

Course Descriptions - Spring 2022

Applied Construction Math I

TECM 1001

16 Sessions

48 Hours

This course is designed for students who have little math skills (grade school level), or who have not had a math course for several years. Upon completion, this course will provide an understanding of fundamental operations using whole numbers, fractions, decimals, and percentages. Basic math skills are strengthened through applications found in the construction industry. Students are introduced to logical problem solving.

Basic Commercial Blueprint Reading

DFTG 1023

10 Sessions

30 Hours

This course is designed for office, in the field personnel and is recommended for professional support staff for specialty and general contractors. Topics include: Evolution of the Construction Project- The Development of the Drawings & Specifications; Background Principles (Cracking the Code); Drawing Types Used in All Categories of Drawings; Reading Drawings for Information; Overview of Architectural & MEP Drawings and Specifications.

Commercial Field Engineering I

SRVY 1015

16 Sessions

56 Hours

Prerequisite: English or Spanish Math & Reading Test or Applied Construction Math Class & ESL Placement Test.

All testing must be completed no later than Friday August 20, 2021.

The course will introduce the students with a working knowledge of the materials, methods, and equipment including drawings used in construction buildings today. Using the Construction Materials, Methods, and Techniques as a guide, this course will cover Chapter 1- 42.

Introduction to Field Engineering; PART I-Chapter 1-2 Building Structures System; Construction, Standards; PART II-Chapter 4-6 Material, Building Site, Soils Foundations; PART III-Chapter 7-9 Concrete, Cast In Place Concrete, Pre-Cast; PART III-Chapter 10-14 Masonry Mortars, Masonry Construction; PART IV-Chapter 15-23 Metals, Steel Frame Construction, Wood Plastic and Composites; PART V-Chapter 24-27 Thermal Moisture Protection, Roofing Systems; PART V-Chapter 28-34 Glass, Doors, Windows, Interior Finishes, Floors; PART VI-VII-Chapter 35-38 Specialties, Equipment and Conveying Systems; PART VII-VIII-Chapter 39-42, Plumbing, Mechanical, Electrical; Division 01 to Division 05 Structural Drawings; Division 06 to Division 10 Structural and Architectural Drawings; and Division 11 to Division 16 Architectural Drawings.

Commercial HVAC Service DT I-A

HART 1007

18 Sessions

80 Hours

Prerequisite: English or Spanish Math & Reading test or Applied Construction Math class; ESL test or class.

All TABE Testing must be completed no later than Friday January 14, 2022.

The course topics are Basic Safety; Introduction to HVAC; Trade Mathematics; Basic Electricity; Fasteners, Hardware, and Wiring; Basic Cooper & Plastic Pipe Practices; and Soldering & Brazing.

Note 1: EPA Section 608 Universal Certification is highly recommended to graduate from this program.

Note 2: Graduation Requirement: Students enrolled in HVAC I-B will be required to take the EPA Section 608 Refrigerant Recovery Exams. This EPA Section 608 Refrigerant Recovery class is MANDATORY for all students enrolled in HVAC I-B, unless the student has already received the EPA Core and Type II Certification. Proof of EPA Certification is required.

Note 3: All students are required to attend one (1) additional class of 4 hour class

Commercial HVAC Service DT I-B

HART 1001

18 Sessions

88 Hours

Prerequisite: Commercial HVAC Service I-A

The course topics are Basic Carbon Steel Piping Practices; Introduction to Cooling, Introduction to Heating; Air Distribution Systems; and EPA Training/ Testing.

Commercial HVAC Service I-B

HART 1001

0 Sessions

Hours

Prerequisite: Commercial HVAC Service I-A

The course topics are Basic Carbon Steel Piping Practices; Introduction to Cooling, Introduction to Heating; Air Distribution Systems; and EPA Training/ Testing.

Commercial HVAC Service III-B

HART 2041

18 Sessions

80 Hours

Prerequisite: Commercial HVAC Service Level III-A

The course topics are Troubleshooting Accessories; System Start Up and Shut Down; Building Management Systems; Water Treatment; and Steam Systems.

