Instructor's Name:  
Office Location:  
Office Hours:  
Office Phone:  
E-mail:  
MyMathLab Course ID:  

Course Description  
This course expands on the concepts in elementary algebra and it is a prerequisite for college algebra. Topics studied include: factoring, rational expressions, radicals, quadratics, logs and exponential functions.  

Illinois Articulation Initiative (IAI) number:  N/A  

Credit and Contact Hours:  
Lecture  4  
Lab  0  
Credit Hours  4  

Prerequisites:  Satisfactory placement test score or grade of “C” in Math 094 or equivalent. Not intended for transfer.  

Books, Supplies, and Supplementary Materials  
A.  Textbooks  

Required:  
Beginning and Intermediate Algebra (Set: Loose leaf Text/MyMathLab), (3-hole punched), 2017; Elayn Martin-Gay  
Publisher: Pearson Education  
ISBN: 9781323518988  
Or  
Intermediate Algebra, (Set: Loose leaf Text/MyMathLab) (Math 098 ONLY) (3-hole punched), 2017; Elayn Martin-Gay  
Publisher: Pearson Education  
ISBN: 9781323588468  

Required for online sections:  
MyMathLab (stand alone access code), 4th Edition, 2012; Pearson Education  
ISBN: 9780321199911  

Required for Math Redesign Program sections only:  
Developmental Math 090/094/098, 2014; Sullivan; Pearson Education  
ISBN 9781323015810  

B.  Other Required Materials  

scientific calculator  
Graphing calculators are not allowed.  
MyMathLab (required for online courses and other specific sections)
Methods of Instruction: Lecture, Online, Redesign

Student Learning Outcomes: General Education Student Learning Outcomes:
Students will demonstrate the ability to accurately apply correct mathematical methods and techniques in various applications such as applied sciences, theoretical mathematics, physics, natural sciences and other applied sciences.

Objectives

1. Factor polynomials using the following techniques: GCF, grouping, difference of squares, difference and sum of cubes.
2. Factor trinomials of the form \( x^2 + bx + c \) and \( ax^2 + bx + c \).
3. Solve quadratic equations by factoring.
4. Add, subtract, multiply, and divide rational expressions.
5. Solve equations and formulas involving rational expressions.
7. Solve word problems involving rational expressions.
8. Solve direct, inverse, and joint variation problems.
9. Use and understand function notation.
10. Evaluate a function for a given input.
11. Perform addition, subtraction, multiplication, division and composition of functions.
12. Perform operations of union and intersection on sets.
13. Solve compound linear inequalities and graph the solution.
14. Solve absolute value equations and inequalities where the expression inside the absolute value symbols are linear.
15. Graph the solutions for linear inequalities in two variables.
16. Solve systems of linear inequalities in two variables.
17. Convert between radical form and rational exponent form.
18. Simplify radical expressions.
19. Add, subtract and multiply radicals.
20. Rationalize numerators and denominators of radical expressions.
21. Solve equations with radicals.
22. Add, subtract, multiply and divide complex numbers.
23. Write a complex number in standard form.
24. Solve quadratic equations by completing the square, square roots and the quadratic formula.
25. Recognize and solve equations that have quadratic form by making the appropriate substitution.
26. Solve max-min problems involving quadratic functions.
27. Graph quadratic functions (including when written in standard form).
28. Find and interpret the intercepts for quadratic equations in two variables.
29. Solve quadratic inequalities in one variable.
30. Graph exponential functions.
31. Graph logarithmic functions.
32. Write logarithmic functions using exponential notation and vice-versa.
33. Solve exponential equations.
34. Solve logarithmic equations using the equivalent exponential form.
35. Find the inverse of a given function.
## TOPICAL OUTLINE

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Topic</th>
<th>Sections</th>
<th>Objectives</th>
<th>Pacing</th>
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<tbody>
<tr>
<td>6</td>
<td>Factoring Polynomials</td>
<td>6.1 – 6.7</td>
<td>1 - 3</td>
<td>3 weeks</td>
</tr>
<tr>
<td>7</td>
<td>Rational Expressions</td>
<td>7.1 – 7.7</td>
<td>4 - 7</td>
<td>3 weeks</td>
</tr>
<tr>
<td>8</td>
<td>More on Functions and Graphs</td>
<td>8.1, 8.2, 8.4</td>
<td>8 - 11</td>
<td>1.5 weeks</td>
</tr>
<tr>
<td>9</td>
<td>Inequalities and Absolute Value</td>
<td>9.1 – 9.4</td>
<td>12 - 16</td>
<td>2 weeks</td>
</tr>
<tr>
<td>10</td>
<td>Rational Exponents, Radicals and Complex Numbers</td>
<td>10.1 – 10.7</td>
<td>17 - 23</td>
<td>2.5 weeks</td>
</tr>
<tr>
<td>11</td>
<td>Quadratic Equations and Functions</td>
<td>11.1 – 11.3, 11.4 (quadratic inequalities only), 11.5 – 11.6</td>
<td>24 – 29</td>
<td>2 weeks</td>
</tr>
<tr>
<td>12</td>
<td>Exponential and Logarithmic Functions</td>
<td>12.1 – 12.3, 12.5</td>
<td>30 - 35</td>
<td>2 weeks</td>
</tr>
</tbody>
</table>

