Prairie State College

You can find the final exam and withdrawal date info on the PSC website; search for “final exam schedule” and “academic calendar”

Math 095 – Section # – Intermediate Algebra

### Syllabus – Semester/Year

**Instructor:** YourName **Email:** **Your PSC email**

**Phone:** ????? (may delete this line if don’t have direct line at PSC)

**Class Meetings:** Day/Time **Classroom:** Room #

**Credit Hours:** 4 (Face-to-face lecture)

**Office Hours:** List times available or put “by appointment”; givelocation

**Text:** Introductory & Intermediate Algebra 2nd edition by D. Franklin Wright (2012)

(lifetime access code required—includes electronic textbook)

**Other Materials:** TI-30XS Multiview or a graphing calculator (TI-83 or TI-84)

  

If you do not have the means to purchase the textbook(s) for this class, the Prairie State College Foundation encourages you to visit [www.prairiestate.edu/foundation](https://email.prairiestate.edu/owa/redir.aspx?C=BqMMugfd3bQSke4iL1yE-r47vxn_OSh1HKGoLJGGq_K1zQI0ZwHWCA..&URL=http%3a%2f%2fwww.prairiestate.edu%2ffoundation) to learn if you qualify for scholarship assistance. Simply complete an application and you will be notified, either way, if you can be awarded. Apply today as scholarship applications are reviewed in the order in which they are received. Scholarships are awarded until the funds for the semester are exhausted. For questions, please contact Susan Sebastian at [ssebastian@prairiestate.edu](https://email.prairiestate.edu/owa/redir.aspx?C=AmYDzC-CV5StPyBwLamCtqSe8OJDWU_7eRCapQp1ywK1zQI0ZwHWCA..&URL=mailto%3assebastian%40prairiestate.edu)

**Prerequisites:** A “C” or better inMATH 090 (Elementary Algebra) or MATH 091 (Mathematical Literacy) or a qualifying score on the Math Placement Test.

**Course Description:** This is a course in intermediate algebra. It is a prerequisite for transferable college mathematics courses. Topics covered include functions and graphs, systems of linear equations, one- and two-variable inequalities, roots and radicals, complex numbers, and quadratic functions. Emphasis is placed on the development of algebraic skills.

**College-wide General Education Learning Outcomes:** Prairie State College’s general education outcomes encapsulate the core knowledge and skills that we believe equip students to develop personally, as critical thinkers, and as global citizens.

The specific general education learning outcome for this course is:

**Problem Solving:** Students will locate and identify information, determine what problem exists, develop solutions, evaluate results, and extend results to new situations.

**Quizzes & Tests**

* Four quizzes worth 25 points each will be given throughout the semester; I will drop your lowest quiz score
* There will be three tests during the semester, each worth 100 points. I will not drop any test scores
* Please make every effort not to miss an exam. However, if you need to miss an exam, you will be allowed to take a make up exam **only** if you notify me ahead of time by phone or by e-mail.

**Homework**:

* All homework is graded using a mastery approach—you will have to get a certain percentage correct in order to get credit, but **you may do the assignment as many times as you want up until the deadline**
* Everything labeled by section of the book (ex: Sec 3.4) will be worth 3 points; if you get over a certain percentage (usually about 80%) correct, you will receive full credit.
* We will have one handout, HW #2, worth 3 points
* I will drop your two lowest 3-point homeworks
* Three other assignments listed on your assignment sheet (Lines\_Extra\_HW#1, Lines\_Extra\_HW#2 and Intervals\_HW) are worth 2 points each. Because they only have 3 problems, you must get all of them right in order to receive credit.
* All homework for the week will usually be due the following Monday at 11:59pm (see assignment sheet for any exceptions)
* In order to be successful in this course, it is extremely important that you complete your homework in a timely fashion. Much of the material is cumulative, and you cannot master the newer concepts without having mastered the older ones. Therefore we will adhere to strict deadlines and no late homework will be accepted. I will give you 5 – 7 days to complete your homework after the material was covered in class so that you can fit your homework into your other weekly commitments.

**Final exam**:

* The final, which is cumulative, has 40 problems and is worth 150 points. It will be held on Date/Time of final

**Grades**: Your grade will be determined by the total points earned from the following:

Homework 93 pts

Quizzes 75 pts

 Tests 300 pts

 Final 150 pts

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 Total 618 pts

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| --- | --- | --- | --- | --- | --- |
| **Grading Scale:** | 90%-100%A | 80%-89%B | 70%-79%C | 60%-69%D | 0%-59%F |

**If your final grade falls on the borderline it will be rounded to the nearest whole number percent.**

**Note:** You need at least a C (70%) in this class in order to move on and take a college level Math class

**Group Participation Goals**: The format of this class includes the use of small group problem solving activities. While students are in small groups, the following behaviors are expected:

* Work together to develop a solution.
* Have a solution that makes sense to you.
* Explain your thinking to your partner.
* Listen to each other and try to understand your partner’s solutions.
* Ask questions of each other when you do not understand or do not agree.
* Record your solution so that others will know what you did.

