

I. COURSE DESCRIPTION:

This course will increase the student's accuracy and skill in performing the mathematical calculations encountered in the Heavy Equipment profession. Emphasis will be placed on practical problem solving. Topics include mathematical fundamentals, percent and percentages, measurement, ratio and proportion, powers and roots, and formula applications.

II. LEARNING OUTCOMES

The basic objectives are that the student develop and understanding of the methods studied, demonstrate knowledge of the facts presented, and show an ability to use these in the solution of problems. To accomplish these objectives, exercises are assigned. Test questions will be of near equal difficulty to questions assigned in the exercise. The level of competency demanded is the level required to obtain an overall passing average on the tests. The material to be covered is listed below.

III. TOPICS:

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|----------------------------------|------------|
| 1. Arithmetic | 15 periods |
| 2. Percent | 9 periods |
| 3. Ratio and Proportion | 9 periods |
| 4. Formulas and Simple Equations | 9 periods |
| 5. Metric System | 9 periods |

IV. LEARNING ACTIVITIES

TOPIC NUMBER	TOPIC DESCRIPTION	REFERENCE CHAPTER ASSIGNMENTS
1.0	Arithmetic	
1.1	Whole number	pp. 1-18
1.2	Common fractions	pp. 19-40
1.3	Decimals	pp. 41-69
1.4	Powers and roots	Instructor Handout
2.0	Percent	pp. 87-100
3.0	Ratio and Proportion	pp. 101-114
4.0	Formulas and Simple Equations	pp. 134-136 (Plus Instructor Handout)
5.0	Metric System	pp. 275-302

V. REQUIRED RESOURCES / TEXTS / MATERIALS:

1. Text: Mathematics for Technical and Vocational Trades (Third Edition), Boyce, Margolis, Slade, (Nelson)
2. Calculator: **(Recommended)** Sharp Scientific calculator EL-531L. *The use of some kinds of calculators may be restricted during tests.*

VI. EVALUATION PROCESS/GRADING SYSTEM:**MAJOR ASSIGNMENTS AND TESTS**

While regular tests will normally be scheduled and announced beforehand, there may be an unannounced test on current work at any time. Such tests, at the discretion of the instructor, may be used for up to **30%** of the overall mark.

At the discretion of the instructor, there may be a mid-term exam and there may be a final exam, each of which can contribute up to **30%** of the overall mark.

The instructor will provide you with a list of test dates. Tests may be scheduled out of regular class time.

ATTENDANCE

It is your responsibility to attend all classes during the semester. Research indicates there is a high correlation between attendance and student success.

If you are absent from class, it is your responsibility to find out what work was covered and assigned and to complete this work before the next class. Your absence indicates your acceptance of this responsibility.

Unexcused absence from a test may result in a mark of zero ("0"). Absence may be excused on compassionate grounds such as verified illness or bereavement. On return from an excused absence, you should ask your instructor to schedule the writing of a make-up test. Failure to do so will be considered as an unexcused absence.

METHOD OF ASSESSMENT (GRADING METHOD)

A+	Consistently outstanding	(90% - 100%)
A	Outstanding Achievement	(80% - 89%)
B	Consistently above average achievement	(70% - 79%)
C	Satisfactory or acceptable achievement in all areas subject to assessment	(60% - 69%)
X or R	A temporary grade, limited to situations with extenuating circumstances, giving a student additional time to complete course requirements (See below)	(50% - 59%)
R	Repeat - The student has not achieved the objectives of the course, and the course must be repeated	(0% - 59%)
CR	Credit exemption	

The method of calculating your weighted average will be defined by your instructor. Since grades are based upon averages, it follows that good marks in some tests can compensate for a failing mark in another test.

Make-Up Test (if applicable)

An "X" grade may be assigned at the end of the regular semester if you have met **ALL** of the following criteria:

- an overall average between 50% and 59% was achieved
- at least 50% of the tests were passed
- at least 80% of the scheduled classes were attended
- at least 80% of quizzes and assignments were submitted
- all of the topic tests were written

If you are assigned an "X" grade, you may convert it to a "C" grade by writing a make-up test on topics agreed to by the instructor. This test will be available at the time agreed to by your instructor.

At the end of the regular term, it is your responsibility to obtain your results from your instructor and, in the event of an "X" grade, to inquire when the make-up test will be available.

The score you receive on this make-up test will replace your original test score and be used to re-calculate your weighted average. If the re-calculated average is 60% or greater, a "C" grade will be assigned. If the re-calculated average is 59% or less, an "R" grade will be assigned.

VI. EVALUATION PROCESS/GRADING SYSTEM (Continued):**“R” and “X” Grades at the end of the Semester**

If an “X” grade is not cleared by the specified date, it will become an “R” grade. Except for extenuating circumstances, an “X” grade in Math will not be carried into the next semester.

“R” Grades during the Semester

A student with a failing grade and poor attendance (less than 80% attendance) may be given an “R” at any time during the semester.

VII. SPECIAL NOTES:

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities), are encouraged to discuss required accommodations with the professor and/or contact the Special Needs Office.

Advanced Standing

Students who have completed an equivalent post-secondary course must bring relevant documents to the Coordinator, Mathematics Department:

- a copy of course outline
- a copy of the transcript verifying successful completion of the equivalent course

Note: A copy of the transcript must be on file in the Registrar’s Office.

VIII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor or the Prior Learning Assessment Office (E2203).