range, intervals of increase and decrease, relative extrema, and intercepts. (CT,QS,TS)
Analyze and graph polynomial functions (including linear and quadratic functions), absolute value functions, and radical and rational exponent functions in order to apply and expand upon these skills and knowledge in this course and other mathematics and related courses.	1. Graph and identify the graphs of a basic library of functions including a. $y = K,$ b. $y = x^n,$ c. $y = \sqrt{x},$ d. $y = \lvert x \rvert,$ e. $y = [\![x]\!]$ f. $y = \sqrt{r^2 - x^2}$. (CT,QS,TS) 2. Use vertical and horizontal shifts, vertical and horizontal reflections, and vertical stretching and shrinking to graph functions. (CT,QS) 3. Graph piecewise functions. (CT,QS) 4. Graph and analyze the graphs of polynomial functions, absolute value functions, and radical and rational exponent functions. (CT,QS) 5. Solve applied problems involving quadratic functions. (CT,QS,R)
Solve problems involving complex numbers in order to apply these skills in this course and other mathematics and related courses.	1. Add, subtract, multiply, and divide complex numbers. (CT,QS) 2. Calculate powers of *I*. (CT,QS) 3. Solve quadratic equations whose solutions are complex numbers. (CT,QS)
To strengthen Core Competencies** in order to increase success in this and other courses and in the workplace.	Referenced above

MATH065 Integrated Support for College Algebra:

COURSE OUTCOMES	OUTCOMES ACTIVITIES
Upon successful completion of this course students should:	To achieve these outcomes students may engage in the following activities:
Successfully complete MATH203S College Algebra with Integrated Support.	7. Review prerequisite knowledge in an as needed, just-in-time fashion.
Explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words)	7. Interpret the graph of a linear function. 8. Solve appropriate real-world application problems.
Convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words)	5. Translate English statements into algebraic expressions and equations. 6. Connect the table-of-values, graph, and equation representations of linear equations. 7. Model real-world problems using equations and graphs.
Perform arithmetic and algebraic calculations (e.g., adding fractions, factoring quadratic expressions, solving quadratic equations).	5. Review arithmetic and prealgebra calculations such as adding fractions. 6. Review introductory algebra concepts such as solving and graphing linear equations. 7. Review intermediate algebra concepts such as factoring quadratic expressions and solving quadratic equations.
Make judgements and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis.	10. Solve real world applications problems.
Make and evaluate important assumptions in estimation, modeling, and data analysis	6. Solve real world applications problems.
Express quantitative evidence in support of the argument or purpose of work (in terms of what evidence is used and how it is formatted, presented, and contextualized)	4. Solve real world applications problems.
To strengthen Core Competencies** in order to increase success in this and other courses and in the workplace.	Referenced above

Teaching Procedures: This course will be taught in a lecture/discussion format with ample opportunity for student questions. Generally, class will begin with a question and answer session on the most recent homework assignment. New material will then be presented in a lecture format and homework be assigned to reinforce the topics covered in class.

Course Topics, Assignments, and Readings:

