



COURSE OUTLINE: PLM662 - TRADE CALCULAT. I

Prepared: Mike King

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	PLM662: TRADE CALCULATIONS - LEVEL I
Program Number: Name	6240: PLUMBER - LEVEL I
Department:	PIPING TRADES
Semesters/Terms:	19F, 20W, 20F
Course Description:	The student will learn basic math calculations including conversions of SI to Imperial and US values, linear measurements, calculation of various offsets and square roots used in the trade.
Total Credits:	3
Hours/Week:	2
Total Hours:	16
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others. EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	V. EVALUATION PROCESS/GRADING SYSTEM: The final grade will be based on the average of one mid-term and one final test. The following semester grades will be assigned to students: Grade Definition Grade Point Equivalent A+ 90 100% 4.00



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	A 80-89% B 70 - 79% 3.00 C 60 - 69% 2.00 D 50-59% 1.00 F (Fail) 49% and below 0.00 CR (Credit) Credit for diploma requirements has been awarded. S Satisfactory achievement in field /clinical placement or non-graded subject area. U Unsatisfactory achievement in field/clinical placement or non-graded subject area. X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. NR Grade not reported to Registrar's office. W Student has withdrawn from the course without academic penalty.				
Books and Required Resources:	handouts by instructor				
Course Outcomes and Learning Objectives:	<table border="1"> <thead> <tr> <th>Course Outcome 1</th><th>Learning Objectives for Course Outcome 1</th></tr> </thead> <tbody> <tr> <td>Trade Calculations element for Level I of the in-school portion of apprenticeship training for plumbers</td><td> 1. Identify whole numbers, fractions and decimals Potential Elements of the Performance: - Know the correct order of operation when using mathematical formulas involving dividing, multiplying, adding and subtracting. - Correctly convert decimals to fraction equivalents and fractions to decimal equivalents and apply them to piping problems. 2. Identify the standard units used in the SI and Imperial measurement Potential Elements of the Performance: - know the conversions required when calculating linear measurement, areas, volumes and temperature scales. 3. Define the term square root Potential Elements of the Performance: - apply square root in solving various trade related problems 4. Define the terms grade, total fall, and length. Potential Elements of the Performance: - apply the correct ratios to calculate the total fall in a gravity drainage piping system. - apply the correct formula to determine the length of a gravity drainage pipe when the total fall and grade are known. - apply the correct formula to determine the grade when the total fall and length are known. </td></tr> </tbody> </table>	Course Outcome 1	Learning Objectives for Course Outcome 1	Trade Calculations element for Level I of the in-school portion of apprenticeship training for plumbers	1. Identify whole numbers, fractions and decimals Potential Elements of the Performance: - Know the correct order of operation when using mathematical formulas involving dividing, multiplying, adding and subtracting. - Correctly convert decimals to fraction equivalents and fractions to decimal equivalents and apply them to piping problems. 2. Identify the standard units used in the SI and Imperial measurement Potential Elements of the Performance: - know the conversions required when calculating linear measurement, areas, volumes and temperature scales. 3. Define the term square root Potential Elements of the Performance: - apply square root in solving various trade related problems 4. Define the terms grade, total fall, and length. Potential Elements of the Performance: - apply the correct ratios to calculate the total fall in a gravity drainage piping system. - apply the correct formula to determine the length of a gravity drainage pipe when the total fall and grade are known. - apply the correct formula to determine the grade when the total fall and length are known.
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Evaluation Process and Grading System:	<table border="1"> <thead> <tr> <th>Evaluation Type</th><th>Evaluation Weight</th></tr> </thead> <tbody> <tr> <td>written tests</td><td>100%</td></tr> </tbody> </table>	Evaluation Type	Evaluation Weight	written tests	100%
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Date:	June 20, 2019				
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.				