**Respect**: Please conduct yourself in a way that is respectful of your fellow classmates and of your instructor. Respectful behavior allows the class to function effectively and encourages student success. If a student disrupts the class, everyone loses valuable class time. If this occurs, I will have to report the behavior to the Dean of Counseling.

**Cell Phones/Electronic Devices**: When you come to class, cell phones should be placed on vibrate and all electronic devices, including tablets, should be put away (unless we are working on Hawkes). **Cell phones may not be used as a calculator**.

**Accommodations:** Your success is important to me. If you have a disability (learning, physical, psychological, or other) that may require some accommodations, please see me early in the semester. I can refer you to the Disability Services Office (**Room 1200**) to register and arrange reasonable accommodations. All discussions are confidential.

**Academic Honesty**: In a Math class, it is extremely important that the work you present to your instructor is genuinely something that you have produced.  Relying heavily on other people and/or technology can create a false sense of achievement that ultimately leads to failure on quizzes and tests when those resources are no longer available.  Part of my role as instructor is to communicate to you in what situations use of technology, such as a calculator, website or app, is acceptable, and when it is not.  In general, the use of any technology that allows students to simply type in a problem and have the entire problem solved for them is prohibited. You can add to the statement here. Make sure you spell out exactly what your expectations are for your particular class and what the penalty is for breaking them.

**Religious Observance**: Prairie State College is required to excuse students who need to be absent from class, examinations, study, or work requirements because of their religious beliefs, and provide students with a make – up opportunity, unless to do so would unreasonably burden the institution. Students must notify their instructor well in advance of any absence for religious reasons. If you require special accommodation for observance of a religious holiday, please let me know during the first week of the semester.

**Attendance**: Your participation in this class is crucial for your success; attendance will be taken at each class meeting. Students who miss class are responsible for content covered and for any information given out in class; please consult the class schedule to find out what you missed. If you miss class and do not take the time to learn the material you missed before the next class, you will inevitably be lost.

**Keys To Success In This Course**: *Assuming that you have the prerequisites knowledge for this course*, your success depends on your willingness to exert sufficient effort. **This means a minimum of 8 hours of study (outside of class) per week**. Specifically to succeed in this course you must:

1. Attend every class (arrive on time, and remain engaged in the class for the entire time)
2. Take notes
3. Participate in every class in ways that are beneficial to your learning
4. Work on your homework every day
5. Help your peers
6. Communicate with me when there is a problem
7. Seek help as soon as the need arises

**Assistance:** Numerous resources are available to assist you. These include your textbook, your study group, other class members, and the Student Success Center (located in **Room 2629**). You can schedule a tutor by going to Room 2643 or calling Hattie at 708-709-3663 or Lisa at 708-709-3507.

Math 095-Sec# Tentative Schedule Semester/Year

**Disclaimer: We may get ahead or fall behind, but the dates of the tests will not change unless I announce otherwise in class**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Sections** | **HW Assigned** | **Due Date** |
| Add rows for  | Class Info(4.3) Graphing lines | Sec 4.3 |  |
| holidays/breaks so | (7.6) VariationIntroduction to Hawkes | Sec 7.6 |  |
| students are clear on | (4.4)a Slope-intercept form | Sec 4.4aLines\_Extra\_HW#1Lines\_Extra\_HW#2 |  |
| when they occur | (4.4)b Parallel & perpendicular lines | Sec 4.4b |  |
| You can add rows  | (8.1) Solving systems by graphing(8.2) Solving systems by substitution | Sec 8.1 |  |
| by highlighting a | **Quiz on 4.3, 4.4, 7.6**(8.2) Solving systems by substitution(8.3) Solving systems by addition | Sec 8.2Sec 8.3 |  |
| row and right clicking | (8.4) & (8.5) Applications of systems of linear equations | Sec 8.4Sec 8.5 |  |
| to  | Review | ------ | ------ |
| Insert a row | **Test #1** | ------ | ------ |
|  | (3.4) Linear inequalities in one variableIntroduction to intervals, union, and  intersection | Sec 3.4 |  |
|  | More intervals, union, intersection(3.5)a Absolute value equations | Intervals\_HWSec 3.5a |  |
|  | (3.5)b Absolute value inequalities | Sec 3.5b |  |
|  |  (4.6) Linear inequalities in two  variables(8.8) Systems of linear inequalities(4.5) Functions, domain & range | Sec 4.6Sec 8.8 |  |
|  | **Quiz on 3.4, 3.5, intervals**(4.5) Functions, domain & range | Sec 4.5 |  |
|  | Review | ------ | ------ |
|  | **Test #2** | ------ | ------ |
|  | (9.1) Evaluating radicals(9.2) Simplifying radicals | Sec 9.1Sec 9.2 |  |
|  | (9.3) Rational exponents | ------ | ------ |
|  | (9.3) Rational exponents(9.4)a Adding/subtracting radicals | Sec 9.3Sec 9.4a |  |
|  | (9.4)b Multiplying radicals(9.4)c Rationalizing denominators | Sec 9.4bSec 9.4c |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Sections** | **HW Assigned** | **Due Date** |
|  |  (9.5) Solving radical equations | Sec 9.5 |  |
|  | **Quiz on 9.1 to 9.4**(9.7) Complex numbers(9.8) Mult/div of complex numbers | Sec 9.7Sec 9.8 |  |
|  | Review | ------ | ------ |
|  | **Test #3** | ------ | ------ |
|  | (10.1)a Square Root Method(10.1)b Completing the Square | Sec 10.1aSec 10.1b |  |
|  | Review of factoring, solving quadratics(10.2) Quadratic formula | Sec 10.2 |  |
|  | (10.3) Applications of quadratics | Sec 10.3 |  |
|  | (10.4) Equations quadratic in form | Sec 10.4 |  |
|  | **Quiz on 10.1 to 10.3**(10.5) Graphing parabolas | HW #2 Handout |  |
|  | (10.5) Graphing parabolasReview for Final | Sec 10.5 |  |
|  | Review for Final | --- | --- |
| Final date | FINAL EXAM time | --- | --- |

