

A. Division: Educational & Student Services Division Date: April 19, 1992.

B. Department: Student Services & Developmental Education New Course:

Revision of Course

Dated: October 8, 1989.

C. DVST 310 D. Mathematics I E. 3
Subject & Course No. Descriptive Title Semester/Credits

F. Calendar Description:

This course deals with a variety of topics in algebra and geometry. It is designed for students with no previous experience in Algebra. Algebra topics include operations with rational numbers; order of operations; roots; powers; rules for exponents; polynomial operations; factoring; solving linear equations in one variable; problem solving and solving linear equations by graphing; geometry topics include perimeter, area and volume of geometric figures and forms; lines, angles and triangles.

Summary of Revisions:
(Enter date and Section Revised)

e.g. 1982-08-25
Section C,E,F, and R.
1992-04-09
A,E,F,G,N,O,P

G. Type of Instruction:	Hrs. Per Week/ Per Semester	H. Course Prerequisites: DVST 210 or permission of Instructor
Lecture	_____ Hrs.	I. Course Corequisites:
Laboratory	_____ Hrs.	
Seminar	_____ Hrs.	
Clinical Experience	_____ Hrs.	
Field Experience	_____ Hrs.	
Practicum	_____ Hrs.	
Shop	_____ Hrs.	
Studio	_____ Hrs.	
Student Directed Learning	_____ Hrs.	
Other (Specify) Instructor	4 Hrs.	
Total	4 Hrs.	J. Courses for which this Course is a Pre-requisite: DVST 410
		K. Maximum Class Size: 20

L. College Credit Transfer <input type="checkbox"/>	M. Transfer Credit: Requested <input type="checkbox"/>
College Credit Non-Transfer <input checked="" type="checkbox"/>	Granted <input type="checkbox"/>
Non-Credit <input type="checkbox"/>	(Specify Course Equivalents or Unassigned Credit as Appropriate) U.B.C. S.F.U. U. Vic. Other

Hoche Course Designer(s)
G. Danstkin Director/Chairperson
P. H. Dager Registrar
P. H. Dager Divisional Dean

N. Textbooks and Materials to be Purchased by Students (Use Bibliographic Form):

Students may be required to purchase a textbook.

Complete Form with Entries Under the Following Headings: O. Course Objectives; P. Course Content; Q. Method of Instruction; R. Course Evaluation

O. Course Objectives

The aims of the course are for students to:

1. gain initial experience with algebra and geometry for application in subsequent courses in mathematics;
2. learn to apply the basic operations and order of operations to the rational numbers and to polynomials;
3. learn to perform operations using integer exponents;
4. develop a facility for factoring: into primes, by removal of a common monomial factor, by recognition of special products - applications with simple binomials and trinomials;
5. recognize and adopt appropriate strategies for the solution of linear equations in one variable and linear equations in two variables (by graphing);
6. use and manipulate formulas for solving problems of perimeter, area and volume.

P. Course Content

The course consists of the following topics:

1. Number and Number Operations
 - a. operations with rational numbers: positive and negative integers and fractions
 - b. order of operations in whole number expressions
 - c. factoring integers into primes
 - d. powers of integer bases and roots which yield rational answers
 - e. operations with integral bases and exponents:
 $a^m x^n$, $a^m + a^n$, $(a^m)^n$, a^{-n} , $a^0 a^1$ $(a^m + b^n)^2$
 - f. operations with radicals.

2. Algebra

- a. evaluating expressions
- b. polynomial addition and subtraction
- c. polynomial multiplication
- d. Polynomial division by monomials
- e. operations with variable bases and integral exponents as in le. above
- f. factoring: greatest common factor, differences of squares, trinomials
- g. linear equations in one variable: solution axioms
- h. rearranging formulas
- i. writing expressions for unknowns
- j. problem-solving techniques
- k. solving word problems leading to linear equations in one variable.

3. Analytic Geometry

- a. Cartesian co-ordinators
- b. graphing linear equations in two variables: table of values

4. Geometry

- a. plane figures + 3-dimensional forms: formulas for perimeter, area and volume
- b. Pythagorean Theorem

Q. Method of Instruction

A combination of different instructional methods will be used in order to balance instructional efficiency with individual student needs. Group instruction, individual assistance in lab tutorial or scheduled appointments and student-directed learning will be selected where appropriate and possible.

R. Course Evaluation

Evaluation will be based on examinations and assignments in accordance with college policy. Details regarding the number and weighting of individual components will be announced in a "Course Information" handout at the beginning of the semester.

Grades will be assigned as follows:

A+	92 - 100%	B+	77 - 81%	C+	62-66%	P	50 - 52%
A	87 - 91%	B	72 - 76%	C	57 - 61%	F	0 - 49%
A-	82 - 86%	B-	67 - 71%	C-	53 - 56%		