

Plumbing IA

TEPL - 1110 601

Class Location and Time

Campus:

Building:

Room:

Days:

Time:

Course Description

The Plumbing IA course explores the secure and highly demanded profession of plumbing. The primary emphases include: the understanding and interpretation of the International Plumbing Code (IPC), blueprint reading, materials and requirements, practical mathematics required in plumbing, and other subject areas that are essential to the trade which are more conducive to the classroom setting than a work environment.

Prerequisite(s): All entering students must demonstrate competence for placement into MATH 0990 by scoring a minimum of 75 on the arithmetic portion of the College Placement Test, or proper CASAS Placement Test, or provide a transcript showing a grade of C or higher in MATH 0920 or equivalent, or completing PLI 1470 (Math for the Trades) with a grade of C or higher.

Course Student Learning Outcomes

- Certify in First Aid Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED).
- Practice safety and the proper use of tools and leveling instruments.
- Define hydraulics and pneumatics.
- Interpret building and plumbing codes.
- Apply basic mathematics toward measurements, angles, slopes, and other plumbing related problems.
- Fabricate plumbing projects in a lab setting.

Course Goals &/or Learning Objectives

At the conclusion of this course, the student will demonstrate:

1. satisfactory understanding of general industry knowledge of tools and safety requirements
2. familiarity of the history and various career areas of the Plumbing trade
3. understanding of hydraulic and pneumatic theory and ability to perform calculations of head pressure and friction loss
4. familiarity of applicable building and plumbing codes
5. an understanding of Chapters 1-3 of the IPC
6. ability to solve basic mathematical formulas and equations

This knowledge will be demonstrated by a final end of semester competency exam on which the student will be required to **score a minimum of 70%**. The students will also be required to be certified in First Aid and CPR.

Course Prerequisites

ALL entering students must demonstrate competence for placement into MATH 0980 by scoring a minimum of 75 on the arithmetic portion of the College Placement Test, or provide a transcript showing a grade of C or higher in MATH 0920 or MATH 0950 or completing PLI 1470 (Math for the Trades) with a grade of C or higher before registering for the Plumbing program.

Materials Required for Each Lab Class Period

Materials required each class period:

- IPC Code book and amendments (Commentary is not permitted for use on any test or exam)
- Modern Plumbing textbook and workbook
- IPT's Pipe Trades Handbook
- Calculator (Recommended: TI-30 or equivalent. Graphing or programmable calculators are not permitted. Construction Master or other similar calculators are not permitted. Calculators on cell Phones will also not be allowed to be used in the classroom.)
- Pencil/Pen
- Highlighter
- Notebook

Students are expected to bring their own tools and safety equipment to lab classes. The following is a list of minimum tools and protective equipment that students must bring to the lab:

- Safety Glasses
- Leather Gloves
- rags
- Tape measure
- Framing square
- Copper reamer
- PVC reamer
- Torch and appropriate gas for soldering and brazing copper pipe
- Pipe cutter capable of cutting up to 1 ½" copper pipe
- Cutter capable of cutting up to 1 ½" PVC
- Channel Locks (at least 1 pair, 2 pair preferred)

- Calculator

Students who do not bring all of the required tools and safety equipment will not be allowed to attend the lab and will receive a 0 (zero) for the assignment and be marked as absent for the night.

Electronic Devices

Electronic devices are not permitted to be used in the classroom. Please turn off all electronic devices. Cell phones are permitted to be in the vibrate mode. If it is necessary to answer a call, please step out of the classroom and make it as brief as possible. Extended phone calls may result in reduction of clock hours.

Engagement Plan

Example language:

- I will respond to email within [insert your timeline]. I will offer feedback on major assignments within [insert your timeline]. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.
- In this course I will be posting interactive announcements which will offer specific opportunities for class questions and extra credit every other week.
- Additionally, I will be participating in the discussion forums with you to share my perspective within the discipline and to offer some nuances of interpretation that may not be present in your textbook.
- Lastly, we'll be holding small group Q & A sessions, where we can learn from our peers (and faculty) on some of the more difficult units within the course.

