AFM 009F, Advanced Math 009

6 Credits, 16 weeks, 8 hours lecture

AFM 009 will review all four operations (addition, subtraction, multiplication and division) of rational numbers, including rational and irrational square roots. Other topics will include algebra, exponent laws, algebraic expressions, polynomial operations, solving multi-step linear equations, graphing linear equations in two variables and solving linear inequalities in one variable. A review of two and three dimensional measurement will be applied to volume and surface area, the Pythagorean Theorem, and circle properties. Number sense will be applied to the application of probability in our society.

Prerequisite: Completion of Math 007 or equivalent or permission from the Program Chair

Instructor

Instructor Name: Maureen Clarke
Office location: FC-119
Phone number: (780) 697-3767
maureen.clarke@keyano.ca

Office Hours

Monday 8:30 – 9:00; 3:00 – 3:50
Tuesday 8:30 – 9:00; 3:00 – 3:50
Wednesday 3:00 – 3:50
Thursday 3:00 – 3:50

Hours of Instruction

Monday 9:00 – 9:50; 10:00 – 10:50
Tuesday 9:00 – 9:50; 10:00 – 10:50; 2:00 – 2:50
Wednesday 9:00 – 9:50
Thursday 9:00 – 9:50; 10:00 – 10:50

Required Resources

Text: Pearson Custom Mathematics for Canadians
Pearson Education Company
ISBN 13: 978-00558-63139-0
Course Outcomes

At the completion of the course, students will be able to:

- Confidently perform operations (add, subtract, multiply and divide) rational numbers
- Find rational and irrational square roots
- Comprehend and use terminology associated with course topics
- Know and apply exponent laws
- Simplify algebraic expressions
- Solve multi-step linear equations
- Solve linear inequalities in one variable
- Understand volume and surface area
- Apply the Pythagorean Theorem to solve right triangles
- Comprehend properties of circles
- Use applications involving probability
- Apply circle properties to solve problems
- Utilize problem solving models to generate a set of ordered steps to solve problems
- Organize written work to facilitate problem solving
- Relate learned mathematical rules and skills to new concepts.

Evaluation

Assignments 35%
Quizzes/Tests 20%
Midterm Exam 20%
Final Exam 25%
Total 100%

The minimum pre-requisite for progression is 1.7 (refer to Grading System below)

Grading System

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<th>Descriptor</th>
<th>4.0 Scale</th>
<th>Percent</th>
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Proposed Schedule of Topics

UNIT 1 Signed Numbers   pp. 29 – 79  Jan 6 – 16
UNIT 2 Introduction to Algebra  pp. 85 – 142  Jan 20 – Feb 3
UNIT 3 Solve and Graph Linear Inequalities pp. 147 – 160  Feb 4 - 17
UNIT 4 Percent   pp. 211 – 274  Feb 18 – March 10

MIDTERM EXAM TBA

UNIT 5 Powers and Polynomials pp. 279 – 312  March 11 - 25
UNIT 6 Measurement pp. 375 – 416  March 26 – April 8
UNIT 7 Geometry pp. 417 – 520  April 9 – 16

REVIEW April 20 - 22

FINAL EXAM TBA

Please Note:
Date and time allotted to each topic is subject to change. It is your responsibility as a student to contact the Office of the Registrar to complete the forms for Withdrawal or Change of Registration, and any other forms. Please refer to the list of important dates as noted in the Academic Schedule in the Keyano College Credit Calendar.

Performance Requirements

Student Attendance

Class attendance is useful for two reasons. First, class attendance maximizes a student’s learning experience. Second, attending class is a good way to keep informed of matters relating to the administration of the course (e.g., the timing of assignments and exams). Ultimately, you are responsible for your own learning and performance in this course.

It is the responsibility of each student to be prepared for all classes. Students who miss classes are responsible for the material covered in those classes and for ensuring that they are prepared for the next class, including the completion of any assignments and / or notes that may be due.

Academic Misconduct

Students are considered to be responsible adults and should adhere to principles of intellectual integrity. Intellectual dishonesty may take many forms, such as:

- Plagiarism or the submission of another person’s work as one’s own
- The use of unauthorized aids in assignments or examinations (cheating)
- Collusion or the unauthorized collaboration with others in preparing work
- The deliberate misrepresentation of qualifications
- The willful distortion of results or data
- Substitution in an examination by another person
- Handing in the same unchanged work as submitted for another assignment

Penalties for academic offences range from a verbal reprimand to dismissal from the College, and in certain circumstances may involve legal action.
Specialized Supports

Counselling and Disability Services

Counselling Services provides a wide range of specialized counselling services to prospective and registered students, including personal, career and academic counselling.

SKILL Centre

The SKILL Centre is a learning space in the Clearwater Campus at Keyano College where students can gather to share ideas, collaborate on projects and get new perspectives on learning from our tutorial staff.

The SKILL Centre, through a variety of delivery methods, provides assistance in skill development to Keyano students. Assistance is provided by instructors, staff and student tutors. Individuals wishing to improve their mathematics, writing, grammar, study, or other skills, can take advantage of this unique service.
Authorization
This course outline has been reviewed and approved by the Program Chair.

Maureen Clarke, Instructor

______________________________  ______________________________
Lisa Turner, Chair                      Date Authorized

______________________________  ______________________________
Guy Harmer, Dean                      Date Authorized

Signed copies to be delivered to:
Instructor
Registrar's Office