



## COURSE OUTLINE: PLM662 - TRADE CALCULAT. I

Prepared: Mike King

Approved: Corey Meunier, Chair, Technology and Skilled Trades

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



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	<p>A 80-89%</p> <p>B 70 - 79% 3.00</p> <p>C 60 - 69% 2.00</p> <p>D 50-59% 1.00</p> <p>F (Fail) 49% and below 0.00</p> <p>CR (Credit) Credit for diploma requirements has been awarded.</p> <p>S Satisfactory achievement in field /clinical placement or non-graded subject area.</p> <p>U Unsatisfactory achievement in field/clinical placement or non-graded subject area.</p> <p>X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.</p> <p>NR Grade not reported to Registrar's office.</p> <p>W Student has withdrawn from the course without academic penalty.</p>				
<b>Books and Required Resources:</b>	handouts by instructor				
<b>Course Outcomes and Learning Objectives:</b>	<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> <p>1. Identify whole numbers, fractions and decimals</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- Know the correct order of operation when using mathematical formulas involving dividing, multiplying, adding and subtracting.</li> <li>- Correctly convert decimals to fraction equivalents and fractions to decimal equivalents and apply them to piping problems.</li> </ul> <p>2. Identify the standard units used in the SI and Imperial measurement</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- know the conversions required when calculating linear measurement, areas, volumes and temperature scales.</li> </ul> <p>3. Define the term square root</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- apply square root in solving various trade related problems</li> </ul> <p>4. Define the terms grade, total fall, and length.</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- apply the correct ratios to calculate the total fall in a gravity drainage piping system.</li> <li>- apply the correct formula to determine the length of a gravity drainage pipe when the total fall and grade are known.</li> <li>- apply the correct formula to determine the grade when the total fall and length are known.</li> </ul> </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	<p>1. Identify whole numbers, fractions and decimals</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- Know the correct order of operation when using mathematical formulas involving dividing, multiplying, adding and subtracting.</li> <li>- Correctly convert decimals to fraction equivalents and fractions to decimal equivalents and apply them to piping problems.</li> </ul> <p>2. Identify the standard units used in the SI and Imperial measurement</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- know the conversions required when calculating linear measurement, areas, volumes and temperature scales.</li> </ul> <p>3. Define the term square root</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- apply square root in solving various trade related problems</li> </ul> <p>4. Define the terms grade, total fall, and length.</p> <p>Potential Elements of the Performance:</p> <ul style="list-style-type: none"> <li>- apply the correct ratios to calculate the total fall in a gravity drainage piping system.</li> <li>- apply the correct formula to determine the length of a gravity drainage pipe when the total fall and grade are known.</li> <li>- apply the correct formula to determine the grade when the total fall and length are known.</li> </ul>
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<b>Evaluation Process and Grading System:</b>	<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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<b>Date:</b>	June 20, 2019				
<b>Addendum:</b>	Please refer to the course outline addendum on the Learning Management System for further information.				

