SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	ACE Business Mathematics		
CODE NO. :	MTH 95	**SEMESTER:**	n/a
PROGRAM:	Academic Upgrading		
AUTHOR:	Doug Cressman		
DATE:	May, 2006	**PREVIOUS OUTLINE DATED:**	n/a
APPROVED:			

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DEAN **DATE**

TOTAL CREDITS:	n/a
PREREQUISITE(S):	ACE Core Business Mathematics (MTH 94) or permission of Instructor
HOURS/WEEK:	5

I. COURSE DESCRIPTION: This course enables the student to broaden an understanding of exponential growth as it relates to personal finance. Students investigate exponential functions and manipulate exponential expressions. Applications are made related to compound interest and annuities. Students learn to apply mathematical reasoning in making informed decisions about transportation, accommodation and career choices. The course is delivered in self-directed format under the supervision of a professor. It is entirely possible, though not assumed, that the course can be completed within one semester.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Apply knowledge of exponential functions.
   Potential Elements of the Performance:
   - Sketch graphs of simple exponential functions
   - Solve linear and exponential equations
   - Simplify algebraic expressions using laws of exponents
   - Apply real-life examples of exponential growth and decay
2. Manipulate arithmetic and geometric sequences and series
   Potential Elements of the Performance:
   - Determine characteristics of an arithmetic sequence
   - Solve for the *n*th term of an arithmetic sequence
   - Find the sum of *n* terms of arithmetic and geometric series and solve applications of these formula
   - Find the sum of arithmetic and geometric series and solve problems that involve applications of these series
3. Apply concepts of linear, exponential and quadratic functions to problems in simple and compound interest
   Potential Elements of the Performance:
   - Compare rates of growth in linear, exponential and quadratic functions
   - Solve problems involving calculations of simple and compound interest
   - Demonstrate an understanding of the relationships among simple interest, arithmetic sequences, and linear growth
   - Demonstrate an understanding of the relationships among compound interest, geometric sequences, and exponential growth
   - Apply principles of compounding to annuities and mortgages

4. Apply mathematical reasoning to personal budgeting decisions
   Potential Elements of the Performance:
   - Analyze costs related to renting or buying a home and owning and operating a vehicle
   - Design a personal household budget

III. TOPICS:

1. Linear, exponential and quadratic functions
2. Arithmetic sequences and series
3. Geometric sequences and series
4. Simple and compound interest
5. Budgeting

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Mathematics of Personal Finance. MBF3C-A, Units 1-4. Independent Learning Centre, TV Ontario

V. EVALUATION PROCESS/GRADING SYSTEM:

A unit test will be given following the completion of each unit. Each test must be passed by a mark of 66% or greater. The final mark will be based on the average of these four tests. ACE-level courses require an average of 66% or greater for a passing grade. The following semester grades will be assigned to students upon course completion:

As modified from the post-secondary programs.

Grade	Definition
A+	90 – 100%
A	80 – 89%
B	70 - 79%
C	60 – 66%
F	65% and below
W	Student has withdrawn from the course without academic penalty.

VI. SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student Rights and Responsibilities*. Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:
The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon demonstrating proof of same and at the discretion of the professor.