Required Text or Materials

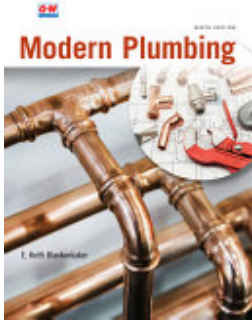
Title: Modern Plumbing

ISBN: 9781645646686

Authors: E Keith Blankenbaker

Publication Date: 2020-10-29

Edition: 9th



Title: Modern Plumbing

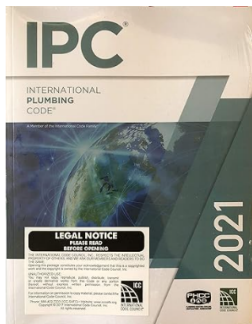
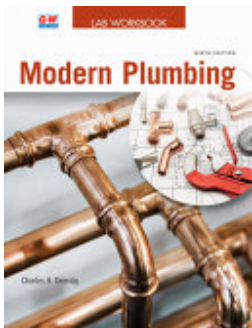
ISBN: 9781645646709

Authors: Charles H. Owenby

Publisher: Goodheart-Wilcox Publisher

Publication Date: 2020-11-23

Edition: 9th

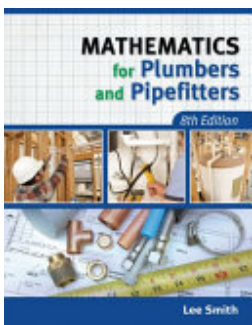


Title: 2021 International Plumbing Code

ISBN: 9781609839628

Authors: International Code Council

Publication Date: 2020-03-06



Title: Mathematics for Plumbers and Pipefitters

ISBN: 9781111642600

Authors: Lee Smith

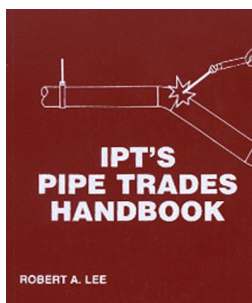
Publisher: Cengage Learning

Publication Date: 2013-06-25

Title: IPT's Pipe Trades Handbook

ISBN: 9780920855188

Authors: Robert A. Lee



Publisher: International Pub & Training Limited

Publication Date: 1991-01-01

Title: Utah Amendments to International Plumbing Code

Subtitle: Can have printed at the print shop for a fee

OID: https://le.utah.gov/xcode/Title15A/Chapter3/15A-3-P3.html?v=C15A-3-P3_1800010118000101

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Activity: Practice Tying Knots	Discussion	0
	Additional Safety Video Resources	Discussion	0
	DO NOT PUBLISH: Class 19 Instructor Notes	Discussion	0
	International Plumbing Code Chapter 1 Study Companion Discussion	Discussion	0

Due Date	Assignment Name	Assignment Type	Points
	International Plumbing Code Chapter 3 - Video Resources	Discussion	0
	International Plumbing Code Chapter 3 Study Companion Section 301 to 307 Discussion	Discussion	0
	International Plumbing Code Chapter 3 Study Companion Section 308 to 316 Discussion	Discussion	0
	International Plumbing Code Chapter 307 - Video Resources	Discussion	0
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
	Lab Demonstration Videos	Discussion	0
	Modern Plumbing 10 - Related Videos	Discussion	0
	Modern Plumbing 2 - Related Videos	Discussion	0
	Modern Plumbing 7 - Related Videos	Discussion	0

Due Date	Assignment Name	Assignment Type	Points
	Modern Plumbing_ Chapter 3 - Related Videos	Discussion	0
	Practical Lab - Video	Discussion	0
	Safety Video Resources	Discussion	0
	Semester Quiz Results	Discussion	0
8/30/25	Modern Plumbing_ Chapter 1 - Pre Test	Quiz	10
8/30/25	Modern Plumbing_ Chapter 1 Post Test	Quiz	10
8/30/25	Modern Plumbing_ Chapter 1 Quiz	Quiz	75
8/30/25	Modern Plumbing_ Job Practice Manual: Chapter 1	Assignment	
9/6/25	Modern Plumbing_ Chapter 2 - Pre Test	Quiz	10
9/6/25	Modern Plumbing_ Chapter 2 - Quiz	Quiz	55
9/6/25	Modern Plumbing_ Job Practice Manual: Chapter 2	Assignment	
9/13/25	Modern Plumbing_ Chapter 3 - Post Test	Quiz	10
9/13/25	Modern Plumbing_ Chapter 3 - Pre Test	Quiz	10