Topics	**Reading**
1.1 Formulas and Variable Expressions	Elementary Algebra 2.1 - 2.2
1.2 Linear Equations	Elementary Algebra 2.3 - 2.6
1.3 The Coordinate Plane	Elementary Algebra 3.1 - 3.2
1.4 Functions	Precalculus 1.3, 1.4
1.5 Linear Functions	Precalculus 2.1
1.6 Systems of Linear Equations	Elementary Algebra 4.5
1.7 Linear Inequalities	Elementary Algebra 3.8
Exam 1	
2.1 Adding and Subtracting Polynomials	Elementary Algebra 5.3
2.2 Monomial Multiplication	Elementary Algebra 5.1
2.3 Polynomial Multiplication	Elementary Algebra 5.4
2.4 Factoring Basics	Elementary Algebra 6.1, 6.2, and 6.4
2.5 Factoring Completely	Elementary Algebra 6.3 and 6.5
2.6 Quadratic Functions	Precalculus 2.3
2.7 The Vertex of a Quadratic Function	Precalculus 2.3
2.8 Intercepts of Quadratic Functions	Elementary Algebra 6.6 and 9.1 - 9.4
Exam 2	
3.1 Radical Expressions	Elementary Algebra 8.1 - 8.5
3.2 Complex Numbers	Elementary Algebra 9.6
3.3 Distance, Midpoint, and Circles	Precalculus 1.1.2, 7.2
3.4 Radical Functions	Precalculus 5.3
3.5 Zeros of Radical Functions	Elementary Algebra 8.6
3.6 Absolute Value Functions	Precalculus 2.2
3.7 Zeros of Absolute Value Functions	Precalculus 2.2
Exam 3	
4.1 The Domain of a Function in General	Precalculus 1.3, 1.4
4.2 Transformations	Precalculus 1.7
4.3 Symmetry	Precalculus 1.6
4.4 The Algebra of Functions	Precalculus 1.5, 5.1
4.5 Piecewise-Defined Functions	Precalculus 1.4
Exam 4	
5.1 Polynomial Functions	Precalculus 3.1
5.2 Zeros of Polynomial Functions and Polynomial Inequalities	Precalculus 3.3.1
5.3 Long Division of Polynomials	Elementary Algebra 5.5
5.4 The Rational Zeros Theorem	Precalculus 3.2, 3.3, 3.4
5.5 Rational Expressions	Elementary Algebra 7.1 - 7.3
5.6 Rational Equations	Elementary Algebra 7.5
Final Exam	

Tentative Test Schedule:

- Exam 1:
- Exam 2:
- Exam 3:
- Exam 4:
- Final Exam:

Basis for Student Grading: Grades for these courses will be assigned as follows based on the percentages. You will be assigned the same grade for both courses.

A	93% - 100%
A-	90% - 92%
B+	87% - 89%
B	83% - 86%
B-	80% - 82%
C+	77% - 79%
C	73% - 76%
C-	70% - 72%

D+	67% - 69%
D	63% - 66%
D-	60% - 62%
F	0% - 59%

Basis for Evaluating Student Performance: The grade for this course will be determined by the percentage of points earned to total points available, based on the following categories:

- Exams (80%): There will be four in-class exams given during the semester. Each exam will account for 20% of your final grade.
- Final Exam (20%): There will be a cumulative final exam given at the end of the course worth 20% of your final grade.

Attendance Policy: Attendance for this course is mandatory and students are expected to attend all class meetings.

Academic Dishonesty:

Academic Dishonesty is defined in the Massasoit Student Code of Conduct to include cheating, falsification of information, working on assignments with classmates without permission, plagiarism, purchasing or submitting assignments from others, or theft of materials. If there is information that academic dishonesty occurred, a faculty member may choose to act as outlined in the course syllabus, including issuing a failing grade for the assignment or the course.

Students may also be referred to the Dean of Students Office for disciplinary action under the Massasoit Student Code of Conduct. If the student believes that there is substantial evidence of error or injustice associated with a failing grade issued because of academic dishonesty, the student may file a grievance under the Grade Appeal Process.

Where the issuance of a failing grade by a faculty member for academic dishonesty will result in a student's dismissal from a program (for example in nursing and other health care programs), the charge

of academic dishonesty shall be directly referred to the Dean of Students Office for administration under the Student Code of Conduct.

Affirmative Action, Equal Opportunity, and Sexual Harassment:

Massasoit Community College prohibits discriminatory harassment and sexual harassment, including sexual violence. Inquiries or complaints concerning discrimination, harassment, retaliation, or sexual violence shall be referred to the Title IX Coordinator and Compliance Officer, Amee Synnott, Office of the President, 508-588- 9100, x1304, Brockton Campus, Administration Building, Room 219, asynnott@massasoit.mass.edu. A complaint can also be filed online at www.massasoit.edu/report. For more information about Title IX, visit www.massasoit.edu/title-ix.

