



Release Of Updated Apprenticeship Curriculum Standard	
<b>Trade Name &amp; Code</b>	<ul style="list-style-type: none"> <li>• 306A Plumber</li> </ul>
<b>Implementation Plan</b>	<ul style="list-style-type: none"> <li>• The Ontario College of Trades (the 'College') is implementing a new curriculum standard for three levels of in-school training for 306A Plumber</li> <li>• Ministry of Advanced Education and Skills Development (MAESD) approved Training Delivery Agents must begin implementation of all three levels by January 1<sup>st</sup>, 2018.</li> <li>• 306A apprentices registered on or after Jan. 1st, 2018 will be trained under the new Curriculum Standard.</li> <li>• Existing 306A apprentices registered prior to Jan. 1st, 2018 who have completed level 1 and or level 2 under the older Curriculum Standard will be exempted from this schooling level(s) under the new Curriculum Standard and will complete any outstanding levels under the new Curriculum Standard.</li> <li>• Existing 306A apprentices registered prior to Jan. 1st, 2018 who have completed all three (3) levels of schooling under the older curriculum, will be able to complete their apprenticeship under the older Curriculum Standard version.</li> <li>• It is expected that apprentices will advance through training without having to repeat any areas.</li> <li>• The APPR-EOIS has been updated to reflect the new curriculum standard.</li> </ul>
<b>Training Standard Impact</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Curriculum Standard Access</b>	<ul style="list-style-type: none"> <li>• The new Curriculum Standard will be available on the Ontario College of Trades website.</li> </ul>
<b>Content Changes</b>	<p><b>Level 1:</b> The Learning Outcomes were reviewed and language updated where necessary throughout the standard.</p> <p><b>Reportable Subjects: S00021.0 Workplace Safety, Rigging and Hoisting – Level 1</b> Learning outcomes “21.1 Demonstrate Effective Interpersonal Skills” and “21.2 Receive and React to Instructions” were moved from Trade Documentation in Level 11.</p> <ul style="list-style-type: none"> <li>• <b>Reportable Subjects: S00022 Plumbing Systems –Level 1</b> <ol style="list-style-type: none"> <li>1. Learning Outcome “Drilling and Notching” moved from Level 11 and follows Pipes, Supports, Anchors and Hangers.</li> <li>2. Learning Outcome “Building Traps” (00022.24) renamed “Sanitary Building Traps”</li> <li>3. Learning Outcome “Fixture Drain Requirements” (00022.30) renamed “Trap Arm Requirements”</li> </ol> </li> </ul>



4. Learning Outcome “Stack and Vent Terminals (00022.40) renamed “Vent Terminals” and throughout the learning outcomes, “vent” replaces “stack”.
- **Reportable Subject: Trade Calculation – Level 1:**
    1. Learning Outcome “Square Roots” title changed to “Pythagorean and Square Roots”
    2. “Calculations of Various Offsets” precedes Pythagorean and Square Roots.
    3. Learning Outcome “Sleeving” was moved from Level II and placed in Level I following “Identify and Interpret Construction Drawings”

**Learning outcomes added to content:**

**S000.22.5 CPVC Plastic Pipe and Fittings:** added 5.12 - Identify the different types and uses of CPVC pipes, CPVC pipes, fittings and associated solvents.

**S000.22.7 Polyethylene/Aluminium/Cross-linked Polyethylene:** added 7.13- Identify various manufacturing methods.

**S000.22.20 Floor Drains: added 20.19-** Identify the trade term “emergency floor drain”

**S000.22.21 Hub Drains and Funnel Floor Drains:** added 21.2- Define the trade term “funnel floor drain”.

**S00022.23 Drainage System Design:** added 23.14 – Identify the importance of mandatory locating of underground services in relation to the sanitary or storm drainage systems.

**S000.22.38 Wet Venting:** added 38.10- List the request for multi-story wet venting.

**S000.24.4 Pythagorean Theorem and Square Roots:** added 4.5 – Explain Pythagorean Theorem and its use in the plumbing industry.