Due Date	Assignment Name	Assignment Type	Points
9/13/25	Modern Plumbing_ Chapter 3 Quiz	Quiz	40
9/13/25	Modern Plumbing_ Job Practice Manual: Chapter 3	Assignment	
9/20/25	Modern Plumbing_ Chapter 4 - Post Test	Quiz	10
9/20/25	Modern Plumbing_ Chapter 4 Pre Test	Quiz	10
9/20/25	Modern Plumbing_ Chapter 4 Quiz	Quiz	55
9/20/25	Modern Plumbing_ Job Practice Manual: Chapter 4	Assignment	
9/20/25	Modern Plumbing_ Review Quiz	Quiz	33
9/27/25	Modern Plumbing_ Chapter 5 - Pre Test	Quiz	10
9/27/25	Modern Plumbing_ Chapter 5 Quiz	Quiz	32
9/27/25	Modern Plumbing_ Job Practice Manual: Chapter 5	Assignment	
10/4/25	Modern Plumbing_ Chapter 7 - Pre Test	Quiz	10
10/4/25	Modern Plumbing_ Chapter 7 Quiz	Quiz	28

Due Date	Assignment Name	Assignment Type	Points
10/4/25	Modern Plumbing_ Job Practice Manual: Chapter 7	Assignment	
10/11/25	Modern Plumbing_ Chapter 9 - Pre Test	Quiz	10
10/11/25	Modern Plumbing_ Chapter 9 Quiz	Quiz	30
10/11/25	Modern Plumbing_ Job Practice Manual: Chapter 9	Assignment	
10/18/25	Modern Plumbing_ Chapter 10 Pre Test	Quiz	10
10/18/25	Modern Plumbing_ Chapter 10 Quiz	Quiz	30
10/18/25	Modern Plumbing_ Job Practice Manual: Chapter 10	Assignment	
10/25/25	International Plumbing Code Chapter 1	Quiz	25
10/25/25	International Plumbing Code Chapter 2 Quiz	Quiz	25
10/25/25	International Plumbing Code Study Companion Session 1	Assignment	
11/1/25	International Plumbing Code Chapter 3 Quiz 1	Quiz	30

Due Date	Assignment Name	Assignment Type	Points
11/1/25	International Plumbing Code Chapter 3 Quiz 2	Quiz	30
11/1/25	International Plumbing Code Study Companion Session for sections 308 to 316	Assignment	
11/1/25	International Plumbing Code Study Companion Session Sections 301 to 307	Assignment	
11/8/25	Mathematics for Plumbers and Pipe Fitters Units 1-2	Assignment	
11/8/25	Mathematics for Plumbers and Pipefitters Unit 1 Exercises	Quiz	18
11/8/25	Mathematics for Plumbers and Pipefitters Unit 2 Exercises	Quiz	24
11/8/25	Mathematics for Plumbers and Pipefitters Unit 3 Exercises	Quiz	20
11/15/25	Mathematics for Plumbers and Pipe Fitters Units 3 & 5	Assignment	

Due Date	Assignment Name	Assignment Type	Points
11/15/25	Mathematics for Plumbers and Pipe Fitters Units 4	Assignment	
11/15/25	Mathematics for Plumbers and Pipe Fitters Units 6	Assignment	
11/15/25	Mathematics for Plumbers and Pipefitters Unit 4 Exercises	Quiz	30
11/15/25	Mathematics for Plumbers and Pipefitters Unit 5 Exercises	Quiz	10
11/15/25	Mathematics for Plumbers and Pipefitters Unit 6 Exercises	Quiz	32
11/16/25	Lab Score	Assignment	100
11/22/25	Math Basics Quiz	Quiz	30
11/22/25	Math Review Quiz	Quiz	20
12/8/25	1A Final Competency Test	Quiz	60

Brief Description of Assignments/Exams

- **Classroom Exams** – Unit tests and exams will be given periodically throughout the semester to assess the student's learning and retention of the course material. There will be a final competency exam on which the student is required to score a minimum of 70%.

