

# PLAINFIELD EAST



# JOLIET

JUNIOR COLLEGE  
— 1901 —

## TRANSITION MATH / INTERMEDIATE ALGEBRA SYLLABUS 2018/2019

**Course Instructor:** Ms. Denise Griffin

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**Room:** 223

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**Course description:** This course will provide students the opportunity to solve complex, multi-step algebraic problems in the context of authentic situations. The topic of functions and graphs will be stressed in each topic area. Topics studied include: lines, factoring, systems of equations, rational expressions, radicals, quadratics, and exponential functions.

**Required textbook:** Beginning & Intermediate Algebra, (sixth edition), Elayn Martin-Gay, Publisher: Pearson Education.

**Supplies:** replenish throughout the year as needed:

- calculator, **scientific only**
- 3-ring binder or a folder dedicated to Intermediate Algebra (Transition Math 098) only
- Spiral notebook(s) for notes and homework
- loose-leaf paper / graph paper
- pens: at least 2 different colors
- pencils
- highlighter
- straightedge (can be a 6" or 12" ruler, a protractor, or your student ID card)
- pencil pouch (something to hold your supplies in an organized manner)

### Graded Assignments:

Quizzes	15%
Problem/Project-based tasks	10%
Homework	5%
Tests	50%
Final Exam	20%

### Final Course Grades:

90 – 100%	A
80 – 89.9%	B
70 – 79.9%	C
60 – 69.9%	D
Below 60	F

**Grade:** A grade of "C" or better is required to earn proficiency credit for Math 098 at JJC.

## Course Objectives

### Unit 1: Lines

- Identify dependent and independent variables in linear relationships and use this knowledge to model authentic situations.
- Understand the relationship between lines and their equations including slope.
- Graph a line using slope-intercept form of the linear equation.
- Determine the equation of a line from its graph and from the point-slope form.
- Use graphs of lines to identify solutions to linear equations.
- Solve linear inequalities, expressing the solution sets using interval notation and graphing solution sets on number lines, and interpret their solutions in context.
- Use and understand the slope criteria for parallel and perpendicular lines

### Unit 2: Functions and Systems

- Understand the concept of a function and use function notation.
- Perform addition, subtraction, multiplication, division, and composition of functions.
- Interpret the dependent and independent variables in the context of functions.
- Create and interpret expressions for functions in terms of the situations they model including selecting appropriate domains for these functions.
- Understand the relationship between a function and its graph.
- Find the domain, including implied domains, and the range of a function.
- Analyze functions using different representations (verbal, graphic, numeric, algebraic).
- Solve applications and create models involving  $2 \times 2$  systems of linear equations using both graphical and algebraic methods.
- Use linear inequalities and systems of linear inequalities in two unknowns to create models.
- Graphically identify solution sets to linear inequalities or systems of inequalities.

### Unit 3: Factoring

- Solve application problems and create models involving polynomial equations.
- Factor quadratic polynomials over the rational numbers and identify prime/irreducible polynomials over the rational numbers.
- Apply standard factoring techniques to polynomials (GCF, by grouping, trinomials, binomials).
- Solve equations by factoring.

### Unit 4: Rational Functions

- Solve applications and create models involving rational equations.
- Simplify rational expressions.
- Add, subtract, multiply, and divide rational expressions.
- Solve rational equations.
- Solve rational inequalities algebraically.

### Unit 5: Radical Functions

- Solve applications and create models involving radical equations.
- Convert between radical and rational exponent notation.
- Simplify expressions involving radicals and rational exponent using appropriate exponent rules.
- Solve equations involving radical expressions.
- Add, subtract, multiply, and divide complex numbers.

## Unit 6: Polynomial Functions

- Solve quadratic equations by factoring, completing the square, square root property, and the quadratic formula.
- Graph quadratic functions and be able to determine the quadratic function from the graph.
- Understand the relationship between zeros and factors of a polynomial of degree 2 and higher.
- Solve polynomial inequalities of degree 2 and higher.

## Exponential Functions (quiz only)

- Solve simple applications and create simple models involving exponential equations.
- Distinguish exponential growth from linear and polynomial growth.
- Graph and recognize the graph of exponential functions of the form  $f(x) = Cb^x$ .
- Solve simple exponential equations numerically and (optional) algebraically.

## Homework Procedure

.Homework will be given daily and completed in a spiral notebook. It will be completed by the start of class the following school day. The lesson number, page number and/or assigned problems must be clearly recorded at the top of each assignment. Homework should be written in pencil. In order to receive credit you must do the following:

- Copy the provided diagrams or create and label the appropriate diagram needed to solve the problem
- Show all work in an organized fashion as evidence that each problem was thoroughly explored. This may include graphing your solution.
- Leave no problems blank. As a substitute you can:
  - Write down a question you have about the problem.
  - Google your question and try again
- When correcting our work, do not erase your work but rather cross out and rework elsewhere.

## Assessment Policy

- There will be 1-2 quizzes per unit, six unit tests, and a cumulative final exam.
- Exponents and any additional topics will be assessed in a quiz.
- Your lowest test score may be replaced by your final exam score at the teacher's discretion.
- Your 2 lowest quizzes and your 3 lowest homework grades may be dropped at the teacher's discretion.
- Cheating will not be tolerated. If caught cheating, the PEHS cheating policy will be followed, however please note that this score will NOT be one that you can drop.
- If you miss a quiz or test due to absence, it must be made up upon return to school. Make up work for extended absences will follow rules set up in the school handbook.
- Assessments are closed-book, closed-note, individually taken, proctored assessments.
- Scientific calculators are the only calculators allowed. Some quizzes or parts of tests may be deemed "no calculator."
- Study guide or reviews are not given for assessments (they are in the book.)
- A review, provided by JJC, is given for the final exam

## Other Course Policies

All work must follow proper mathematical notation. Work must be organized and include correct units when necessary. Final answers should be as an integer or fraction instead of decimal equivalents unless original problem involves decimals (like money problems). Answers are exact unless specified to round.

**Late Work Policy**

No late work will be accepted. Attendance and completion of homework is crucial for success in this course.

**Tardy Policy**

If you are late to class, you will not be admitted without a HALL PASS.

**Extra Credit Policy**

No extra credit will be assigned or awarded.

**Retake Policy**

There are no retakes on assessments.

**Extra Help Policy**

I am willing to help those wanting to receive help. Before school availability is limited, so please make arrangements with the teacher if you need to meet before school. After school availability will be posted in the classroom. Listen to the daily announcements for when peer tutoring is available in the media center. The Math Crib Calendar will be posted in the classroom when available.

Additionally, you are a registered JJC student, and may take advantage of services offered by JJC.

**Student Resources:** <http://jjc.edu/student-resources>

**Tutoring & Learning Center:** <http://jjc.edu/student-resources/tutoring-learning-center>

**Common Courtesy Policy**

As you draw nearer to adulthood, I expect that my students treat their peers and I with respect and courtesy. Students are expected to be cooperative and not disruptive. Students should also be mindful of boundaries: do not touch things that are not yours, use supplies as they are intended to be used, be frugal not wasteful with classroom supplies, do not destroy property belonging to the school, the teacher or other classmates.

**Teacher Page:** <http://pehs.psd202.org/teacher/Dgriffi1/home>