SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

SAULT COLLEGE

COURSE OUTLINE

COURSE TITLE: ACE Apprenticeship Mathematics

CODE NO. : MTH 97   **SEMESTER:** n/a

PROGRAM: Academic Upgrading

AUTHOR: Doug Cressman

DATE: January, 2010   **PREVIOUS OUTLINE DATED:** August, 2008

APPROVED:

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                                     CHAIR   **DATE**

TOTAL CREDITS: n/a

PREREQUISITE(S): MTH 94 Core Technical/Apprenticeship Mathematics, or Permission of Instructor

HOURS/WEEK: 5

I.   COURSE DESCRIPTION: This ACE-credit course is designed to teach or review mathematical knowledge and skills needed for a variety of college programs. Students will solidify skills in geometry, measurement and trigonometry, data collection and analysis. Students will also consolidate skills in analyzing and interpreting both graphical and formulaic models. 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. Measure and calculate perimeter, area and volume for two and three dimensional figures
    Potential Elements of the Performance:
    - Demonstrate an understanding of the relationship between three-dimensional objects and their two-dimensional representatives
    - Solve problems involving measurement
    - Solve problems involving trigonometry in both right and oblique triangles
2. Collect and evaluate the quality of data, and analyze and interpret the data collected
    Potential Elements of the Performance:
    - Conduct a survey, including determining appropriate sampling technique, and writing clear, unbiased questions
    - Assess the validity and reliability of survey results
    - Interpret the stated margin of error
    - Determine median, mean and mode of data collected
    - Describe the importance of the results of the data collected
    - Consider properties of normal distribution of data
    - Construct scatter plots and line of best fit
3. Interpret and analyze given graphical and formulaic models
    Potential Elements of the Performance:
    - Graph a linear function from its equation, interpret the results, and make predictions based on the graph
    - Interpret the information as presented on a curved (quadratic or exponential) graph
    - Describe the effect of changing the initial conditions or rate of change on a graph
    - Solve linear equations and systems of linear equations

- Solve quadratic equations by factoring
- Read and interpret information from various sources such as graphs and charts and communicate the data analysis in a written report

III.   TOPICS:

1. Geometry (perimeter, area and volume)
2. Measurement
3. Trigonometry
4. Data Collection
5. Data Analysis
6. Basic Report Writing

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:
Independent Learning Centre. College and Apprenticeship Mathematics: MAP4C-A Units 1-4. 2004, The Ontario Educational Communications Authority

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 70% or greater. The final mark will be based on the average of these four tests. ACE-level courses require an average of 70% 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%
F	69% 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.