



EFFECTIVE: SEPTEMBER 2004 CURRICULUM GUIDELINES

A. Division: **Instructional** Effective Date: September 2004
B. Department / Program Area: **Science & Technology** Revision New Course
If Revision, Section(s) Revised: **C, H, J**
Date of Previous Revision: May 12, 2000
Date of Current Revision: September 2004
C: MATH 1101 **D: Basic Algebra** **E: 3**

Subject & Course No.	Descriptive Title	Semester Credits						
F: Calendar Description: This is a one semester course for those students who need to improve their knowledge of algebra. It includes factoring, laws of exponents, simplifying polynomial and rational expressions, and solving equations and inequalities. It introduces students to functions and relations and their graphs.								
G: Allocation of Contact Hours to Type of Instruction / Learning Settings Primary Methods of Instructional Delivery and/or Learning Settings: Lecture Number of Contact Hours: (per week / semester for each descriptor) 4 hours per week Number of Weeks per Semester: 15	H: Course Prerequisites: BC Principles of Math 11 with C or better or DVST 0411 with C- or better or BC Applications of Math 12 with C or better and a score of 12 or better on the Math Assessment Test							
	I: Course Corequisites: none							
	J: Course for which this Course is a Prerequisite MATH 1110 and MATH 1115							
	K: Maximum Class Size: 35							
L: PLEASE INDICATE: <table style="border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> <td>Non-Credit</td> </tr> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;">X</td> <td>College Credit Non-Transfer</td> </tr> <tr> <td style="border: 1px solid black; width: 20px; text-align: center;"> </td> <td>College Credit Transfer:</td> </tr> </table> <p style="margin-left: 40px;">SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bccat.bc.ca)</p>				Non-Credit	X	College Credit Non-Transfer		College Credit Transfer:
	Non-Credit							
X	College Credit Non-Transfer							
	College Credit Transfer:							

M: Course Objectives / Learning Outcomes

At the end of this course, the successful student will have reviewed and strengthened their algebraic skills and have a level of algebraic proficiency which will allow them to continue their mathematical studies to an in-depth study of functions and their associated graphs (the precalculus course).

At the end of this course, the successful student should be able to:

- distinguish between different sets of real numbers
- read and use a variety of notations signifying sets/subsets of real numbers, including set builder, number line, inequalities and interval notation
- appreciate the connection between the set operations of intersection and union and the conditions of “and” and “or”
- understand the concept of a solution set
- correctly apply properties of commutativity, associativity, distribution, inequality, equality and absolute value, and use the laws of exponents in the course of simplifying expressions and solving inequalities and equations.
- simplify linear, polynomial, absolute value, rational and radical expressions
- solve linear, quadratic form, special polynomial, absolute value, rational and radical equations and inequalities, check solution(s) and express solutions sets using a variety of notations
- solve quadratic and quadratic form equations by factoring, completing the square or (deriving and) using the quadratic formula
- factor polynomials and use grouping, common factors, differences of squares, sum and difference of cubes
- add, subtract, multiply and divide polynomials
- translate a problem given in English form into an associated algebraic form, communicate clearly the relationship between the model and the original problem, articulate any restrictions on solutions, solve the algebraic problem and use the solution to solve the original problem
- find volumes, areas and perimeters of a variety of geometric figures especially in the context of story/applied problems
- use the Pythagorean theorem to solve story problems and to calculate distances and find midpoints in the plane
- work with the Cartesian co-ordinate system for two-dimensions
- graph linear inequalities in two variables
- solve linear systems of equations and inequalities algebraically and graphically
- graph linear equations in general, slope-intercept and slope-point forms, and find linear equations for given graphs
- distinguish parallel and perpendicular lines
- graph simple absolute value and radical functions
- graph circles and quadratic functions by first completing the square
- work with function notation
- determine if an equation in two variables represents an equation or a relation
- determine the domain and range of a function
- evaluate and form arithmetic combinations of functions

N: Course Content

1. Set of real numbers
2. Basic algebra – absolute value, exponents, factoring, fractions
3. Polynomial, rational, radical and absolute value equations
4. Polynomial, rational and absolute value inequalities
5. Functions and relations
6. Graphing
7. Modeling and mensuration formulae
8. Linear systems of equations and inequalities

O: Methods of Instruction

Lecture

P: Textbooks and Materials to be Purchased by Students

Bittinger and Ellenbogen, Intermediate Algebra: Concepts and Applications, Fifth Edition, Addison Wesley, 1998.

Q: Means of Assessment

Evaluation will be carried out in accordance with Douglas College policy. The instructor will present a written course outline with specific evaluation criteria at the beginning of the semester. Evaluation will be based on some of the following:

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|------------------------|----------|
| 1. Weekly Tests | 0 – 40% |
| 2. Mid-term Tests | 20 – 70% |
| 3. Assignments | 0 – 15% |
| 4. Attendance | 0 – 5% |
| 5. Class Participation | 0 – 5% |
| 6. Final Examination | 25 – 40% |

R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR

None

Course Designer(s)_____
Education Council / Curriculum Committee Representative_____
Dean / Director_____
Registrar