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Math 095 – Section # – Intermediate Algebra

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

### Syllabus – Semester/Year

**Instructor Information**

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

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

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

**Course Information**

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

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

**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.

**More Course Information:** You can find further information about this course, such as the review for the final exam, on the Math Department Math 095 webpage: <https://prairiestate.edu/academics/academic-programs/mathematics/courses/math-095.aspx>

**Methods of Evaluation**

**Quizzes & Tests:** Include information here about the number of quizzes and tests, how they are weighted/points each is worth, and how many (if any) will be dropped

**Homework**:

Include information here about the number of homework assignments, how they are weighted/points each is worth, and how many (if any) will be dropped. Also, be sure to include supplemental homework assignments to achieve the objectives not met in the HAWKES homework.

Sample statement on HAWKES mastery based learning system: 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**

**Final exam**:

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

**Grades**: Grades will be determined using the following (a points system may be used as long as the percentages fall within the allowed ranges)

Homework (must be between 10 - 15%)

Quizzes

Other

Tests (must be between 40-60%)

Final (must be between 15-25%)

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Total

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

Grades will be rounded to the nearest whole percent.

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

**Drop Deadline**: The last day to drop this class for a “W” grade is Drop deadline.

**Class Policies and Keys to Success**

**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 **FREE** tutoring appointment by going to Room 2643 or calling Hattie at 708-709-3663 or Lisa at 708-709-3507.

**Group Participation Goals (*recommended statement if using group work)****:* 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**: (***Recommended statement)*** 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. Violations will be reported to the Dean of Counseling.

**Cell Phones/Electronic Devices**: (***Recommended policy)*** When you come to class, cell phones should be silenced 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 on exams and quizzes**.

**Attendance**: (***Recommended policy-add policy on accepting late work/missed quizzes/exams)*** I trust you understand that regular class attendance is an essential component of successful learning. 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.

**Important Information**

**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.

Pregnant and parenting students attending Institutions of Higher Education have rights under the Title IX of the Education Amendments of 1972 (Title IX) 20 U.S.C. 1681 et seq. This is a federal civil rights law that prohibits discrimination on the basis of sex – including pregnancy and parental status in educational program and activities. All public and private schools, school districts, colleges and universities receiving any federal financial assistance must comply with Title IX. For assistance regarding pregnant and parenting accommodations, please contact the Title IX Coordinator, Tiffany Brewer at [tbrewer1@prairiestate.edu](mailto:tbrewer1@prairiestate.edu), or 708-709-3653, office number 2143. The full policy is located on the Prairie State College website at: prairiestate.edu/assets/global/pdf/sexdiscmharabooklet.pdf

**Academic Honesty**: All students are expected to adhere to the PSC academic honesty expectations: http://[prairiestate.edu/academics/acadhonest.aspx](http://prairiestate.edu/academic/acadhonest.aspx). 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.

**Student Veterans:**  Veterans and those currently serving in the Armed Services may be eligible for various benefits.  Information and support are available in the Student Veterans Center (Room1240) or go to:  <http://prairiestate.edu/student-services/veterans-services/index.aspx>.

Math 095-Sec# Tentative Schedule Semester/Year

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Sections** | **HW Assigned** | **Due Date** |
|  | (9.5) Solving radical equations | Sec 9.5 |  |
|  | (9.7) Complex numbers  (9.8) Mult/div of complex numbers | Sec 9.7  Sec 9.8 |  |
|  | Review | ------ | ------ |
|  | **Test #3** | ------ | ------ |
|  | (10.1)a Square Root Method  (10.1)b Completing the Square | Sec 10.1a  Sec 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 |  |
|  | (10.5) Graphing parabolas | *HW #2 Handout* |  |
|  | (10.5) Graphing parabolas  Review 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)**