

## MAT 139.AH1 Course Syllabus

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<b>MyMathLab Website:</b>	www.mymathlab.com				
<b>MyMathLab Course ID:</b>	price48933				
<b>Office Hours:</b>	Day/Time:	Monday	Tuesday	Wednesday	Thursday
	8:00 - 9:00				
	9:00 - 10:00	MAT 139 - AH1 JM 216	MAT 251 - 01 WA 117	MAT 139 - AH1 JM 216	MAT 251 - 01 WA 117
	10:00 - 11:00	Office Hours		Office Hours	
	11:00 - 12:00	MAT 039 - 01 BW 210	Office Hours	MAT 039 - 01 BW 210	Office Hours
	12:00 - 1:00				
	1:00 - 2:00	Office Hours		Office Hours	
	4:00 - 5:00	Online Office Hours			

**Required Materials:** MyMathLab Student Access, MAT 139 Coursepack, LARGE 3-ring binder, pencils, eraser, colored pens or highlighters, graphing calculator (TI-84 Calculator **strongly recommended** )

**Please note:** This textbook is available online within MyMathLab.

**Please note:** Access to a computer with Internet is required for this section of Math 139. We will be doing homework, projects, and possibly some quizzes online, outside of class. School computers can be used to satisfy these requirements.

**Course Description:** Algebraic functions, graphs and models are addressed. Emphasis is placed on the following function types: polynomial, exponential, logarithmic, rational and radical. In all topic areas, covered content includes simplifying expressions, solving equations, graphing using transformations, mathematical modeling and problem solving.

The mathematics department recommends that the prerequisite not be more than two years old. If the prerequisite is more than two years old, then the recommendation is that the course placement exam be taken or the prerequisite be retaken to ensure the success of the student. Prerequisite: MTH 039, with 2.0 minimum or PRE EQV.

**Math 139 Core Course Objectives:**

All objectives refer to the following function types: polynomial, particularly cubic and higher order polynomials, exponential, logarithmic, rational, radical. Students successfully completing Math 139 should be able to:

1. Functions: Identify functions, use function notation, compositions of functions, inverse functions, domain and range
2. Understand and use mathematical properties to simplify expressions
3. Use algebraic and graphical methods to solve equations
4. Graph functions using transformations of basic graphs; understand relationships between algebraic statement and graphical features of a function such as intercepts, asymptotes, and turning points
5. Use a combination of manual and technology-enabled methods to find, use, and interpret mathematical models for data

**General Education Outcomes & Essential Competencies:** All courses at Jackson Community College address one or more of the institutionally defined General Education Outcomes (GEOs) or Essential Competencies (ECs). Math 139 contributes GEO 3: Demonstrate computational skills and mathematical reasoning.

<https://www.jccmi.edu/academic-deans/student-assessment/general-education-ado/>

***Course Requirements:***

**Grading Information:** A 2.0 or "C" is a passing grade. Only courses with passing grades count toward graduation. Other colleges transfer in only courses with passing grades. Many financial aid sources, including most employers, require passing grades. Additionally, earning less than a 2.0 in a class results in being unable to participate in the next level of courses in a discipline which requires this course as a pre-requisite. Registering for the next course sequence without passing the pre-requisite course may result in you being dropped from that class.

<b><u>Grading Scale:</u></b>		<b><u>Grading Policy:</u></b>
<b>90 -100%</b>	<b>4.0</b>	
<b>85 - 89%</b>	<b>3.5</b>	<b>Online Homework: 11%</b>
<b>80 - 84%</b>	<b>3.0</b>	<b>In-Class Work: 12%</b>
<b>75 - 79%</b>	<b>2.5</b>	<b>Exam 1: 15%</b>
<b>70 - 75%</b>	<b>2.0</b>	<b>Exam 2: 15%</b>
<b>65 - 69%</b>	<b>1.5</b>	<b>Exam 3: 15%</b>
<b>60 - 64%</b>	<b>1.0</b>	<b>Projects: 12%</b>
<b>50 - 59%</b>	<b>0.5</b>	<b>Cumulative Final (ch 1-9): 20%</b>
<b>0-49%</b>	<b>0.0</b>	

**Classwork:** There will be frequent in-class assignments (turned in for credit). These may be individual or group assignments.

**Online Homework:**

- These assignments must be done outside of class time on a computer with internet access at MyMathLab (reachable through <http://www.mymathlab.com>). There are videos available on <http://www.youtube.com/priceallisonr> to help you navigate the MML system for completing homework assignments, using the help features, and more.
- There is a homework assignment for each section in the course.
- Homework will be due every week, on the first class-day of the week. You can check MyMathLab for particular due dates.
- **You have an unlimited number of tries to do the homework before you submit it** (up until the due date). Thus, all of your homework should receive full credit, if you keep trying until you get a perfect score.
- Late homework can be submitted for a **late penalty of 2% per day**. The penalty applies to individual questions submitted after the due date; it is to your advantage to complete as many questions as possible before the deadline expires!