- **CPR & First Aid** – Students are required to be CPR and First Aid certified before the end of the semester. Students are required to obtain certification at their own expense. If the student can not prove certification by the end of the semester, a failing grade will be issued for the course.
- **Preparation** – Students should expect to spend 5 hours each week in class and approximately an additional 6 hours of study/homework time each week to be successful in this course.
- **Lab requirement** – Students will be expected to attend a minimum of two labs during the semester. These labs will be scheduled by the instructor.
- **On the Job Training** – It is expected that students are employed in the plumbing industry and are working full-time while attending school. It is mandatory that students hold a current valid Utah Apprentice Plumber license while enrolled in school. Students without a valid license may be administratively withdrawn from class.
- **Attendance** - As per the requirements set forth in 29 CFR 29.5 Standards of Apprenticeship paragraph (b)(4), each apprentice must successfully complete a minimum of 144 hours of related and supplemental instruction each year of Apprenticeship (72 hours each semester). In our efforts to accommodate the demanding schedules of the majority of the Apprentices registered and enrolled at Salt Lake Community College, we are offering each of our courses for a period of 75 hours each semester (2.5 hours for each of 30 evenings). The enforcement of the attendance policy is the responsibility of each instructor. Instructors are required to take attendance each evening. Individual Students will be held responsible for ensuring they have sufficient clock hours to successfully complete the course. Salt Lake Community College will offer up to an additional 6 clock hours at the end of the semester (usually on a Saturday) for those students who need to “make-up” time. There will be an additional cost of \$35 for each block of 3 clock hours, payable on the day of the class. Salt Lake Community College will only offer these additional hours if there is sufficient students to offset the costs associated with providing the training (a minimum of 10 students). Students requiring make up hours must contact the Apprenticeship Office as soon as possible. Students are not allowed to “make-up” clock hours or labs by attending classes for which they are not registered. Students with insufficient clock hours will not be permitted to sit for the final Competency Exam at the end of the semester. They will receive a failing grade and

be required to re-take the semester course prior to moving forward in their apprenticeship.

- **Competency Exam** – The Utah State Licensing Board has mandated a final end of semester competency exam which will be administered on the second to last day of class. This competency exam may include any information covered in the approved curriculum outline for the individual program. This will be a 60 question, Multiple-Choice and True/False, exam which must be completed in 2 hours. This exam will account for a major portion (30%) of the final grade awarded in the class. Students are required to bring a picture ID and a #2pencil to this exam. Students without these items may be asked to leave and receive a failing grade. Additionally, the following materials will be allowed to be used on the competency exam: a 2018 International Plumbing Code (Commentarys are not allowed); a calculator (Recommended: TI-30 or equivalent. Graphing or programmable calculators are not permitted. Construction Master, Electrical Pro, Project Master, or other similar calculators are not permitted. Calculators on cell Phones will also not be allowed to be used in the classroom.)

**This exam will account for 30% of the final grade awarded for the class. If the student scores less than 70% on the exam, the score will be recorded as a 0 (zero). If the student scores a 70% or higher, the earned score will be calculated as 30% of the final grade

Grading Scale

Grades will be awarded based on the following percentages:

- Homework: 20%
- Quizzes: 25%
- Midterms: 25%
- Comp Exam: 30%

The final grade will be issued according to the following table:

A 94 – 100%

A- 90 – 93%

B+ 87 – 89%

B 84 – 86%

B- 80 – 83%

C+ 77 – 79%

C 74 – 76%

E 0 – 73%

Students receiving an E grade will be issued 0 clock hours for the course.

Transfer/Certification/Licensure/Employment Information

We have made a good-faith effort to collect state licensure requirements for the SLCC programs of study that lead to professional licensure. You can view additional information about state licensure requirements on our [Professional Licensure](#) webpage.

How to Navigate to Canvas

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the [Institutional Syllabus](#) page.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the [Institutional Syllabus](#) page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

[Advising and Counseling Support Services](#)

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the [Institutional Syllabus](#) page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

[Student Academic Calendar](#)

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

[SLCC Student Academic Calendar](#)