Welcome to RCC’s Pre-Algebra course! When you have successfully completed Math 20, you will compute accurately and efficiently with signed fractions, and you will read and write correct mathematical notation. You will be prepared to use the arithmetic of rational numbers in the workforce and in your private endeavors and with technology.

Class topics include problem solving, signed numbers, fractions, ratios, proportions, percent, and measurement. Thinking through problems, computing and verifying correct solutions, as well as applying mathematics in real world problems will be stressed in this course.

Expect to have your questions answered, take part in discussions, work in groups and complete homework, projects and tests. To be prepared for class, you will need to study the book and work math problems. Your teacher will help you with just how to study to be successful in this course.

Course Prerequisites: SK8 or suitable placement test scores. (If you believe your placement may be incorrect, see your instructor immediately)

Required Materials: Prealgebra for a Technical World, Hutt & Long. A notebook, a ruler, pencils, pencil pocket, highlighter, a stapler, notebook paper, and (starting week 6) a scientific calculator.

HELP! is available: When you have put in more than 45 minutes on one problem, or set of problems, or you are simply not understanding what to do, it is time to get help.

--Read the book again, always read the book!
--Contact your instructor as soon as you can.
--Use the Tutoring Center.
--Use the Web we have a website for this class, and many free lectures, practice and reading is available at other websites. Learn to search for any topic.
--Call a fellow student. Write names and phone numbers here:
Making the Grade: This class is pass/no pass. You will need to earn 70% of the points in the course and you will need to complete all tests. Using the table below, how many points will you need to pass the class?

The last test in this course is a final exam. You will also need to pass the final exam with a 70% or better.

<table>
<thead>
<tr>
<th>Number</th>
<th>Type of assignment</th>
<th>Conditions</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Home works</td>
<td>No late homework accepted</td>
<td>140</td>
</tr>
<tr>
<td>8</td>
<td>Quizzes</td>
<td>Weekly assessments</td>
<td>160</td>
</tr>
<tr>
<td>1</td>
<td>Project</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Tests</td>
<td></td>
<td>350</td>
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<tr>
<td></td>
<td></td>
<td><strong>Total Points</strong></td>
<td><strong>700</strong></td>
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**Homework and Quizzes:**

-- Homework is due on the second class day after it is assigned. This gives you a chance to ask questions. No late work will be accepted.

-- Eight Quizzes are scheduled. If you miss a quiz, you will need to take it in the testing center and your score will be automatically reduced by 10%.

**Projects and Tests** may be made up with a 10% automatic reduction in credit. You will need to schedule a time in the Testing Center for any make up tests. You must also discuss with your instructor how to make up a missed project.

The Chapter 2 and 3 tests are no calculator exams. The final exam has two parts: calculator and no calculator.

**Classroom Etiquette**, or how to survive in a small room with a large group:

-- Disrespecting others or disrupting instruction is grounds for removal from this course and the college. This classroom is a safe place for learning, and this teacher will strongly enforce this. See the “Students Rights and Responsibilities” manual.

-- Turn off your cell phone. If your cell phone rings, leave class.

-- No food or drink in the room. Water in closed containers is okay.

**Cheating** in this class will be grounds for disciplinary action in accordance with the “Students Rights and Responsibilities” manual. These consequences include, but are not limited to, removal from this class and removal from the college. Academic honesty is important here! Neither you nor I want a doctor, auto mechanic, accountant or any professional who learned to cheat in college, rather than learned to do the work correctly!
Suggested Strategies for Effective Study in Pre-Algebra:

- Read the book before coming to class (then get your questions answered before trying to do the homework problems!)
- Use tabs to mark questions, important information, and where you need to study.
- WRITE IN YOUR BOOK—Argue with your book, talk back! This is a workbook, you will not be able to sell it back anyway.
- Do your homework with the study-buddies you make in this class. Make sure you have a study buddy to contact if you miss class.
- Do your homework in the Tutoring Center.
- Identify how to access your lifelines; teacher, favorite tutor, fellow student, etc. EARLY, before you have too much trouble understanding.
- Attend class every day. Attend class every day. Attend class every day.
- Work extra problems.
- Ask questions in class. Participate in discussions.
- Do homework when assigned.
- Help each other out. If you find something that helps you with the math, tell the rest of the class.
- Relax and enjoy learning. Look through this list. If you had trouble with learning math before, what were you missing from your study strategies?