**Projects:** Details will be given to you during the course of the semester. This is where the honors component of the course will be most apparent, as we will be completing three projects, one of which will include a service learning component.

**Exams:** Every exam has a few cumulative review questions on it. The final exam is cumulative for the whole course. You must make every effort to take your exam on the day it is given. If you must miss an exam under extreme circumstances you are required to notify your instructor in advance either in person, by e-mail or by phone. If you notify the instructor prior to the exam, a make-up test will be arranged and must be taken before the exam is passed back to the class or a zero will be given for that exam. If you fail to notify the instructor of your absence prior to the test, no make-up exam will be allowed and a zero will be given for that exam. Only official, instructor provided formula sheets may be used on exams. No books or notes may be used.

**Intermediate Grading:** To comply with college policy and federal regulations you will receive three intermediate grades during the semester. The grades assigned are letters with the following meanings:

- **V:** Verifies that you are participating and your work so far has been acceptable
- **H:** Means that you are participating, but your work shows that you may require Help in order to complete the class successfully. If you receive an H grade, you will be contacted by the Center for Student Success (located in 125 Bert Walker Hall) and offered tutoring services.
- **Q:** Means that you have quit participating in the course. If you receive a Q grade, you will automatically be withdrawn from the course. A Q grade is normally assigned if you have not submitted work (classwork, exams, participation, etc.) for two weeks and have not contacted your instructor regarding your absences.

**Important Dates:** Be sure to check out the JCC Academic Calendar for important dates such as holidays with no classes, last day to withdraw, etc. at [http://www.iccm.edu/academics/academic\\_calendar.htm](http://www.iccm.edu/academics/academic_calendar.htm)

**Extra Credit Policy:** There will be no opportunities for extra credit. Your grade is based on your performance in class, not on extras. This is a mathematics department policy.

**Absence Policy:** Students are expected to attend all class meetings, arriving on time, and staying until the end. We do a variety of in-class activities involving other students and group participation and therefore cannot be made up outside of class for any reason. If absence is unavoidable the **student is responsible** for obtaining the missed lecture notes from another student and continuing with the homework and assignments on their own. Please remember that office hours are not a replacement for class time.

**Incompletes Policy:** (Excerpt from JCC Policy) "A student may request an incomplete from the instructor. The incomplete will be granted only if the student can provide documentation that his or her work up to that point is sufficient in quality, but lacking in quantity, due to circumstances beyond the student's control. Furthermore, a written plan for making up the missing work within one semester must be completed by the student. Final determination of whether an incomplete will be given is the instructor's decision."

**Academic Honesty Policy:** You are *encouraged* to talk to each other, but all your work must be your **own**. In other words, "group-work" is a great way to learn material, but anything you submit for a grade must be done by you - reflecting your own thought processes, not that of someone else. If I suspect you of academic dishonesty, I will follow JCC's Academic Honesty Policy and take appropriate action up to and including assigning a **failing grade** for the paper, project, report, exam, or the course itself (whichever I deem necessary). The policy can be seen here:  
<http://www.jccmi.edu/policies/Academics/Policies/1004.pdf>

**Classroom Behavior Policy:** *"We know what a person thinks not when he tells us what he thinks, but by his actions."* - Issac B. Singer

**1. Be Responsible:** for your work, for your learning, for your behavior in class, etc.

The online homework and take-home quizzes in particular are going to require great levels responsibility on your part. You will need to stay on top of your schedule and your life to make sure that all coursework is done in a timely fashion.

**2. Be Respectful:** of other students, of the instructor, of the material, of yourself...

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# Where to Get Help...

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**Office Hours:** Office hours are there for you to come get help. Please come see me if you need questions answered. Remember, though, that office hours are not a replacement for attending class.

**Center for Student Success:** The Center for Student Success has tutoring available for free to students enrolled in Math 131. You can get help with take-home work, MyMathLab homework, and more.

**MyMathLab:** There are videos, extra problems, sample exams, lecture notes, PowerPoint lectures and more available in MyMathLab. It's a great resource! In particular, the **Study Plan** in MyMathLab can help with studying for exams as it gives you unlimited extra problems to do for practice.

**Each Other:** Get a regular study group. Write down names and numbers of your peers and call on each other when needed!