Classroom Behavior:

Students are expected to choose behavior that does not interfere with the learning of others. In order to assure that all students have the opportunity to fulfill their educational goals, students are prohibited from engaging in substantially disruptive behavior whether they are in a face-to-face, hybrid, or an online classroom. Substantially disruptive behavior as defined by the Massasoit Student Code of Conduct includes, but it not limited to: shouting down a speaker; disrupting a faculty member's instruction such that it impedes the learning process; failing to comply with a College Official's appropriate directives or instructions; threatening harm; harassing others; fighting or committing violent acts; or engaging in conduct that places health or safety at risk. Substantial disruption or interference does not include conduct that is protected under the First Amendment. Such behavior in the classroom will result, minimally, in a request to leave class and a referral to the Dean of Students.

Participation Policy:

Federal regulations require that Massasoit verify that students are participating in classes for which they receiving aid. To fulfill this requirement, your faculty member is monitoring your participation in this course and will be required to report your participation prior to aid being disbursed. Please visit https://massasoit.edu/enrollment/paying-for-college/financial-aid/attendance-withdrawal-information/

to review the participation deadlines. Students identified as "never participated" or "stopped participating" will be notified by the Registrar that they are being withdrawn from the class.

Academic Advising:

Students should meet with their academic advisor to talk about their academic and career goals and progress in achieving them as early as possible prior to the start of each semester. Please check your Degree Works page (accessed through the Massasoit Student portal) to identify your academic advisor and their contract information.

Access & Disability Resources:

The office of Access & Disability Resources (ADR) is committed to ensuring that students with disabilities have equal, effective, and meaningful access to all academic programs, community events, goods, and services provided by the College in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Students with disabilities interested in establishing eligibility for services and/or academic accommodations will need to voluntarily disclose their disability to ADR (a confidential

process), submit qualifying documentation and complete an ADR intake meeting to determine accommodations. Once accommodations are determined, the student will need to inform their professor of their accommodations by providing the professor with a copy of an Accommodation Letter (provided by ADR) for the current semester. Students can contact ADR at 508-588-9100 x1807 or by email at adr@massasoit.mass.edu.

Visit www.massasoit.edu/adr for more information.

Basic Needs:

The Center for Basic Needs Security provides resources for students, faculty, and community members.

If a student is experiencing challenges meeting their basic needs, including clothing, food or housing insecurity as well as physical and mental health resources, there are many campus and community resources in place that can provide support. Students may email Ellyn Craig, Coordinator of Basic Needs Security, ecraig3@massasoit.mass.edu or call 508-588-9100 x 1018 for support.

Library:

The Library welcomes all visitors – students, staff, faculty, and community members – for a service- rich virtual and in-person experience. Everyone can engage in both academic research and dynamic programming that focuses on a wide range of topics and current events. Massasoit's library services include: research help, database and book access, printing, technology loans, photocopying, scanning and study spaces. The Library's Website can be accessed through a variety of options: i.e., through the Library tile shown on the MyMassasoit portal, via live chat on the Library's website, over the phone, or in-person at both our Canton and Brockton locations. For more information, visit https://library.massasoit.edu/

Office of Health and Wellness:

The Office of Health and Wellness at Massasoit is designed to support students' holistic health and well-being. We provide health information, outreach campaigns, and programs focused on high-risk areas that impact college-aged populations, such as drugs, alcohol, stress management, mental health problems, mental health prevention strategies, and tobacco cessation.

In addition to maintaining student health and immunization records, the Office of Health and Wellness leads public health crises/emergencies efforts. Additionally, we provide referrals for students experiencing physical or mental health concerns and organize comprehensive campus-wide education and programs related to all the dimensions of health. For more information, contact the Office of Health and Wellness at HealthandWellness@massasoit.mass.edu or 508-588-9100 x1495.

Tutoring Services:

The Academic Resource Center (ARC) offers both virtual and in-person tutoring services for many courses, including mathematics, science, computer science, writing, and reading. Additionally, they offer study skill support and general computer and technology assistance. Appointments are strongly recommended.

For more information and/or make a tutoring appointment:

- Call the ARC at 508-588-9100 x1801 or x2516
- Email the ARC staff atarc@massasoit.edu or cantonarc@massasoit.edu
- Use Navigate (found in the MyMassasoit portal) to schedule an appointment