UNIVERSITY COLLEGE of the FRASER VALLEY

UPAC FORM #2 (Page 1)

COURSE IMPLEMENTATION DATE: September 1995
COURSE REVISED IMPLEMENTATION DATE: September 2008
COURSE TO BE REVIEWED: November 2009
(Four years after UPAC final approval date) (MONTH YEAR)

OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor

FACULTY/DEPARTMENT: **Science, Health & Human Services / Mathematics & Statistics**

MATH 094		**4**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

Introduction to College Math I
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

This course, followed by MATH 095, is recommended for students intending to major in a science, engineering, or technology program who do not have the required Grade 12 (Math) prerequisites. MATH 094 and MATH 095 are together equivalent to provincial Mathematics 12 and they provide the foundation for calculus courses.

Topics include manipulation of algebraic expressions; zeroes of quadratic and polynomial functions; equations involving rational exponents, radicals, rational functions and absolute values. Functions are studied, with emphasis on notation, graphing, transformations, inverses and compositions. Practical applications include optimization, motion, and area problems. Nonlinear systems and complex numbers are included.

PREREQUISITES: **Principles of Math 12 or at least a C in one of the following: Principles of Math 11, MATH 085, Applications of Math 12. Note: All students, except those who have completed MATH 085 or Principles of Math 12, are required to write the Math Placement Test.**

COREQUISITES: **None**

SYNONYMOUS COURSE(S)
(a) Replaces: ____________ *(Course #)*
(b) Cannot take: ____________ *(Course #)* for further credit.

SERVICE COURSE TO:
____________ *(Department/Program)*
____________ *(Department/Program)*

TOTAL HOURS PER TERM: **90**

STRUCTURE OF HOURS:

Lectures:	**75**	Hrs
Seminar:		Hrs
Laboratory:		Hrs
Field Experience:		Hrs
Student Directed Learning:		Hrs
Other (Specify): Math Centre or tutorial	**15**	Hrs

TRAINING DAY-BASED INSTRUCTION
LENGTH OF COURSE: ____________
HOURS PER DAY: ____________

MAXIMUM ENROLLMENT: **36**
EXPECTED FREQUENCY OF COURSE OFFERINGS: **every Fall and Winter**

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)	☒ Yes	☐ No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)	☐ Yes	☐ No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:	☒ Yes	☐ No

AUTHORIZATION SIGNATURES:

Course Designer(s): J Cannon / V Alford
review - J Cannon / E Talvila

Chairperson: Gillian Mimmack *(Curriculum Committee)*

Department Head: Gillian Mimmack

Dean: Jacalyn Snodgrass

UPAC Approval in Principle Date:

UPAC Final Approval Date: Feb. 29, 2008

LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:

Successful students will be able to:

1. utilize their algebraic skills in manipulating algebraic expressions
2. solve linear, quadratics, and absolute value equations and nonlinear systems of equations
3. find solutions for linear, absolute value and rational inequalities
4. recognize, formulate, solve and interpret a variety of applied problems
5. use the language of functions as required for the study of calculus
6. use technology to enhance their understanding of topics represented by graphs

METHODS:

Lectures mixed with problem sessions. Graphing calculators are used to aid in the understanding of topics.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR (Please check:) ☒ Yes ☐ No

METHODS OF OBTAINING PLAR:

Please check online at http://www.ucfv.ca/math/challenge.htm for the departmental challenge policy

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

The textbook is chosed by a departmental curriculum committee. Recent text used:

Bittinger, Beecher, Ellenbogen, Penna. 2006. Algebra and Trigonometry, Graphs and Models. 3rd edition. Addison Wesley

SUPPLIES / MATERIALS:

A graphing calculator (without a computer algebraic system) is required.

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

Assignments and quizzes	16%
Tests (3 or 4)	44%
Final exam	40%

Students must achieve at least 40% on the final exam in order to receive credit for this course.

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

1. Basic algebra skills:
   a) Exponents
   b) Factoring
   c) Rational expressions
   d) Radicals
2. Solutions of equations:
   a) Linear
   b) Quadratic
   c) Rational
   d) Radical
   e) Absolute value
   f) Nonlinear systems
3. Functions:
   a) Notation
   b) Evaluation
   c) Transformations
   d) Domain and range
   e) Compositions
   f) Inverses
   g) Linear and quadratic applications

4. Graphing, use of technology to aid in graphing and in interpreting graphs:
    a) Linear functions
    b) Quadratic functions
    c) Rational functions
5. Applications:
    a) Uniform motion
    b) Geometric
    c) Optimization