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## A few more important comments:

1. **How many hours a week will this class take?** As it is a 4-credit, 15-week course in a regular semester, it is expected that you will spend **at least 16 hours a week on this class**. Past students have warned me to tell you that this is a course that really will take that much time.
2. **Getting Help IN MyMathLab!!** There are tons of videos, Power Point lectures, and other items ALREADY loaded into MyMathLab under "Multimedia Library." Don't be afraid to use them!
3. **Getting help WITH MyMathLab!!** If you need help with MyMathLab, contact their technical support team at 1-800-677-6337 or visit [www.mymathlab.com](http://www.mymathlab.com) and click the "Support" tab.

MAT 139: College Algebra  
Calendar/Content Fall 2016

Day	Coursepack	Topics
9-7	1.1	Functions: <ul style="list-style-type: none"> <li>• Domain and Range, Symmetry, Intercepts, Max/Mins</li> <li>• Function Notation</li> </ul>
9-12	1.2	Review: Linear Functions <ul style="list-style-type: none"> <li>• Graphing Linear Functions</li> <li>• Finding Equation of a Line</li> <li>• Linear Modeling</li> </ul>
9-14	1.3	Review: Quadratic Functions <ul style="list-style-type: none"> <li>• Graphing: standard form and transformations of graphs</li> <li>• Solving Quadratic Equations (real and complex solutions)</li> </ul>
9-19	1.4	Review: Quadratic Modeling Solving Quadratic Inequalities
9-21	1.5	Higher Order Polynomials – Graphical Approach <ul style="list-style-type: none"> <li>• Graphs of Power Functions - including transformations of graphs</li> <li>• Graphs of General polynomials: End Behavior, Turning Points, Real Zeros</li> </ul>
9-26	1.6	Higher Order Polynomials – Algebraic Approach <ul style="list-style-type: none"> <li>• Solving Polynomial Equations</li> <li>• Rational Root Theorem</li> <li>• Fundamental Theorem of Algebra</li> <li>• Complex Zeros</li> </ul>
9-28	1.7	Solving Inequalities Containing Polynomials Modeling with Higher Order Polynomials
10-3	1.8	Absolute Value Functions <ul style="list-style-type: none"> <li>• Graphing - using transformations of graphs</li> <li>• Solving Equations and Inequalities; Applications</li> </ul> Review Unit One
10-5		Test 1
10-10	2.1	Simplifying Expressions with Exponents <ul style="list-style-type: none"> <li>• Integer Exponents</li> <li>• Rational Exponents</li> </ul>
10-12	2.2	Exponential Functions <ul style="list-style-type: none"> <li>• Graphing - using transformations of graphs</li> <li>• Finding Equations of Exponential Functions</li> </ul>
10-17	2.3	Modeling with Exponential Functions
10-19	2.4	Compositions of Functions Inverse Functions
10-24	2.5	Introduction to Logarithms <ul style="list-style-type: none"> <li>• Graphing Log Functions - using transformations of graphs</li> <li>• Applications of Logarithms (pH, decibel, Richter)</li> </ul>

10-26	2.6	Power Property of Logs Solving Basic Exponential/Log Equations Modeling with Exponential Functions
10-31	2.7	Sum/Product and Difference/Quotient Properties of Logs Expanding and Collecting Logs Solving Exponential/Log Equations
11-2	2.8	Natural Exponential and Log Functions Applications: <ul style="list-style-type: none"> <li>• Growth and Decay</li> <li>• Logistic Models</li> <li>• Newton's Law of Cooling</li> </ul> Review Unit 2
11-7		Test 2
11-9	3.1	Rational Functions: <ul style="list-style-type: none"> <li>• Simplifying Rational Functions</li> <li>• Basic Graphs, Domain and Range, Asymptotes, Transformations</li> <li>• Graphs of General Rational Functions: Asymptotes, Holes</li> </ul>
11-14	3.2	Operations on Rational Functions <ul style="list-style-type: none"> <li>• Multiply/Divide Rational Expressions</li> <li>• Add/Subtract Rational Expressions</li> <li>• Simplify Complex Fractions</li> </ul>
11-16	3.3	Solving Rational Equations and Inequalities
11-21	3.4	Modeling with Rational Functions Proportions and Similar Triangles Variation
11-23		Thanksgiving Break
11-28	3.5	Radical Functions <ul style="list-style-type: none"> <li>• Simplifying Radicals</li> <li>• Graphing Radical Functions – transformations of graphs</li> </ul>
11-30	3.6	Operations on Radical Functions <ul style="list-style-type: none"> <li>• Add/Subtract/Multiply/Divide</li> <li>• Operations on Complex Numbers</li> </ul>
12-5	3.7 3.8	Solving Radical Equations Modeling with Square Root Functions Pythagorean Theorem, Distance Formula
12-7		Test 3
12-12	4.1	Conic Sections (Circles, Ellipses)
12-14	4.2	Conic Sections (Parabolas, Hyperbolas)
12-19	4.3	Solving Nonlinear Systems of Equations Review – Entire Course
12-21		Final Exam