Commercial HVAC Service IV-B

HART 2002

18 Sessions

80 Hours

Prerequisite: Commercial HVAC Service Level IV-A

The course topics are Fundamentals of Crew Leadership; Commercial/Industrial Refrigeration Systems, Retail Refrigeration System; Heating & Cooling System Design, Alternative and Specialized Heating and Cooling Systems

Electrical DT I-A

ELPT 1021

18 Sessions

80 Hours

Pre-Requisite: English or Spanish Math Test or Applied Construction Math Class and English or Spanish Reading Test and ESL Placement Test if tests are taken in Spanish.

All TABE Testing must be completed no later than Friday January 14, 2022.

The course topics are Build Your Future in Construction; Occupational Overview: The Electrical Industry; Basic Safety; Safety for Electricians; Introduction to Hand Tools; Introduction to Power Tools; Hand Bending; Device Boxes; Introduction to Basic Rigging, Introduction to Construction Math; Introduction to Electrical Circuit; Electrical Test Equipment; Basic Communication Skills; and Basic Employability Skills.

Note: All Electrical students are required to attend one additional class of 4 hour class

Electrical DT I-B

ELPT 1011

18 Sessions

80 Hours

Pre-requisite: Electrical I-A

The course topics are Electrical Theory; Introduction to Materials Handling; Introduction to National Electrical Code; Wireways, Raceways, and Fittings; Conductors and Cables; Introduction to Construction Drawings; Basic Electrical Construction Documents; and Residential Wiring.

Students must have a copy of the 2020 NEC edition.

Electrical I-B

ELPT 1011

18 Sessions

80 Hours

Pre-requisite: Electrical I-A

The course topics are Electrical Theory; Introduction to Materials Handling; Introduction to National Electrical Code; Wireways, Raceways, and Fittings; Conductors and Cables; Introduction to Construction Drawings; Basic Electrical Construction Documents; and Residential Wiring.

Students must have a copy of the 2020 NEC edition.

Electrical II-B

ELPT 1020

18 Sessions

80 Hours

Prerequisite: Electrical II-A

The course topics are Cable Tray; Conductor Terminations and Splices; Grounding and Bonding; Circuit Breakers and Fuses; and Control Systems and Fundamental Concepts.

Note: Students must have a copy of the 2020 NEC edition.

Electrical III-B

ELPT 1057

18 Sessions

80 Hours

Pre-requisite: Electrical III-A

The course topics are Distribution Equipment; Transformers; Commercial Electrical Services; Motors Calculations; Voice, Data, and Video; and Motor Controls.

Note: Students must have a copy of the 2020 NEC edition.

Electrical IV-B

ELTN 1043

18 Sessions

80 Hours

Pre-requisite: Electrical IV-A

This level is crucial for Journeyman Exam Preparation. Course topics are are: Specialty Transformers, Advanced Controls, HVAC Controls, Heat Tracing and Freeze Protection, Motor Operation and Maintenance, Medium Voltage Terminations/Splices, Special Locations, Fundamentals of Crew Leadership; Unit 5- Raceway and box Calculations- Part A- Raceway sizing, Insulated conductors- Chapter 9 tables 5 and 8, raceway properties and sizing, annex C, Part B- outlet box fill, sizing boxes for conductors. Part C- Pull and Junction boxes- sizing requirements; Unit 6-Part A- Conductor sizing and Protection- Conductor insulation, conductor sizes, equipment terminal ratings. Part B- conductor ampacity, ambient temperature corrections, rooftop installations, current carrying conductors, conductor sizing, feeder tap rules. Unit 8- Motor and A/C calculations- Part A- Motor calculations- scope of article 430, motor full load currents, motor nameplates, branch circuit sizing, feeder conductor sizing, overcurrent protection, overload protection sizing, short circuit and ground fault protection.

Note: Students must have a copy of the 2020 NEC edition.

Electrical Journeyman Prep

ELPT 2001

13 Sessions

52 Hours

Pre-requisite - All Required: (1) At least three (3) years experience in Electrical Trade. (2) Basic math skills with ability to solve simple algebraic equations.

This class will consist of an intensive NEC review of Services and Service Equipment; Wiring Methods and Installation; Cabinets, Panelboards, Switchboards, Boxes and Conduit Bodies; Conductors; Motors and Generators; Utilization Equipment and Devices; Special Occupancies and Uses; Ambient Temperature and Other Conductor Derating Factors; Low Voltage Systems NEC requirements; and Hazardous locations.

