



COURSE IMPLEMENTATION DATE: September 1995
 COURSE REVISED IMPLEMENTATION DATE: September 2010
 COURSE TO BE REVIEWED: November 2009
(four years after UPAC approval) *(month, year)*

OFFICIAL UNDERGRADUATE 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 – see course syllabus available from instructor

| | | |
|--------------------------------|--------------------|-------------|
| MATH 094 | SCIENCE | 4 |
| COURSE NAME/NUMBER | FACULTY/DEPARTMENT | UFV 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.

COREQUISITES:
PRE or COREQUISITES:

SYNONYMOUS COURSE(S):

- (a) Replaces: _____
- (b) Cross-listed with: _____
- (c) Cannot take: _____ for further credit.

SERVICE COURSE TO: *(department/program)*

TOTAL HOURS PER TERM: 90

STRUCTURE OF HOURS:

| | | |
|----------------------------|-----------|-----|
| Lectures: | <u>75</u> | Hrs |
| Seminar: | _____ | Hrs |
| Laboratory: | _____ | Hrs |
| Field experience: | _____ | Hrs |
| Student directed learning: | _____ | Hrs |
| Other (specify): | <u>15</u> | Hrs |

TRAINING DAY-BASED INSTRUCTION:

Length of course: _____
 Hours per day: _____

OTHER:

Maximum enrolment: 36
 Expected frequency of course offerings: Every fall and winter
(every semester, annually, every other year, etc.)

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

| | |
|--|---|
| Course designer(s): <u>Jane Cannon</u> | Date approved: <u>February 1, 2010</u> |
| Department Head: <u>Greg Schlitt</u> | Date of meeting: <u>February 12, 2010</u> |
| Supporting area consultation (Pre-UPAC) | Date approved: <u>March 19, 2010</u> |
| Curriculum Committee chair: <u>Norm Taylor</u> | Date approved: <u>April 6, 2010</u> |
| Dean/Associate VP: <u>Dan Ryan</u> | Date of meeting: <u>April 23, 2010</u> |
| Undergraduate Program Advisory Committee (UPAC) approval | |

LEARNING OUTCOMES:

Upon successful completion of this course, 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: *(Guest lecturers, presentations, online instruction, field trips, etc.)*

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

METHODS OF OBTAINING PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

- Examination(s) Portfolio assessment Interview(s)
- Other (specify): Please check online at <http://www.ucfv.ca/math/challenge.htm> for the departmental challenge policy
- PLAR cannot be awarded for this course for the following reason(s):

TEXTBOOKS, REFERENCES, MATERIALS: *[Textbook selection varies by instructor. Examples for this course might be:]*

The textbook is chosen 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