

# MAT 139.41 Syllabus – Winter 2018

<b>Instructor:</b>	Allison Price				
<b>Office:</b>					
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<b>E-mail:</b>					
<b>MyMathLab Website:</b>	www.mymathlab.com				
<b>MyMathLab Course ID:</b>					
<b>Office Hours:</b>	Day/Time:	Monday	Tuesday	Wednesday	Thursday
	10:00 - 11:00	Office Hours	Office Hours	Office Hours	Office Hours
	11:00 - 12:00	MAT 139.01 11:00 - 1:00	MAT 139.41 11:00 - 1:00	MAT 139.01 11:00 - 1:00	MAT 139.41 11:00 - 1:00
	12:00 - 1:00	JM 248	JNC 102	JM 248	JNC 102
	1:00 - 2:00	Office Hours	Office Hours	Office Hours	Office Hours
	2:00 - 3:00	MAT 151.02 1:30 - 3:30 JM 251		MAT 151.02 1:30 - 3:30 JM 251	
	3:00 - 4:00	Office Hours		Office Hours	
	4:00 - 5:00				

**Required Materials:**

- MyMathLab Student Access,

**Textbook Zero:** The textbook for this course is available online through MyMathLab.

[Note: If you took MAT 039, 131, or if you are repeating MAT 139, during the past year you do *not* need to repurchase MyMathLab Access.]

- MAT 139 Coursepack and LARGE 3-ring binder,
- Pencils and Eraser
- Graphing Calculator (TI-84 Calculator **strongly recommended**)

**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/>

**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... Turn down your cell phones and pagers, no chewing tobacco, come on time, stay the full time, be prepared to answer questions and work together.

## ***Course Requirements:***

***Classwork:*** There will be frequent in-class assignments (turned in for credit). These may be individual or group assignments. Students that are absent may not make up the missed in-class assignments for any reason. However, a link to the classwork assignments can be found in MML. Students are expected to print and complete any/all missing assignments by the next class period.

***Projects:*** There is one mandatory project in the course. Details will be given to you during the course of the semester.

### ***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.
- 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 10%**. 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!

***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.

**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>Grading Scale:</b>		<b>Grading Policy:</b>
<b>90 -100%</b>	<b>4.0</b>	
<b>85 - 89%</b>	<b>3.5</b>	<b>Online Homework: 15%</b>
<b>80 - 84%</b>	<b>3.0</b>	<b>In-Class Work, , etc.: 17%</b>
<b>75 - 79%</b>	<b>2.5</b>	<b>Projects: 3%</b>
<b>70 - 75%</b>	<b>2.0</b>	<b>Exam 1: 15%</b>
<b>65 - 69%</b>	<b>1.5</b>	<b>Exam 2: 15%</b>
<b>60 - 64%</b>	<b>1.0</b>	<b>Exam 3: 15%</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>	

**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.

**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.

**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>

**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.jccmi.edu/academics/academic\\_calendar.htm](http://www.jccmi.edu/academics/academic_calendar.htm)

## 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.

**Lecture Videos:** The lecture videos follow along with the coursepack. One advantage of the videos is the pause button – which you don't have in real life! You can pause the video and think about the material at your own pace, as needed. A link to the lecture videos can be found on MyMathLab.

**Center for Student Success:** The Center for Student Success has tutoring available for free to students enrolled in Math 139. Math tutors are always on staff when the Center is open, you can drop in anytime. You can get help with take-home work, MyMathLab/MyStatLab homework, and more. The Center is located on the first floor of Bert Walker Hall (on Central Campus). For tutoring at the other campus locations please speak to the staff member at the front desk for availability. Central Campus CSS hours: <http://bit.ly/jctutoringhours>.