Note: Students must have a copy of the 2020 NEC edition.

Electrical Journeyman Prep

ELPT 2001

13 Sessions

52 Hours

Pre-requisite - All Required: (1) At least three (3) years experience in Electrical Trade. (2) Basic math skills with ability to solve simple algebraic equations.

This class will consist of an intensive NEC review of Services and Service Equipment; Wiring Methods and Installation; Cabinets, Panelboards, Switchboards, Boxes and Conduit Bodies; Conductors; Motors and Generators; Utilization Equipment and Devices; Special Occupancies and Uses; Ambient Temperature and Other Conductor Derating Factors; Low Voltage Systems NEC requirements; and Hazardous locations.

Note: Students must have a copy of the 2020 NEC edition.

Electrical Master Prep

ELPT 1040

13 Sessions

52 Hours

Pre-requisite - All Required: (1) At least three (3) years experience in Electrical Trade and preferably some classroom hours. (2) Basic math skills with ability to solve simple algebraic equations. (3) Journeyman's License

Recommended: Some classroom hours

This class will consist of an intensive NEC review of Services and Service Equipment; Wiring Methods and Installation; Conductors; Special Occupancies and Uses; Ambient Temperature Derating; electrical calculations of single family, multi-family and two family dwellings, electrical calculations of commercial structures, i.e. schools, offices, stores, banks, marinas, etc.

Note: Students must have a copy of the 2020 NEC edition.

English as a Second Language I

COMG 1000

16 Sessions

48 Hours

Pre-requisite: None required

This course prepares students to communicate orally in both public and work environments. Emphasis is placed on developing language functions, pronunciation, listening skills, and improving social and intercultural skills.

NOTE: Test-Out available for Level I at no extra charge.

Este curso prepara al alumno para comunicarse con confianza en situaciones sociales y en el trabajo. Se desarrollan las varias funciones del lenguaje, se mejora la pronunciación y comprensión auditiva y se practica la comunicación social y transcultural.

Aprobación por medio de examen disponible para Nivel I sin cargo extra.

English as a Second Language II

COMG 1001

16 Sessions

48 Hours

Pre-requisite: English as a Second Language I

Students are taught to communicate orally in public and work environments. Emphasis is placed on developing language functions, pronunciation, listening skills, improving social and intercultural communication skills. Students acquire reading skills, vocabulary development, critical thinking skills, and the use of resources.

Continuación de ESL I. Este curso prepara al alumno para comunicarse con confianza en situaciones sociales y en el trabajo. Se desarrollan las varias funciones del lenguaje, se mejora la pronunciación y comprensión auditiva y se practica la comunicación social y transcultural. Los cursos instruye a los estudiantes, desarrollo de vocabulario, pensar en forma crítica y el uso de los varios recursos disponibles en la institución.

English as a Second Language III

COMG 1004

16 Sessions

48 Hours

This course is a continuation of ESL II. This course prepares students to communicate orally in both public and work environments. Emphasis is placed on developing language functions, pronunciation, and listening skills, and improving social and intercultural communication skills. The lessons instruct students in reading skills vocabulary development, critical thinking skills, and the use of resources.

Continuación de ESL II. Este curso prepara al alumno para comunicarse con confianza en situaciones sociales y en el trabajo. Se desarrollan las varias funciones del lenguaje, se mejora la pronunciación y comprensión auditiva y se practica la comunicación social y transcultural. Los cursos instruye a los estudiantes, desarrollo de vocabulario, pensar en forma crítica y el uso de los varios recursos disponibles en la institución.

EPA Refrigerant Recovery Certification Training & Exam

HART 1091

1 Sessions

8 Hours

This course includes training and testing for Core, Types I, II, and III, required by the United States Environmental Protection Agency (EPA).

Course topics include: Refrigerant Transition and Recovery Certification.

Lunch is included.

Test is available in English or Spanish. A Spanish supplement to the English student handbook is available, upon request.

Note 1: ATTENTION STUDENTS ENROLLED IN COMMERCIAL HVAC

SERVICE I-A will receive this training and the exam in Commercial HVAC Service I-B. Enrollment is not needed in this class.