Disability & Special Services: Any student who feels that he or she may need an academic accommodation for a disability, such as vision, hearing, orthopedic, learning disabilities, psychological or other medical conditions, should make an appointment with the Support Services Office. (Located in the Wiseman Tutoring Center at the Redwood Campus or Building G207 at the Riverside Campus.)

Times are tough for many people right now, and we will all work to help each other learn the math this quarter. I am glad to have you in class, and I look forward to your success this quarter.
Course Title: Pre-Algebra

Institution: Rogue Community College

Type of Course: Post Secondary Remedial

Length of Course: A minimum of forty (40) lecture hours per one term.

Prerequisites: Designated placement test score as shown on current indicator chart and RD20.

Department Assignment: Mathematics

Course Description: Pre-Algebra reinforces skills in whole number, fractions, and decimals while introducing computation with rational numbers, exponents, order of operation, and the use of variables, expressions, formulas, and equations. Ratio and proportions, percent, and topics in measurement are also studied. Working with real data, formulas, and applications will be stressed.

Course Outcomes, Skills and Assessment: On successful completion of this course, the students will be able to:

<table>
<thead>
<tr>
<th>Expected Outcomes</th>
<th>Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Use mathematical problem solving techniques involving rational numbers, exponents, simple formulas, ratio and proportions, percent, and units of measure.</td>
<td>1. Criterion referenced tests, quizzes for specific vocabulary, skills, concepts, and daily problem assignments.</td>
</tr>
<tr>
<td>ISLOs: Locates, organizes, analyzes, and interprets data; envisions creative approaches to issues and problems; Integrates previous and new learning, along with practical skills, to solve problems; uses numeracy skills for interpretation, synthesis, and analysis of data. (CT 3, CT 4, AK 2, AK 4)</td>
<td>Pre and post surveys, class homework, group work, class discussions, and instructor observation.</td>
</tr>
<tr>
<td>2. Student will use basic financial and measurement formulas which model real world situations.</td>
<td>2. Criterion referenced tests, quizzes for specific vocabulary, skills, concepts, and daily problem assignments.</td>
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<td>Expected Outcomes:</td>
<td>Assessment Methods:</td>
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<tr>
<td><strong>ISLOs:</strong> Locates, organizes, analyzes, and interprets data; Demonstrates ability to transfer learning in familiar and unfamiliar contexts in order to complete tasks; Integrates previous and new learning, along with practical skills, to solve problems. <em>(CT 3, AK 1, AK 2)</em></td>
<td>Pre and post surveys, class homework, group work, class discussions, and instructor observation.</td>
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<td><strong>ISLOs:</strong></td>
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<tr>
<td>3. Student will use investigate problems, math properties, and applications outside of the classroom in order to develop mathematical conjectures involving rational numbers, exponents, simple formulas, ratio and proportions, percent, units of measure, probability and statistics.</td>
<td>3. Criterion referenced tests, quizzes for specific vocabulary, skills, concepts, daily problem assignments, and in-class observations.</td>
</tr>
<tr>
<td><strong>ISLOs:</strong> Locates, organizes, analyzes, and interprets data; Envisions creative approaches to issues and problems. <em>(CT 3, CT 4)</em></td>
<td>Pre and post surveys, class homework, group work, class discussions, and instructor observation.</td>
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<tr>
<td>4. Justify results and verify conjectures by applying correct arguments involving math operations, rational numbers, exponents, simple formulas, ratio and proportions, percent, and units of measure.</td>
<td>4. Criterion referenced tests, quizzes for specific vocabulary, skills, concepts, daily problem assignments, and in-class observations.</td>
</tr>
<tr>
<td><strong>ISLOs:</strong> Integrates previous and new learning, along with practical skills, to solve problems. <em>(AK 2)</em></td>
<td>Pre and post surveys, class homework, group work, class discussions, and instructor observation.</td>
</tr>
<tr>
<td>5. Make mathematical connections to and solve problems from other disciplines that can be</td>
<td>5. Criterion referenced tests, quizzes for specific vocabulary, skills, concepts, and project</td>
</tr>
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<td>Expected Outcomes:</td>
<td>Assessment Methods:</td>
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<tr>
<td>represented using rational numbers, exponents, simple formulas, ratio and proportions, percent, and units of measure.</td>
<td>completion and presentations.</td>
</tr>
<tr>
<td><strong>ISLOs:</strong> Internalizes and assimilates information into new situations; Locates, organizes, analyzes, and interprets data; Demonstrates ability to transfer learning in familiar and unfamiliar contexts in order to complete tasks; Integrates previous and new learning, along with practical skills, to solve problems. (AL 3, CT 3, AK 1, AK 2)</td>
<td>Pre and post surveys, class homework, group work, class discussions, and instructor observation.</td>
</tr>
<tr>
<td>6. Use oral and written skills to individually and collaboratively communicate about rational numbers, exponents, simple formulas, ratio and proportions, percent, and units of measure.</td>
<td>6. Criterion referenced tests and quizzes for specific vocabulary, skills, concepts, daily problem assignments, in-class observations, and project completion and presentations.</td>
</tr>
<tr>
<td><strong>ISLOs:</strong> Expresses ideas clearly in oral, written and visual work; Collaborates effectively to achieve course/learning goals. (COM 2, COM 3)</td>
<td>Pre and post surveys, class homework, group work, class discussions, and instructor observation.</td>
</tr>
<tr>
<td>7. Choose among mental math strategies, paper and pencil algorithms and/or calculators to compute solutions using rational numbers, proportions, percents, and formulas; and determine the reasonableness of results.</td>
<td>7. Criterion referenced tests, quizzes for specific vocabulary, skills, concepts, and daily problem assignments.</td>
</tr>
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<td><strong>ISLOs:</strong> Locates, organizes, analyzes, and interprets data; Demonstrates ability to transfer learning in familiar and unfamiliar contexts in order to complete tasks. (CT 3, AK 1)</td>
<td>Pre and post surveys, class homework, group work, class discussions, and instructor observation.</td>
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<tr>
<td>8. Do projects that encourage independent, nontrivial exploration of situations involving</td>
<td>8. Project completions and presentations.</td>
</tr>
</tbody>
</table>

