THE SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

SAULT COLLEGE

COURSE OUTLINE

Course Title: Applied Resource Calculations

Code No.: OEL 815   **Semester**:

Program(s): Forestry Technician, Fish & Wildlife Technician, Parks and Outdoor Recreation

Author: The Mathematics Department

Date: May 2011   **Previous Outline Dated: Jan 2008**

Approved: _____   _____

                         Dean   **Date**

Total Credits: 3   **Prerequisite(s): None**

Length of Course: 3 hrs./week Total Credit Hours: 48

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I.   **COURSE DESCRIPTION:**
        This course includes a review of fundamental algebraic processes, estimation, reduction and conversion of units, practical applications in

plane and solid geometry, ratio, proportion and percent.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Determine the significant digits of a number.

   Approximate measurement calculations using accuracy and precision.

   Convert between the Metric, Imperial and the U.S. systems of measurement using dimensional analysis.

2. Determine the area and perimeter of a circle, a triangle, a quadrilateral, and a trapezoid.

   Use the Pythagorean theorem to solve right angled triangles.

3. Determine the surface area and volume of:

   - A rectangular prism
   - A triangular prism
   - A cylinder, cone, frustrum, sphere and pyramids.

4. Add,subtract, multiply and divide algebraic expressions

   Solve linear equations

5. Factor, multiply and divide algebraic expressions.

6. Solve worded problems involving ratio, proportion and variation.

7. Convert decimals into fractions and percent and vice versa.

IIL.   TOPICS:

1. Estimation, Dimensional Analysis, and the Metric, Imperial and U.S. System of measurement
2. Plane Geometry
3. Solid Geometry
4. Algebra Review
5. Products and Factors
6. Ratio, Proportion and Variation
7. Percent

IV.   REQUIRED RESOURCES / TEXTS / MATERIALS :

1. **Essentials of College Mathematics, second edition**, by Cleaves and Hobbs, Pearson Education. (Bundled with Student Solution Manual) ISBN 0131998056
2. Calculator: (Recommended) SHARP Calculator EL-531. *The use of some kinds of calculators and other electronic devices may be restricted during tests.*

   Students can purchase their book from www.textnet.ca

V.   EVALUATION PROCESS/GRADING SYSTEM:

6 Quizzes = 48% of final mark

1 Final Test (paper-based and proctored) 52% of final mark

Minimum passing grade at Sault College is 50%. Your final grade will be assigned as a percentage. Your   home college will determine the letter grade.

VI. SPECIAL NOTES:

1. If you are a student with a disability please identify your needs to the tutor and/or the Centre for Students with Disabilities at your registering college.
2. Students, it is your responsibility to retain course outlines for possible future use to support applications for transfer of credit to other educational institutions.
3. 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.