Math 095 Course Objectives

The number of final exam questions corresponding to each objective is indicated in parentheses at the end of the objective

1. Determine whether a relation is a function. Given a graphical, tabular, or algebraic representation for a function, evaluate the function and find its domain and range. (3)

(**Sec 4.5)**

1. Given the graph of a line, an equation of a line, or two points on a line, find the slope and y-intercept of the line. (2) (**Sec 4.3, 4.4a)**
2. Find equations of lines in slope-intercept or point-slope form. Find equations of horizontal or vertical lines. Determine whether lines are parallel, perpendicular, or neither. (3)

(**Sec 4.4a, 4.4b)**

1. Determine whether a system of two linear equations in two variables has no solution, exactly one solution, or infinitely many solutions. Solve systems of two linear equations in two variables by using substitution, elimination, or graphical methods. (3) (**Sec 8.1, 8.2, 8.3)**
2. Solve application problems that require setting up and solving a system of two linear equations in two variables. (2) (**Sec 8.4, 8.5)**
3. Find unions and intersections of intervals. Sketch the graph of an interval. Convert between interval notation and inequality notation. (1) (**Not in Hawkes—see class notes)**
4. Solve compound linear inequalities in one variable. Solve application problems that require setting up and solving linear inequalities in one variable. (2) (**Sec 3.4)**
5. Solve linear absolute-value equations. (2) (**Sec 3.5a)**
6. Solve linear absolute-value inequalities. Graph solutions on the number line, write solutions inequalities, write solutions in interval notation, and write solutions in set-builder notation.

(2) (**Sec 3.5b)**

1. Solve inequalities and systems of inequalities in two variables. Sketch the graphs of the solution sets. (1) (**Sec 4.6, 8.8)**
2. Convert expressions involving rational exponents to radical expressions and vice versa. (1)

(**Sec 9.3)**

1. Simplify radical expressions where the radicand is a monomial. (2) (**Sec 9.2)**
2. Add, subtract, and multiply radical expressions. Simplify the results. [The expressions may consist of sums or differences of radicals. Only monomial radicands are considered.] (2)

(**Sec 9.4a, 9.4b)**

1. Divide radical expressions and rationalize denominators. [Only monomial radicands are considered.] (1) (**Sec 9.4c)**
2. Solve radical equations where the radicand is a linear expression. (2) (**Sec 9.5)**
3. Simplify complex numbers and write in standard form a + bi. [Students must be prepared to

add, subtract, multiply, and divide complex numbers, as well as write square roots of

negative numbers in complex form.] (2) (**Sec 9.7, 9.8)**

1. Solve all types of quadratic equations, including those with complex solutions. Solve rational equations that reduce to quadratic equations. (2) (**Sec 10.1a, 10.2)**
2. Solve application problems that require setting up and solving quadratic equations. [Students should be prepared to use simple geometric formulas such as those giving the areas of rectangles and triangles.] (2) (**Sec 10.3)**
3. Graph quadratic functions. Find vertices and x- and y-intercepts of parabolas. (2) (**Sec 10.5)**
4. Solve application problems involving the Pythagorean theorem. (1) (**Sec 10.3)**
5. Solve application problems involving direct and inverse variation. (1) (**Sec 7.6)**
6. Use substitution to solve polynomial equations that reduce to quadratic equations. (1)

(**Sec 10.4)**