MATH 1030  Bridge to College Algebra

Credit Hours
3 credit hours

Course Description
Topics include factoring, rational expressions and equations, systems of linear equations and inequalities in two variables, radical expressions & equations, complex numbers, quadratic equations and graphs, relations and basic function analysis. This course is a prerequisite to MATH 1710 for students with MATH ACT scores below 19 and does not meet any general education mathematics requirement.

Prerequisite Course(s)
Two years of high school algebra and acceptable placement score (ACT 19 or higher), or LSM Modules 1 - 7

Required Materials

Other text or materials required
Folder with Brads to turn in notebook problems
A non-graphing calculator may be used but is not required

Academic Honesty
Acts of academic dishonesty are serious offences at JSCC. Suspension from the college could be the consequence for any act of dishonesty. No form of cheating will be tolerated. See the JSCC catalog for additional information.

Prerequisite Competencies
It is expected that students have mastery of these prerequisite competencies. If assistance is needed regarding these topics, please use the services and materials provided by the Academic Assistance Center and SMART Math Learning Center.

Competencies include but are not limited to:
- Perform the basic operations (addition, subtraction, multiplication, and division) on algebraic expressions and real numbers.
- Solve linear equations in one variable.
- Solve linear inequalities in one variable.
- Graph a line given its equation.
- Write the equation of a line given sufficient information about the line.
Exit Competencies:
Upon successful completion of this course, a student will demonstrate comprehension and application of the following competencies.

**MODULE 8**
1. Factor out the greatest common factor of a polynomial.
2. Factor trinomials
3. Factor differences of squares.
4. Factor polynomials completely.
5. Solve equations by factoring and then using the principle of zero products.

**MODULE 9**
7. Multiply rational expressions.
8. Divide rational expressions and simplify.
9. Add rational expressions.
10. Subtract rational expressions.
11. Solve rational equations.

**MODULE 10**
12. Determine whether the graphs of two linear equations are parallel.
13. Determine whether the graphs of two linear equations are perpendicular.
14. Determine whether an ordered pair is a solution of a system of equations.
15. Solve systems of two linear equations in two variables by graphing.
16. Solve a system of equations using the substitution method.
17. Solve a system of two equations using the elimination method.
18. Solve applied problems by translating to a system of two equations in two variables.
19. Graph systems of linear inequalities and find coordinates of any vertices.

**MODULE 11**
20. Simplify radical expressions.
21. Add, subtract, multiply and divide radical expressions and simplify if possible.
22. Rationalize the denominator of a radical expression.
23. Solve radical equations.
24. Simplify expressions with rational exponents.
25. Identify and simplify imaginary numbers.
26. Add, subtract, multiply and divide complex numbers.

**MODULE 12**
27. Solve quadratic equations of the type \( ax^2 = p \).
28. Solve quadratic equations by completing the square.
29. Solve quadratic equations of the type \( ax^2 + bx + c = 0 \), by the quadratic formula.
30. Demonstrate and justify a complex solution to a quadratic equation.
31. Graph quadratic equations.
32. Find the x-intercepts of a quadratic equation.
33. Use interval notation.
34. Determine whether a correspondence is a function.
35. Analyze the equation and graph of a given function and describe its domain and range using set and interval notation.
36. Evaluate a function at a given value.
37. Determine whether a graph is that of a function.

**ADA**
Jackson State will make reasonable accommodations for students with documented disabilities. Students should notify their instructor and Linda Nickell, Dean of Students, in the Counseling Office, Room 139 of the Student Union Building. The contact number is 425-2616 and the email is nickell@jscc.edu. Instructors should be notified the first week of class. All discussions remain confidential.
1. **Required Student Materials**

   **TEXTBOOK:** Connecting the Concepts a Modular Approach to Developmental Mathematics, Second Edition, published by Pearson/Addison Wesley. Because it is a custom edition, it is only available in the JSCC Bookstore. If you took MATH 0891, you will not need to purchase a new book.

   **MYLABSPLUS® ACCESS CODE:** You need a code to access homework, tutorials, tests and your grade book. This code comes bundled with your textbook.

   **STUDENT ID:** You will need a photo ID in order to get credit for attendance at the SMART Math Center and at sessions outside the SMART Math Center. You must also display a photo ID when taking an exam in the SMART Math Testing Center.

   **NON-GRAPHING CALCULATOR:** You will need a calculator to work some problems from the homework, quizzes, and tests. A non-graphing calculator is allowed when testing. You may prefer to use the calculator under accessories on your computer.

   **FOLDER WITH BRADS FOR NOTEBOOK.:** Your notebook will include your completed work from the notebook problems homework assignment and other material designated by your instructor.

2. **How this course works**

   **You will work through one module at a time.**

   To begin each new module, log into JSCC’s mylabsplus® ([www.jscc.mylabsplus.com](http://www.jscc.mylabsplus.com)) using your J-number as your login name and 1st initial-last name (lower case) as your password. (This is not the same as your JSCC Login and Password).