### Testing Recommendations – six tests:
- five individual chapter tests
- one combined test for Sections 3.6, 8.1, 8.2, 8.4, 9.1 – 9.4

### Graded Assignments and Policies

#### Graded Assignments

- In class Quizzes: 0 – 20%
- Participation: 0 – 5%
- Projects: 0 – 20%
- Homework: 0 – 30%
- Tests: 50 – 85%
- Final: 15 – 30%

#### Grading Policy

The individual instructor will determine which items he or she considers essential for the student to memorize without error and test accordingly.

Each instructor will set minimum standards for performance on tests.

#### Grading Scale

- 90-100% A
- 80-89% B
- 70-79% C
- 60-69% D
- 0-59% F
Major Tests and Quizzes
The individual instructor will determine which items he or she considers essential for the student to memorize without error and test accordingly. Each instructor will set minimum standards for performance on tests. A comprehensive final examination will be given.

Classroom Policies and Procedures

General Information

Attendance Policy

Make-up Policy

Extra-credit Policy

Final Exam Information
A comprehensive proctored final examination will be given.

Academic Honor Code
The objective of the academic honor code is to sustain a learning-centered environment in which all students are expected to demonstrate integrity, honor, and responsibility, and recognize the importance of being accountable for one’s academic behavior.

College Statement about grades of “F” and Withdrawal from Class
Students may withdraw from a course by processing an add/drop form during regular office hours through the Registration and Records Office at Main Campus or Romeoville Campus, or by phone at 815-744-2200. Please note the withdrawal dates listed on your bill or student schedule. Every course has its own withdrawal date. Failure to withdraw properly may result in a failing grade of “F” in the course.

At any time prior to the deadline dates established, an instructor may withdraw a student from class because of poor attendance, poor academic performance or inappropriate academic behavior, such as, but not limited to, cheating or plagiarism.

Intellectual Property
Students own and hold the copyright to the original work they produce in class. It is a widely accepted practice to use student work as part of the college’s internal self-evaluation, assessment procedures, or other efforts to improve teaching and learning and in promoting programs and recruiting new students. If you do not wish your work to be used in this manner, please inform the instructor.

Student Code of Conduct
Each student is responsible for reading and adhering to the Student Code of Conduct as stated in the college catalog.

Sexual Harassment
Joliet Junior College seeks to foster a community environment in which all members respect and trust each other. In a community in which persons respect and trust each other, there is no place for sexual harassment. JJC has a strong policy prohibiting the sexual harassment of one member of the college community by another. See the Catalog or Student Handbook.
Student Support [http://jjc.edu/services-for-students/pages/default.aspx](http://jjc.edu/services-for-students/pages/default.aspx)

a. Disability Services: [http://www.jjc.edu/disability-services/Pages/default.aspx](http://www.jjc.edu/disability-services/Pages/default.aspx)
   
   Student Accommodations and Resources (STAR): If you need disability-related accommodations, specialized tutoring, or assistive technology in this class, if you have emergency medical information you wish to share with me, or if you need special arrangements in case the building must be evacuated, please inform me immediately. Please see me privately after class. New students should request accommodations and support by scheduling an appointment with the Student Accommodations and Resources (StAR) Office, Campus Center 1125, (815) 280-2230.

b. Tutoring: [http://jjc.edu/tlc/Pages/default.aspx](http://jjc.edu/tlc/Pages/default.aspx)

c. Counseling and Advising: [http://www.jjc.edu/counselingadvising/Pages/default.aspx](http://www.jjc.edu/counselingadvising/Pages/default.aspx)

d. Academic Resources: [http://www.jjc.edu/academic-resources/Pages/default.aspx](http://www.jjc.edu/academic-resources/Pages/default.aspx)

e. Support Programs and Services: [http://www.jjc.edu/support-programs-services/Pages/default.aspx](http://www.jjc.edu/support-programs-services/Pages/default.aspx)

f. Technology Support: [http://jjc.edu/services-for-students/Pages/technology-support.aspx](http://jjc.edu/services-for-students/Pages/technology-support.aspx)

g. My Degree Progress: My Degree Progress is a computerized system to track a student's progress toward graduation. The report indicates every course and places these courses into their appropriate category as a General Education, Major Course, or Elective, according to the degree requirements. This tool is useful for preparing before an advising appointment, for planning, for registering, and for checking that the student is on track for graduation. [https://eresources.jjc.edu](https://eresources.jjc.edu)