Note 2: The instructor highly recommends that students pick up and study their EPA Section 608 book at least 2 weeks prior to the start of class. A book will not be issued until the class is paid. Early registration is encouraged.

Note 3: Students will need to bring their EPA Section 608 Book to the class. Students possessing an EPA Refrigerant Recovery card for one or more types, must present the card to the Instructor the day of class, otherwise the student will be required to take all four types.

PHCC Plumbing II-A

PFPB 1023

4 Sessions

40 Hours

Not available

PHCC Plumbing II-C

WLDG 1041

4 Sessions

40 Hours

Not available

PHCC Plumbing III-C

PFPB 1051

4 Sessions

40 Hours

Not available

Pipefitting DT I-A

PFPB 1008

18 Sessions

80 Hours

Pre-requisite: English Math Test or Applied Construction Math Class and English Reading Test

All TABE Testing must be completed no later than Friday January 14, 2022.

Course topics are Core: Build Your Future in Construction, Orientation to the Pipefitting Craft; Basic Safety; Ladders and Scaffolds; Introduction to Hand tools; Pipefitting Hand Tools; Introduction to Power Tools; Pipefitting Power Tools; and Introduction to Basic Rigging.

Note: All students are required to attend one additional class of 4 hour class

Pipefitting DT I-B

PFPB 1043

18 Sessions

80 Hours

Pre-requisite: Pipefitting I-A

Course topics are: Introduction to Construction Drawings; Oxyfuel Cutting; Introduction to Construction Math; Fractions, Decimals angles, degrees, square, and square roots and right triangle; Motorized Equipment One; Basic Communication Skills; Basic Employability Skills; and Introduction to Material Handling.

Pipefitting I-B

PFPB 1043

18 Sessions

80 Hours

Pre-requisite: Pipefitting I-A

Course topics are: Introduction to Construction Drawings; Oxyfuel Cutting; Introduction to Construction Math; Fractions, Decimals angles, degrees, square, and square roots and right triangle; Motorized Equipment One; Basic Communication Skills; Basic Employability Skills; and Introduction to Material Handling.

Pipefitting II-B

WLDG 1017

18 Sessions

80 Hours

Pre-requisite: Pipefitting II-A

Course topics are: Socket Weld Pipe Fabrication; Butt Weld Ppe Fabrication; Butt Weld Pipe Fabrication; Excavations; and Underground Pipe Installlation.

Pipefitting III-B

WLDG 2006

18 Sessions

80 Hours

Pre-requisite: Pipefitting III-A

Course topics will include: Stress Relieving and Aligning; Inline Specialties; Hot Taps; Maintaining Valves; Advance Pipe Fabrication and Fundamental of Crew Leadership.

Pipefitting III-B

WLDG 2006

18 Sessions

80 Hours

Pre-requisite: Pipefitting III-A

Course topics will include: Stress Relieving and Aligning; Inline Specialties; Hot Taps; Maintaining Valves; Advance Pipe Fabrication and Fundamental of Crew Leadership.

Piping Isometric

PFPB 1006

16 Sessions

48 Hours

This class defines an Isometric Drawing, it incorporates commercial drawings, mechanical pipe and plumbing details and shows how to draw in an isometric format. Emphasis is stressed on how to utilize isometrics in construction day to day operations, including planning of material take offs, scheduling manpower, equipment and etc.

Plumbing DT I-A

18 Sessions

80 Hours

Pre-Requisite: English or Spanish Math Test or Applied Construction math Class and English or Spanish Reading Test and ESL Placement Test.

All Testing must be completed no later than Friday January 14, 2022.

The course topics are: Build Your Future in Construction; Basic Safety; Plumbing Safety; Introduction to Plumbing Profession; Introduction to Hand Tools; Introduction to Power Tools; Tools of the Plumbing Trade; Introduction to Construction Math; Introduction to Plumbing Math; Copper Tube & Fittings and Cast-Iron Pipe and Fittings.

Note: All students are required to attend two additional 4 hour classes.

Plumbing DT I-B

PFPB 1019

18 Sessions

80 Hours

Pre-requisite: Plumbing I-A

The course topics are: Steel Pipe & Fittings; Introduction to Construction Drawings, Introduction to Plumbing Drawings, Plastic Pipe and Fittings, Introduction to Basic Rigging; Introduction to Plumbing Fixtures; Introduction to Drain, Waste, & Vent (DWV) Systems; Introduction to Water Distribution Systems; Basic Communication Skills; Basic Employability Skills; and Introduction to Material Handling.