**S000.24.5 Pythagorean Theorem and Square Roots:** added 4.6 – Perform various calculations using Pythagorean Theorem.

**Hours Changes (3 hours re-allocated)**

- 21.1 Demonstrate Effective Interpersonal Skills - increased by 1 hour
- 21.2 Receive and React to Instructions - increased by 1 hour
- 21.3 Codes, Acts and Regulations - reduced to 2 hours
- 21.5 Recognize and Assess Hazardous Conditions - reduced to 1 hour
- 21.13 Determine the Required Equipment - reduced to 1 hour
- 21.16 Connect to the Rigging reduced - to 1 practical hour
- 21.18 Plan to Perform the Lift reduced - to 2 hours
- 22.7 Cross-linked Polyethylene... -reduced to 1 hour
- 22.12 Drilling and Notching - increased by 1 hour
- 22.13 Joining Dissimilar Pipe Materials - reduced to 1 hour
- 22.27 Traps and Types - increased by 2 hours
- 22.28 Trap Sizing - increased by 1 hour
- 22.35 Sizing Individual Vents - increased by 1 hour



- 22.36 Branch Vents - increased by 1 hour
- 22.37 Dual Venting - increased by 1 hour
- 22.40 Vent Terminals - increase by 1 hour
- 22.41 Codes, Regulations and Standards - increased by 2 hours
- 24.5 Calculations of Various Offsets - reduced by 4 hours

**Level 2:**

**Reportable Subject: Pipe and Fitting Material, Pipe Supports and Hangers**

- 22.12 Drilling and Notching moved to Level 1 (Piping and Fitting Materials, Pipe Supports and Hangers)
- 25.4 Sleeving moved to Level 1 (Trade Documentation, Level 1)

**Reportable Subject: Drainage Systems**

- 27.3 Back Flooding moved from Level 111 (Drainage Systems)

**Reportable Subject: Waste Pipe Systems**

- 27.7 Indirect & Special Waste moved from Level 111
- 27.8 Commercial Kitchen Equipment and Water Using devices moved from Level 111

**Reportable Subject: Water Distribution Systems**

- 27.23 Learning Outcome Temperature and Pressure Relief Valves renamed Relief Valves

**Reportable Subject: Codes**

- 27.30 Fire Stopping moved from Level 111

**Reportable Subject: Properties of Water and Heat Transfer**

- 27.31 Properties of Water now precedes Heat Transfer in Level 11

**Reportable Subject: Trade Documentation –Level 11**

- 21.1 Demonstrate effective Interpersonal Relations moved to Level 1
- 21.2 Receive and React to Instructions moved to Level 1

**Learning Outcomes Added to Content**

- **S000.27.16 Circuit Venting:** 16.5 rewritten to: Specify the trap arm requirements of circuit vented systems
- **S000.27.18 Types of Valves:** 4 new Learning Outcomes added (18.20 – 18.23)
- **S000.27.21 Hot Water Tanks:** added 21.13- State requirements of heat traps for a hot water tank
- **S00027.23 Relief Valves:** added 23.4- Identify how temperature relief valves and pressure relief valves are rated
- **S00027.31 Properties of Water:** changed 31.8- State the specific gravity of liquids compared to water such as but not limited to: oil, ice, steam, mercury, lead



### Hours Changes for Level 2

- 27.7 Indirect and Special Wastes - increased 5 theory hours
- 27.8 Commercial Kitchen Equipment and Water Using Devices – increased by 1 theory hour
- 27.10 Sediment Interceptors – decreased 1 theory hour
- 27.12 Ejectors and Sumps – – increased by 1 theory hour
- 27.24 Water Meters – decreased 1 theory hour to 3 hours
- 27.27 Water Closets, Urinals, Flush Tanks and Flushometers – eliminated (2) practical hours
- 27.28 Testing Requirements – – increased by 1 theory hour
- 27.30 Fire Stopping – – increased by 3 theory hours
- 27.34 British thermal Units – – increased by 1 theory hour
- 30.1 Read and Apply Information from Construction Drawings – – increased by 3 theory hours
- 30.3 Produce Various Plumbing Drawings – – increased by 2 theory hours

### Level 3:

#### Reportable Subject: Waste Pipe Systems

1. 27.7 Indirect and Special Wastes and Commercial Kitchen Equipment and Water Using Devices were moved to Level 11

