

# APPLIED INDUSTRIAL TECHNOLOGY (CEMENT MASONRY) (ATCM)

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## ATCM-1300 Fundamentals of Concrete Construction 2 Credits

Study of concrete: ingredients, steps in production, factors of concrete mix design, uses for various types of concrete, admixtures and tests for various types of fresh concrete.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

## ATCM-1321 Introduction to Plan Reading 1 Credit

Introductory course covering technical and practical fundamentals of Blueprints. This course provides students with knowledge of blueprint reading and blueprint history as they relate to the cement masonry industry. Classroom activities include interpreting standard architectural drawings and plot plans to establish dimensions and elevations of buildings, parking lots, sidewalks and aprons.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's Apprenticeship program.*

## ATCM-1330 Concrete Construction Equipment 2 Credits

Study of tools used in concrete construction for layout, forming, placing and finishing fresh concrete with emphasis on care and safe use of equipment.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

## ATCM-1341 OSHA Standards for Construction 2 Credits

Certification course covering the Occupational Safety and Health Administration (OSHA) regulations for Cement Masonry worker safety on construction jobsites. Course covers hazard recognition, silica hazard awareness, materials handling, fall protection, and scaffolding. In addition, training requirements for the Cement Masonry worker and employer and code compliance is a part of this course.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

## ATCM-1370 Construction Trades Safety 1 Credit

Study of safe practices on job, drug and alcohol awareness and OSHA 10 requirements for construction trades. Upon success completion of course, student will be certified in OSHA 10.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

## ATCM-1401 Concrete Forming and Finishing Basic 2 Credits

Study of various types of forms, placement of forms, placing leveling and finishing of concrete.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

## ATCM-1411 Commercial and Residential Form and Finish 2 Credits

Covers intermediate principles of placing and finish of residential and commercial concrete.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

## ATCM-1801 Special Topics: ADA Compliance in the Concrete Industry 1 Credit

Course covers the Americans with Disability Act ADA standards as they apply to the construction industry including compliance and ADA ramp specifications. Installation procedures and techniques for ADA ramp layout and set up will be demonstrated and practiced.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval and/or enrolled in the cement finishers union apprenticeship program or union member.*

## ATCM-1802 Special Topics in Cement Masons ICRA/1st Aid 1 Credit

Certification course for First Aid and Infection Control Risk Assessment (ICRA). Fundamentals of 1st aid, CPR and AED, including substance overdose and emergency treatment is covered. In addition, procedures and practices for Cement Masonry workers, working in health care facilities as prescribed in health care facilities is also to be part of the combined course along with hands on application.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval and a member in good standing with the cement masons union*

## ATCM-1806 Special Topics in Cement Mason Concrete Polishing 2 Credits

Course covers polished concrete applications including benefits and installation processes. In addition, tools, equipment and techniques used will be covered and practiced in a shop setting.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Masons' apprenticeship program.*

## ATCM-2320 Blueprint Fundamentals - Construction 2 Credits

Study of basic plans to identify information included in a set of written specifications pertaining to concrete and estimating amount of materials needed for the project.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

## ATCM-2500 Fundamentals of Concrete Curing 1 Credit

Study of fundamentals associated with concrete curing, reason for curing and types of curing. Includes sealers and densifiers for concrete.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

**ATCM-2510 Fundamentals of Concrete Joints**

**1 Credit**

Study of joints in concrete to include types, depths, locations, sealants, maintenance and reason for joints.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's Apprenticeship program.*

**ATCM-2521 Basic Cement Patching**

**1 Credit**

Study of essentials to properly patch and rub walls for finishing and steps necessary to take when preparing the walls.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

**ATCM-2531 Concrete Restoration**

**1 Credit**

Study of surface defects in concrete, and how to recognize, recommend preventative treatment, techniques and remedies to restore surface.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

**ATCM-2701 Advanced Concrete Finishing**

**2 Credits**

Advanced study of placing and finishing a slab; placing and finishing concrete floors with various types of finishes.

*Lecture: 2 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

**ATCM-2710 Concrete Specialty Products**

**1 Credit**

Study of specialty products and finishes for residential and commercial concrete. Includes decorative finishes and industrial finishes.

*Lecture: 1 hours*

*Prerequisite(s): Departmental approval: admission to Cement Mason's apprenticeship program.*

**ATCM-2720 Trimble Robotic Total Station Certified Operator Course**

**3 Credits**

Covers the operation and usage of a Robotic Total Station (RTS) as it applies to the construction industry. Setup and layout procedures will be demonstrated and practiced using Trimble Field Link as the specific operational software.

*Lecture: 3 hours*

*Prerequisite(s): Departmental approval: Admission to Apprenticeship program.*