Plumbing I-B

PFPB 1019

18 Sessions

80 Hours

Pre-requisite: Plumbing I-A

The course topics are: Steel Pipe & Fittings; Introduction to Construction Drawings, Introduction to Plumbing Drawings, Plastic Pipe and Fittings, Introduction to Basic Rigging; Introduction to Plumbing Fixtures; Introduction to Drain, Waste, & Vent (DWV) Systems; Introduction to Water Distribution Systems; Basic Communication Skills; Basic Employability Skills; and Introduction to Material Handling.

Plumbing I-B

PFPB 1019

18 Sessions

80 Hours

Pre-requisite: Plumbing I-A

The course topics are: Steel Pipe & Fittings; Introduction to Construction Drawings, Introduction to Plumbing Drawings, Plastic Pipe and Fittings, Introduction to Basic Rigging; Introduction to Plumbing Fixtures; Introduction to Drain, Waste, & Vent (DWV) Systems; Introduction to Water Distribution Systems; Basic Communication Skills; Basic Employability Skills; and Introduction to Material Handling.

Plumbing II-B

PFPB 2043

18 Sessions

80 Hours

Pre-requisite: Plumbing II-A

The course topics are: Installing & Testing Water Supply Piping; Installing Fixtures and Valves; Basic Electricity; Installing Water Heaters; and Fuel Gas & Fuel Oil Systems.

Plumbing III-B

PFPB 2036

18 Sessions

80 Hours

Pre-requisite: Plumbing III-A

The course topics are: Sizing DWV & Storm Systems; Sewage Pumps & Sump Pumps; Corrosive-Resistant Waste Piping; Compressed Air and Service Plumbing.

Plumbing IV-B

PFPB 1050

18 Sessions

80 Hours

Pre-requisite: Plumbing IV-A

The course topics are: Hydronic & Solar Heating Systems, Codes, Private Water Supply Well Systems, Private Waste Disposal Systems, Swimming Pools & Hot Tubs, Plumbing for Mobile Home & Travel Trailer, and Introduction to Medical Gas & Vacuum Systems. Plumbing Journeyman Prep that will provide a review of subjects that are needed to pass the written exam for the plumber's journeyman license exam. For the practical portion of the exam the class will also include practice on our custom designed house, this house is comparable to the 2-story house used in the State of Texas Plumbing Exam in Austin.

Plumbing Journeyman Exam Prep

PFPB 2005

1 Sessions

8 Hours

This seminar provides a review of subjects that are needed to pass the written exam for a plumber's journeyman license. It also includes hands-on experience for the preparation of the practical section of the exam. This seminar will also include a demonstration on our custom designed house, comparable to the 2-story house used in the State of Texas Plumbing Exam in Austin.

Lunch is included.

Plumbing Journeyman Exam Prep

PFPB 2005

1 Sessions

8 Hours

This seminar provides a review of subjects that are needed to pass the written exam for a plumber's journeyman license. It also includes hands-on experience for the preparation of the practical section of the exam. This seminar will also include a demonstration on our custom designed house, comparable to the 2-story house used in the State of Texas Plumbing Exam in Austin.

Lunch is included.

Sheet Metal III-B

18 Sessions

80 Hours

Pre-requisite: Sheet Metal III-A

The course topics are Sheet Metal Duct Fabrication Standards; Bend Allowances; Soldering; Air Distribution Systems; Triangulation; and Shop Production and Organization.

Spanish for Construction Sites

COMG 1011

8 Sessions

16 Hours

This is a comprehensive Spanish language program that provides immediate access to functional language skills for non-Spanish-speaking construction site personnel. This course will also cover the many issues involved with effectively supervising Spanish-speaking employees. The language component utilizes phonetic encoding to present the most important Spanish commands, questions, and phrases pertinent to the construction site.

STP 1- Leadership & Motivation

BMGT 1020

6 Sessions

24 Hours

This course will describe the value of effective supervision of workers and improve the construction supervisor's ability to lead and motivate others. Topics include: The dollar and sense of people in construction: the role of the construction supervisor; Helping people perform better; Motivating and leading others; Positive feedback; Training and orienting crew members; Teams and team building; Leadership skills in action.

