SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	**TRADE CALCULATIONS**
CODE NO. :	ASM1000　　　　　**SEMESTER:**　1
PROGRAM:	AUTOMOTIVE SERVICES MANAGEMENT TECHNICIAN
AUTHOR:	Tim Candido
DATE:	September 2002　**PREVIOUS OUTLINE DATED:**　June 2001

APPROVED:

_____ _____
　　　　　　　　　　DEAN　　　　　　　　**DATE**

TOTAL CREDITS:	3
PREREQUISITE(S):	N/A
HOURS/WEEK:	2

I.   **COURSE DESCRIPTION:** This course is intended to review and reinforce the elements of basic arithmetic, algebra, geometry and trigonometry that should prove useful and relevant to the automotive repair services trade. After reviewing and perhaps in some cases, being introduced to the various topics, the students will be expected to apply the concepts by solving practical applied problems as they pertain to the trade.

II.   **LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

1.   Complete problems with whole numbers and decimal fractions.

Potential Elements of the Performance:

- Calculate using whole numbers
- Add, subtract, divide, and multiply decimal fractions
- Apply decimal fractions reading a micrometer

2.   Use common fractions for trade calculations

Potential Elements of the Performance:

- Calculate fractional equivalents
- Add, subtract, divide, and multiply common fractions
- Solve problems using common and decimal fractions

3.   Use percent calculations to solve automotive and sales problems

Potential Elements of the Performance:

- Calculate simple percent
- Calculate grades and inclines
- Find discounts, profit & loss, commissions, interest & taxes
- Determine percent of error & averages

4. Compute measurement, time, speed, and money calculations.

    Potential Elements of the Performance:
    - Convert English Linear Measurement
    - Convert Metric measurements
    - Read a scale
    - Complete circular, angular, area, and volume measurement
    - Use Pythagorean theorem to solve problems with right angle triangles
    - Calculate the perimeter, area, volume of basic shapes
    - Calculate time speed and money

5. Determine ratios and proportions.
    Potential Elements of the Performance:
    - Find ratios
    - Solve proportion

7. Calculate trigonometric functions

    Potential Elements of the Performance:
    - Calculate the unknown using sine, co-sine and tangent
    - Calculate applied problems by means of right angle and oblique angle trigonometry

8. Use formulas to calculate measurements
    Potential Elements of the Performance:
    - Use formulas for circular measurement, efficiency, temperature and cylindrical volume measurement
    - Determine Horsepower
    - Calculate Ohm's Law
    - Graph data
    - Complete repair orders and shop tickets

III. TOPICS:
1. Whole Numbers – Decimal Fractions

2. Common Fractions

3. Percent and Percentage

4. Measurement

5. Ratio and Proportion

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:

Practical Problems in Mathematics for Automotive Technicians (5th Edition)
Scientific Calculator (Sharp EL-531L)

V.   EVALUATION PROCESS/GRADING SYSTEM:
Tests   60%
Attendance   10%
Assignments 30%
*   100%*

NOTE: No Late assignments will be accepted.

Should a student be unable to write a test for a legitimate emergency, that student must contact the professor prior to the test. Should the student not contact the professor the student will receive a grade of zero.
The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual – Deferred Grades and Make-up*).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has not been possible for the faculty member to report grades.	

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 instructor and/or the Special Needs office. Visit Room E1204 or call Extension 493, 717, or 491 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.

Substitute course information is available in the Registrar's office.

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 successful completion of a challenge exam or portfolio.

VIII.   DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.