**Supplemental Instruction:** Some sections of the course have Supplemental Instruction (SI) Leaders assigned to them. These students will serve as peer “math coaches” for the students in that section, and will facilitate weekly study sessions. These study sessions are open to *all* MAT 139 students and are completely voluntary, but highly recommended. **In a recent semester, students that utilized SI study sessions experienced an increase of over 18% in their pass rates, compared to those who did not.** Even if your class doesn't have an SI Leader, you are encouraged to attend SI Sessions for your course. For times and locations of SI sessions, visit the Center for Student Success webpage and click on “Supplemental Instruction” in the menu or go to (<http://bit.ly/jcsischedule>)

\*\*\* Additional SI Stat's (Based on WN 2017 Data)

- MAT 030 Students that passed MAT 030 Lab had a 70% pass rate (58% increased pass rate)
- MAT 030 15% Increased Pass Rate (Non-Central Campus)
- MAT 033 15% Increased Pass Rate
- MAT 039 8% Increased Pass Rate
- MAT 130 85% pass rate for students that utilized SI (28% Increase)
- MAT 131 12% Increased Pass Rate
- MAT 133 17% Increased Pass Rate
- MAT 139 13% Increased Pass Rate

**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 139-01

College Algebra Calendar – Winter 2018

Day	Coursepack References	Topics
1-16	1.1 1.2	Functions/Function Notation, Domain and Range, Symmetry, Intercepts, Max/Mins Review (MML Only): Linear Functions and Modeling
1-18	1.3	Review: Graphing Quadratic Functions – in standard form and using transformations of graphs Review: Quadratic Modeling – includes techniques for solving quadratic equations
1-23	1.4	Solving Quadratic Inequalities Review: Quadratic Modeling
1-25	1.5	Higher Order Polynomials – Graphical Approach <ul style="list-style-type: none"> <li>• Graphs of Power Functions - including transformations of graphs</li> <li>• General polynomials: End Behavior, Turning Points, Real Zeros</li> </ul>
1-30	1.6	Higher Order Polynomials – Algebraic Approach <ul style="list-style-type: none"> <li>• Solving Polynomial Equations, Complex Zeros</li> <li>• Fundamental Theorem of Algebra</li> </ul>
2-1	1.7	Solving Inequalities Containing Polynomials Modeling with Higher Cubic Polynomials
2-6	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>
2-8	Unit 1	Catch-Up Day
2-13	Unit 1	Review
2-15	Unit 1	Test 1
2-20	2.1	Simplifying Expressions with Exponents (Integer, Rational)
2-22	2.2	Graphing Exponential Functions – include transformations of graphs Finding Equations of Exponential Functions
2-27	2.3	Modeling with Exponential Functions
3-1	2.4	Compositions of Functions Inverse Functions
3-6	2.5	Introduction to Logarithms Graphing Log Functions - include transformations of graphs Applications of Logarithms (pH, decibel, Richter)
3-8	2.6	Power Property of Logs; Solving Basic Exponential/Log Equations Modeling with Exponential Functions
3-13 3-15		Spring Break
3-20	2.7	More Properties of Logs; Use in Solving Exponential/Log Equations Natural Exponential and Log Functions – Intro and Equation Solving
3-22	2.8 Unit 2	Applications and Modeling with Exponential and Log Functions Review
3-27	Unit 2	Test 2

3-29	3.1	Rational Functions: Basic Graphs, Transformations, Domain/Range, Asymptotes, Holes Simplifying Rational Functions
4-3	3.2	Multiply/Divide Rational Expressions Add/Subtract Rational Expressions
4-5	3.3	Simplify Complex Fractions Solve Rational Equations and Inequalities
4-10	3.4	Modeling with Rational Functions Proportions and Similar Triangles Variation
4-12	3.5	Simplifying Radical Expressions Add, Subtract, Multiply Radicals (revisit complex arithmetic)
4-17	3.6 3.7	Quotients of Radicals; Rationalizing Denominators Graphing Radical Functions; Transformations Solving Radical Equations
4-19	3.8 Unit 3	Modeling with Square Root Functions Pythagorean Theorem, Distance Formula Review
4-24	Unit 3	Test 3
4-26	4.1	Conic Sections (Circles, Ellipses) Completing the Square to Graph Using Transformations of Graphs
5-1	Entire Course	Review
5-3	Entire Course	Final Exam