   - **Pretest**
     - Must take in SMART Math Testing Center (online students must take in AAC).
     - Can only take one time, so make sure you have enough time to complete entire test before you start it.
     - If score is 80+ to next module pretest.
     - If score is below 80 then proceed as follows:
   - **Connecting the Concepts Book/Homework on mylabsplus**
     - Read lesson and work “You Try Its” in the Connecting the Concepts Book
     - Score 80+ on each section before you go on.
     - Can do anywhere on computer that has mylabsplus program loaded & internet access (i.e. At Home, Library, SMART Math Center, JSCC Computer Labs).
   - **Notebook Problems assignment on mylabsplus.**
     - Notebook containing written work from Notebook Problems homework assignment should be turned in to your instructor.
   - **Practice Test**
     - Do as many times as you like.
     - Must score 80% to be eligible for the Post Test.
     - Can do anywhere on computer that has mylabsplus program loaded & internet access (i.e. At Home, Library, SMART Math Center, JSCC Computer Labs).
   - **Post Test**
     - Must have Instructor’s Signature on completed “Permission to take Post Test” on the tab in the Concepts Book.
     - Must take in SMART Math Testing Center.
     - May retake on same day with instructor approval.
   - **Attendance**
     - At Least 3 hours per week in SMART Math Center is required the entire semester or until all seven modules are completed. Points will be deducted from course grade for excessive absences. Extra time in SMART Center is encouraged. **Always sign in and out.**
MINI-LECTURES: Your instructor will provide small group instruction on the concepts, as needed.

COMPUTER HOMEWORK/TUTORIAL: The computer homework and tutorials parallel the textbook and are available on the SMART Math computers. You may access these tutorials from any computer with a fast connection including your home computer. One of the great features of the computer software is checking your understanding at any time and getting immediate feedback and follow up examples to walk you through the problems step by step.

NOTEBOOKS: You will need to keep a notebook for each module you study. The notebook should be a folder with brads and will include the completed Notebook Problems for the module. Your instructor will check to see that your notebook is well-organized and complete.

WORK WITH SMART MATH STAFF: The SMART Math Center staff is available to help you whenever a concept is not clear or you are having difficulty with a problem. Online students are also encouraged to use the tutoring services offered in the Smart Math Center. This means help when you need it. We always have time for you!

3. Timing
In most three credit hour college courses, the average student spends 9 to 12 hours per week studying to be successful in the course. In this course (unless you are an online student), you will be required to spend three hours per week in the SMART Math Center and you are always welcome and encouraged to spend more time in the center. Many students spend all their math study time in the SMART Math Center where tutors are available. Your success in this course will be enhanced by the amount of time you spend doing math.

4. Credit for Participation
You will receive attendance points for the three required hours per week as part of your grade. Points for excessive absences will be deducted from the course grade.

To receive credit for the time you spend in the SMART Math Center you MUST sign-in and sign-out at the desk as you enter the room. If you attend extra hours you need to sign-in and sign-out on the Walk-In Sign-in Sheet at the desk. Hours that the SMART Math Center will be open and staffed with SMART Math helpers will be posted.

5. Exams
The examination for each Module (Post Test) will be taken in the SMART Math Testing Center on mylabsplus®. Online students will test at the AAC (Academic Assistance Center). To access the exam, click on the button labeled “tests”. A proctor will be available to enter a password for you to access your tests. Before taking a test, you must have completed all homework assignments including the test review found in “Homework”, the practice test for that Module, and the Notebook.

If after taking the first version of a particular test, you are not satisfied with your grade; you may study what you missed and then take another version of the test. In preparing for the retest, you should check with an instructor before you retake the test. You may take a test up to three times and your best score will be used. In the unlikely event that you do not pass the test on the third try, your instructor will determine your best route to insure success in the Module.

IMPORTANT: WHEN TAKING A PRETEST OR A POSTTEST, YOU MUST PRESENT A PHOTO ID AND YOU MAY ONLY HAVE ONE WINDOW OPEN ON YOUR COMPUTER. YOU MUST USE THE TEST TEMPLATE AND A PENCIL OR PEN. NON-GRAFING CALCULATORS ARE PERMITTED ON MODULES 5-12. THE TEST TEMPLATE MUST BE TURNED IN TO THE PROCTOR UPON SUBMITTING YOUR TEST. SHOW YOUR WORK!

NOTE: In rare cases, the computer may indicate you missed an answer when in fact it was an entry error. If you suspect that this may have happened or other computer glitches occurred, be sure to indicate this to your test proctor when you turn in your test template. The proctor will note your concern and your
test will be looked at to see if your grade should be adjusted. In order to support a claim that an entry error has occurred, it is important that your work be clearly demonstrated on your test template. (Show your work!)

You are expected to do your own work on the tests. Cheating on tests, misrepresentation of attendance, falsifying records, or lying will result in loss of credit for all work involved. Additional sanctions will be imposed as appropriate, in accordance with JSCC’s Academic Honesty policy which is found in the College Catalog and Student Handbook on page 155.

6. **Grade Calculation**

Module grades will be calculated as follows:

- Attendance: 5%
- Notebook: 10%
- Homework: 15%
- Exam: 70%

Your Course Grade will then be determined by the following scale based on the average of the best four module grades completed.

- 95 – 100 % = A
- 85 – 94% = B
- 75 – 84% = C

If you do not complete all Modules 8-12, a grade of F will be posted. When you register for the course next term, you will begin with the next module not completed.

7. **Communications and email**

Announcements about the course, special sessions, changes in schedules or procedures, and so forth will be communicated by your instructor, on the jssc.mylabsplus® site, or via your JSCC email. Any questions you have about the course, or about your progress in the course should be directed to your instructor.

If you have any problems or any general questions, you should first contact your instructor. You can also talk with any SMART Math staff, or the Dean of Math & Sciences.

8. **Changes in this syllabus will be provided in writing by your Instructor.**