### Expected Outcomes:

- Rational numbers, exponents, simple formulas, ratio and proportions, percent, or units of measure.

**ISLOs:** Locates, organizes, analyzes, and interprets data; Demonstrates ability to transfer learning in familiar and unfamiliar contexts in order to complete tasks; Integrates previous and new learning, along with practical skills, to solve problems. (CT 3, AK 1, AK 2)

### Assessment Methods:

- Project evaluation.

### Typical Required and Recommended Text(s):


### Typical Required and Recommended Equipment and Materials:

- Ruler, notebook, ruled paper, pencils, stapler or paper clips, scientific calculator.
TYPICAL COURSE OUTLINE:

Problem Solving
- Rounding and computational estimation
- Standard and mental math algorithms
- Problem solving steps
- Problem solving strategies
- Order of operations
- Measurement formulas for triangles and some quadrilaterals

Integers
- Opposites and Absolute Values
- Addition of integers
- Subtraction of integers
- Multiplication of integers
- Division of integers
- Solving problems involving integers

Fractions
- Reading scales and measuring with a ruler
- Finding factors
- Simplifying and finding equivalent fractions
- Ordering fractions
- Adding fractions and mixed numbers
- Subtracting fractions and mixed numbers
- Multiplying fractions and mixed numbers
- Dividing fractions and mixed numbers
- Using calculators

Decimals, Proportions and Percents
- Decimal notation and scientific notation
- Adding and subtracting decimals
- Multiplying and dividing decimals
- Metric Measure
- Rates and ratios
- Unit conversion
- Scaling
- Solving proportions and applications
- Percent notation
- Solving percent problems
- Financial planning (optional)