STP 2 -Communication

BMGT 1022

6 Sessions

24 Hours

Pre-requisite: None Required

The course presents a body of knowledge and skills that today's construction supervisors need in order to be effective communicators on their job site. Topics include; Effective Communication; Learning to Listen; Carrying on Conversations; Persuasion, Negotiation, and Confrontation; Communicating with Your Crew; Putting it in Writing; Meetings that Work; Electronic Communication; and Improving Communication.

STP 4 - Contract Documents

CNBT 1073

5 Sessions

20 Hours

Pre-requisite: None Required

This course will provide information about contract documents and construction law to help supervisors recognize the roles and responsibilities of all contracted parties, to develop and the understanding of how contract documents can be helpful to solve problems and resolve conflicts, and to develop positive relationships between all parties in the construction process. Topics include: Introduction to contract documents and construction law; Creating a positive environment through partnering; Contractual relationships; Contract forms and documents; Managing general conditions; Good documentation practices Changes; Differing site conditions; Time impacts; and Negotiation of resolutions.

STP 5 - Improving Productivity & Managing Project Cost

BMGT 1021

8 Sessions

30 Hours

Pre-requisite: None Required

This course covers understanding how project estimates are compiled, how to compare actual project costs with those estimated and how to control costs to meet the estimate. This course also details how productivity is measured, how the supervisor plays a major role in increasing jobsite productivity and how a small increase in productivity can have a significant impact on the time and cost of a project.

Topics include: Construction estimates; Who controls project costs; Reporting and analyzing actual costs; Planning for cost control; Cost control strategies; Labor cost variances; Working with project partners; Managing risk and loss potentials; Cost control strategies; Post-project evaluations; Benchmarking construction productivity; Improving productivity through pre-planning; New skills for effective supervision; Personnel management; Equipment management for productivity improvement; Jobsite productivity, planning and scheduling; Quantifying lost labor productivity; and Record keeping, control, changes, and defect analysis.

STP 6 - Risk Management & Problem Solving

OSHT 1013

6 Sessions

24 Hours

Pre-requisite: None Required

This course will cover the roles and responsibilities of a construction supervisor in accident prevention and loss control. Topics include: Safety leadership, communication and expectations; Planning for site safety, Site safety management; Site security and protection; Multi-employer jobsite safety; Construction risk management; Safety and human resources; and Regulatory procedures, record keeping and documents.

Texas Lien & Bond Seminar

1 Sessions

7 Hours

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Welding Construction II-A

WLDG 1057

18 Sessions

80 Hours

Course topics will include: Reading Welding Detailed Drawings; SMAW - Groove Welds with Backing-Plate; SMAW - Open Root Groove Welds Plate; and SMAW -Open Root Pipe Welds.

Student needs to enroll in Welding Construction II-B; these are run simultaneously.

Welding Construction II-B

WLDG 1034

18 Sessions

80 Hours

Course topics will include: Reading Welding Detailed Drawings; Air-Carbon Arc Cutting and Gouging; Plasma Arc Cutting; SMAW- Groove Welds with Backing - Plate; SMAW-Open Root Groove Welds - Plate; and SMAW- Open Root Pipe Welds.

Students are required to enroll in both Welding Construction II-A and Welding Construction II-B.

Welding Construction IV-A

WLDG 2047

18 Sessions

80 Hours

Course topics will include: GTAW- Carbon Steel Pipe; GTAW-Low Alloy and Stainless Pipe; GTAW Aluminum Plate; GTAW - Aluminum Plate; GMAW Plate; FCAW Plate; GMAW- Pipe; and FCAW Pipe.

Students are required to enroll in both Welding Construction IV-A and Welding Construction IV-B.

Welding Construction IV-B

WLDG 2051

18 Sessions

80 Hours

Course topics will include: GTAW - Carbon Steel Pipe; GTAW - Low Alloy and Stainless Steel Pipe; GTAW Auminum Plate; GMAW-FCAW Equipmet and Filler Metals; GMAW Plate; FCAW Plate; GMAW-Pipe; and FCAW-Pipe.

Students are required to enroll in both Welding Construction IV-A and Welding Construction IV-B.