

MA116
Trades Math
1 Credit

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MA116 Version: 3



Trades Math

Calendar Description

This course follows the Alberta Apprenticeship and Industry Training Welder Curriculum. The student learns math concepts that pertain directly to the welding trade in both metric and imperial systems including conversion from one form of measurement to the other. Topics covered include fractions, decimals, ratios, perimeter, area, and volume.

Rationale

This is a required course for the Pre-employment Welding program. Pre-employment programs provide students with an opportunity to obtain both practical and theoretical experience in a trade and thus an avenue of entry into the workforce.

Prerequisites

None

Co-Requisites

SA120, WE115, WE117, WE118, WE119, and WE135

Course Learning Outcomes

Upon successful completion of this course, students will be able to

- A. **Solve problems involving fractions:**
 - 1. Identify terms and concepts used with fractions.
 - 2. Use practical fractions with a tape measure.
 - 3. Change fractions to a common denominator.
 - 4. Solve problems using whole numbers and fractions in practical applications.
- B. **Solve problems involving decimals:**
 - 1. Round decimal fractions to specified place values.
 - 2. Add, subtract, multiply and divide decimal fractions.
 - 3. Convert fractions to decimals.

4. Convert decimal inches and decimal feet, to feet and inch fractions with a practical denominator.
 5. Solve decimal fraction calculations
- C. **Solve problems involving percentage and ratios:**
1. Calculate ratio problems: two quantities in the form of a ratio and two ratios in the form of a
 2. proportion.
 3. Convert between fractions, decimals, and percent.
 4. Solve percent problems.
- D. **Solve problems involving geometric formulas:**
1. Identify terms and concepts used in working with formulas.
 2. Identify formulas and solve problems for perimeter, area, and volume.
 3. Calculate the weight of a solid.
 4. Calculate the capacity of a container in gallons and liters.
- E. **Solve problems involving metric and imperial measure:**
1. Identify metric units of measure.
 2. Convert between units of measure.
 3. Convert imperial units: feet to inches; square inches to square feet; and cubic measures to
 4. gallons.
- F. **Welder/Wire Process Operator Apprenticeship Training Program Orientation**
1. Explain the Welder/Wire Process Operator course outline, learning outcomes, and objectives.
 2. Describe the responsibilities for the contract of apprenticeship and record book by the apprentice, employer, and Alberta Apprenticeship and Industry Training.
 3. Identify industrial, commercial, and construction fields that provide employment opportunities for welders.
 4. Define the role of external organizations that affect the welding trade.

Resource Materials

Required Text(s):

Modules for First Period Welder program from Alberta Learning, Apprenticeship and Industry Training Division.

120104a, 120104b, 120104c, 120104d, 120104e, and 120104f.

Conduct of Course

Welding Technology consists of 40 hours of interactive learning within specific modules, utilizing power point presentations, smart board technology; as well as numerous props that are used to support the literature discussed. Specific objectives are stated in each class and information resulting from the lectures is introduced and further enhanced while performing practical shop assignments. Students are given the opportunity to complete a variety of exercises

and evaluations to assist in learning. The instructor is available for individual and/or group help during class and scheduled office hours.

Evaluation Procedures

Progress exams	60%
Final exam	40%

Lakeland College is committed to the highest academic standards. Students are expected to be familiar with Lakeland College policies related to academic conduct and academic honesty and to abide by these policies. Violations of these policies are considered to be serious and may result in suspension or expulsion from the College.

Students are expected to complete multiple choice exams after the completion of each module lectured. At the conclusion of this section, a final evaluation will be issued and consist of 40% of the final mark for Welding Math. Students are required to have a 65% passing grade at the end of the 4th week of attendance to continue on in the program. At the conclusion of the course, a minimum of 65% average is required to write the 1st period Apprenticeship & Industry Training exam.

Grade Equivalents and Course Pass Requirements

A minimum grade of C+ is required to pass this course.

Letter	F	C+	B-	B	B+	A-	A	A+
Percent Range	0-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
Points	0.00	2.30	2.70	3.00	3.30	3.70	4.00	4.0

Attendance

Regular attendance is essential for success in any course. Absence for any reason does not relieve a student of the responsibility of completing course work and assignments to the satisfaction of the instructor. Poor attendance may result in the termination of a student from a course.

The instructor will recommend that any student who does not meet the established attendance requirements to withdraw from the course. In cases of repeated absences due to illness, the student may be requested to submit a medical certificate.

Instructors have the authority to require attendance at classes.

Students that miss a total of 27 hours within the duration of the pre-employment program, will be schedule to appear before the college chair to review their status, at which time dismissal from the program may be an option.

Course Units/Topics

Section IV

1. Fractions
2. Decimals
3. Percentage and Ratio
4. Geometric Formulas
5. Metric and Imperial Measure
6. Welder Apprenticeship Training Program Orientation



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