Course Outline

201-013-50: ALGEBRA

Winter 2013

Ponderation: 2-2-2 Credits: 2
Pre-requisites: High School math: CST4, CST5 or equivalent, or a failure in TS4 or equivalent

Introduction. This course is designed for students who need to review or relearn basic algebraic concepts and skills. Successful completion of this course will allow you to take Functions and college level mathematics courses.

Course Objectives. The student will acquire a basic vocabulary in mathematics, develop skills in manipulating and simplifying algebraic expressions, acquire expertise in solving (linear, quadratic, and radical) equations, solve equations with rational expressions, and prepare for other mathematics courses at the college level.

Course Content. Numbers refer to sections in the textbook. Examples (in parentheses) and the notes provided by the teacher illustrate the content. You may also wish to take advantage of the chapter tests, chapter reviews, and cumulative reviews in the textbook. You are responsible for all problems and exercises in the text relevant to material covered in class, as well as all examples and topics illustrated or covered or assigned in class. The detailed content is on the next page.

Required Texts. *Introductory Algebra*, custom edition, by Aufmann and Lockwood. $93

Teaching Methods. Classes are primarily lectures, with discussions and problem-solving. Homework normally amounts to 2 hours per week. If you don't understand, ask for help! You are responsible for the material covered in missed classes. **No calculators are permitted on quizzes, tests or final examinations.**

Mathematics Department Attendance Policy. Regular attendance is expected. Missing six classes is grounds for automatic failure in this course. Many failures are due to missing classes. Students who wish to observe religious holidays must inform their teacher of their intent, in writing, within the first two weeks of the semester.

Evaluation Plan. The *Final Grade* is a combination of the *Class Mark* and the mark on the *Final Exam*. The Class Mark will include the student's results from three or more tests (worth at least 75% of the Class Mark), and possibly homework, quizzes and other assignments. The specifics of the Class Mark will be given by your instructor during the first week of classes in an appendix to this outline.

The *Final Grade* is whichever is the higher of:
(i) 50% *Class Mark* and 50% *Final Exam Mark or* (ii) 25% *Class Mark* and 75% *Final Exam Mark*
Students choosing not to write the final examination will receive a failing grade of 50% or their Class Mark, whichever is less.

Course Costs in addition to text. Scientific calculator ($20) may be recommended in class.

Math Lab. The Math Lab is located in H-203 and is open from 11:00 to 16:00 for borrowing course material or using the computers and printers for math assignments.

Math Help Centre. There is usually a teacher available for individual help (see posted schedule)
The Math Help Centre is located in H-203 from 9:00 to 11:00 and in H-222 after 11:00.

Math Website: http://www.johnabbott.qc.ca/departments/math

College Policy on Mid-Semester Assessment. All students have the right to feedback on basic skills in the first weeks of the semester so that they can seek extra help if necessary.

College Policies. Cheating and plagiarism are not accepted at John Abbott College. For information on student rights and responsibilities see the Institutional Policy on the Evaluation of Student Achievement (IPESA) in your agenda. In case you wish a grade review, you must keep all tests and other assessed materials at least one month past the grade review deadline.

013 Topics List
(numbers refer to chapters in Aufmann & Lockwood: *Introductory Algebra, An Applied Approach*, custom edition)

1.1 Opposites and absolute values (p.7: 41-68)
1.4 Exponents and precedence (p.27: 1-7, 17, 19, 25, 29-62)
1.6 Addition and Subtraction of rational numbers (p.40: 1-18, 38-57, 82-101)
1.7 Multiplication and Division of rational numbers (p.51: 1-20, 36-51, 65-76, 85-124)
3.1 Introduction to equations (p.125: 1-18, 23-58, 65-102, 109-141, 148-154)
3.2 Linear equations I, with applications (p.139: 1-18, 21-114)
3.3 Linear equations II, with applications (p.149: 2-11, 14-42, 46-56)
3.4 Sentences and equations (p.157: 1-40)
4.1 Adding and subtracting polynomials (p.194: 1-59)
4.2 Multiplying monomials (p.198: 3-78)
4.3 Multiplying polynomials (p.204: 1-114)
4.4 Integer exponents (p.214: 1-96, 125-126)
4.5 Dividing polynomials (p.220: 1-50)
5.1 Common factors (p.240: 1-70)
5.2 Factoring monic quadratic polynomials (p.246: 1-134)
5.3 Factoring quadratic polynomials (p.254: 1-70, 73-132, 138-143)
5.4 Special factoring formulas (p.262: 3-44, 46-130)
5.5 Solving equations by factoring, with applications (p.270: 2-60, 63-89, 92-97)
6.1 Multiplying and dividing rational expressions (p.292: 3-54, 60-83)
6.2 The least common denominator (p.298: 1-52)
6.3 Adding and subtracting rational expressions (p.305: 1-81)
6.4 Complex fractions (p.312: 1-30, 32-37)
6.5 Solving equations containing rational expressions (p.316: 1-36, 38-43)
6.7 Literal equations (p.328: 1-40)
10.1 Introduction to radical expressions (p.484: 3-80)
10.2 Adding and subtracting radical expressions (p.488: 3-60)
10.3 Multiplying and dividing radical expressions (p.494: 1-36, 41-70, 73-76)
10.4 Solving equations involving radical expressions (p.500: 1-31)
11.1 Solving quadratic equations by factoring, taking square roots (p.518: 1-66)
11.2 Completing the square (p.524: 1-60)
11.3 The quadratic formula (p.528: 1-41, 43-48, 50-51)