#### Reportable Subject: Water Distribution Systems:

2. Linear Expansion renamed 32.13 Thermal Expansion and Contraction

#### Reportable Subject: Codes

3. 27.30 Fire Stopping moved to Level 11

#### Reportable Subject: Storm Drainage Systems

4. 27.3 Back Flooding moved to Level 11

#### Reportable Subject: Process Piping Systems

5. 32.27 Hydronic Heating Systems renamed Hydronic Systems

### Learning Outcomes added to Content

- S000.32.12:** 12.3 rewritten to: Identify how the four terms affect pipe size.  
12.4 rewritten to: Calculate the pipe sizes based on velocity and demand  
12.12 rewritten to: Using the above information and the appropriate tables, size the branch lines and distribution main for both the domestic hot and cold water piping systems using:  
-Simplified method  
-Small commercial building method  
-Average pressure loss method

**S000.32.13:** 13.4 added: Describe how fluids will expand or contract when heated or cooled.

**S000.32.21:** Standpipe systems learning outcomes reduced from 31 outcomes to 15 outcomes.



**S000.32.22** Sprinkler Systems learning outcomes reduced from 31 outcomes to 14 outcomes.

**S000.32.27:** Hydronic Systems learning outcomes have been rewritten.

**S000.32.28:** Hydronic System Calculations learning outcomes have been rewritten.

**S000.33.1:** 1.16 added: Design and fabricate a stainless steel assembly.

**S00034.1:** 1.11 added: Define CAD and BIM

1.12 Added: Identify how CAD or BIM drawings are used in the plumbing industry and the advantages of their use.

**S000.34.5:** 5.1 rewritten: Identify available estimating software.

32.5 Pressure and Heads – increased 1 theory hour

32.7 Types of Pumps – increased 3 theory hours

32.12 Water Pipe Sizing – increased 3 theory hours

32.15 Indirect Heaters – increased 2 theory hours

32.21 Standpipe Systems – reduced by 2 theory hours

32.23 National Plumbing Code – increased 2 theory hours

32.24 Open Flow and Metered Flow Roof Drain Systems – reduced by 2 theory hours

32.26 Municipal Sewage Disposal Systems – reduced by 1 theory hour

32.27 Hydronic Systems – increased 2 theory hours

32.28 Hydronic System Calculations – increased 1 theory hour

34.4 Produce Hydronic Drawings – increased 4 theory hours



2017 Plumber Curriculum Standard vs. 2007 Plumber Curriculum Standard							
Unit #	Reportable Subjects	Old Total Hours	New Total Hours	Old Theory Hours	New Theory Hours	Old Practical Hours	New Practical Hours
S00021	Workplace Safety, Rigging and	30	24	26	21	4	3
S00022	Plumbing Systems	90	96	90	96	0	0
S00023	Tools and Piping Methods	48	48	0	0	48	48
S00024	Trade Calculations	24	24	24	24	0	0
S00025	Trade Documentation	24	24	12	12	12	12
S00026	Welding	24	24	3	3	21	21
<b>Totals</b>		<b>240</b>	<b>240</b>	<b>155</b>	<b>156</b>	<b>85</b>	<b>84</b>
<b>Difference in Hours</b>		<b>0</b>		<b>1</b>		<b>-1</b>	
Unit #	Reportable Subjects	Old Total Hours	New Total Hours	Old Theory Hours	New Theory Hours	Old Practical Hours	New Practical Hours
S00027	Plumbing Systems	120	120	111	113	9	7
S00028	DWV Piping Systems	48	48	0	0	48	48
S00029	Trade Calculations	24	24	24	24	0	0
S00030	Trade Documentation	24	24	8	10	16	14
S00031	Welding	24	24	3	3	21	21
<b>Totals</b>		<b>240</b>	<b>240</b>	<b>146</b>	<b>150</b>	<b>94</b>	<b>90</b>
<b>Difference in Hours</b>		<b>0</b>		<b>4</b>		<b>-4</b>	
Unit #	Reportable Subject	Old Total Hours	New Total Hours	Old Theory Hours	New Theory Hours	Old Practical Hours	New Practical Hours
S00032	Plumbing Systems	144	144	134	134	10	10
S00033	Process Piping Systems	48	48	0	0	48	48
S00034	Trade Documentation	48	48	36	36	12	12
<b>Totals</b>		<b>240</b>	<b>240</b>	<b>170</b>	<b>170</b>	<b>70</b>	<b>70</b>
<b>Difference in Hours</b>		<b>0</b>		<b>0</b>		<b>0</b>	