The Colorado Department of Transportation Engineering Training Program

Pre-Construction Engineering/Technical Design

Applied Roadway Design
4-day course $1,050
This class focuses on applying the principles described in CDOT's Road Design Guide and AASHTO's "Greenbook," and Roadside Design Guide, as well as other industry accepted manuals. It avoids specific design software.

Context Sensitive Solutions
1-day course $100
This course introduces the basic elements and principles of Context Sensitive Solutions, and provides participants with the tools to apply Context Sensitive Solutions to project design.

Design Build Contracts
Design Build Virtual Training presentation contains a series of modules designed to provide a basic understanding of design-build as-needed basis to teams as they move through the Design Build process.

Interchange Planning and Design
2-day course $350
This course covers basic traffic operational and geometric design for various interchange types. Students will examine the process of efficient study for interchanges including selection of appropriate configuration and development of design and traffic documentation to support decision making. Students will be trained in the latest tools and techniques for the planning and design of service interchanges. Attendees will be given an opportunity to work as part of a group on an interchange reconstruction problem.

Guardrail End Anchorage Systems (New eLearning Course Under Development)
This online course helps you critically approach installation, repair, or replacement of guardrail end anchors to ensure all elements are compatible, properly installed, and are designed appropriately. Topics include an introduction to guardrail system design and testing, CDOT's MASH implementation, and installation and inspection of guardrail terminal systems. We provide details about guardrail terminal systems used in Colorado in a downloadable PDF Field Guide you can refer to when on the job after completing the course.

Lighting Design Guide Training
2-day course $350
Lighting Design for CDOT projects emphasizes quality lighting for motorists by encouraging effective lighting methods. This includes designing for optimal visibility, selecting proper equipment, locating lighting effectively to minimize glare, increasing uniformity, and reducing light pollution. Topics include: Lighting Guidelines Overview, visibility basics, Dark Skies' State Law impacts, lighting equipment selections, roadway design guidelines, selected non-roadway design examples, introduction to CDOT M standards and introduction to CDOT lighting specs (sections 613 and 715).

Plan Checking (eLearning, updated FY19)
A quality set of contract documents creates competitive bids and results in fewer disputes or claims. This course is designed to provide a basic understanding of how to improve plan quality by using an appropriate plan checking process. Participants will have the opportunity to review a set of plans that are ready for advertisement and to cross-check them with the specifications and engineer's estimate. Students will make use of the PS&E checklist and compare the advantages of different methods of checking plans. The course is segmented into 6 modules: Introduction to Plan Checking, Your Plan Checking Process, Checking the Plan Sheets, Pay Items, Special Provisions, and Additional Plan Documents.

Reading Structural Plans
2-day course $350
This course will prepare engineers, technicians, and inspectors to read and interpret structural plans in order to provide design input and ensure construction compliance.

Specifications Writing for Designers (eLearning)
Specifications, a critical part of any CDOT contract, communicate the procedures, materials, equipment, and payment terms needed to complete a project. This course introduces designers to the tools, processes, and best practices for creating specifications packages.

Survey Basics for Engineers
This course introduces a new paradigm for collaboration between utilities and other stakeholders throughout a construction project.

Utility Coordination (New Course Under Development)
This course introduces the new paradigm for collaboration between utilities and other stakeholders throughout a construction project.

Work Hour Estimation
1-day course $100
This course provides the fundamentals for developing work-hour estimates for both in-house and consultant-staffed projects. Participants establish core knowledge on developing a detailed project scope of work using CDOT's Generic Scope of Work. Includes prerequisite eLearning course "Scope of Work".

Writing for Engineering Professionals
Each single day course $100
Day One, you will learn the fundamentals of technical writing. This program will provide strategies to increase the clarity of your writing, metrics to enhance its readability, and best practices to improve your email communications.

Day Two, you will learn concepts building on the fundamentals taught in the Day One. You will learn how to adjust your writing for tone, ensure its coherence (flow), apply additional clarity and organization strategies, and proofread to ensure error-free documents.

Day Three, you will review grammar and punctuation concepts and apply them to technical documents. When reviewing grammar concepts, you will examine the use of active versus passive voice, parallel structure, and agreement. When studying punctuation concepts, you will review the use of commas, hyphens, colons, semicolons, and dashes.

www.codot.gov/programs/tetp
Pre-Construction Project Management

Construction Budget Management for Project Managers and Engineers (eLearning)
This course is designed to provide a basic understanding of project construction budgets and our overview of Resource Allocation. It introduces the software programs used to manage the financial and planning process. The course also covers the project budget management process, including the STIP, key terms, different project phases, overs/unders, and indirect costs.

Construction Change Orders (New eLearning Course FY19)
For Project and Resident Engineers involved with change orders for construction projects, this course provides examples of change orders (simple to complex) to explain the who, what, why, and when of change orders.

Construction Project Administration (New eLearning course) 2-day course $350
The Construction Project Administration specialty course is intended to introduce CDT project manager’s best practices in project administration. This includes understanding the contract and its implications, meeting facilitation, field inspections, paperwork completion and reporting, and documentation helpful to a project’s success.

Construction Project Administration / Local Agencies 2-day course $350
The Construction Project Administration specialty course introduces best practices in project administration for CDOT project managers. Best practices in understanding the contract and its implications, meeting facilitation, conducting field inspections, completing and reporting paperwork, and accessing and interpreting documentation will be presented. Includes prerequisite eLearning course “Construction Manual - Section 100”.

Construction Project Financials (Form 65) (eLearning)
This course introduces and explores the Project Financials Schedule (commonly known as Form 65), and how you can identify, interpret and understand the financial status of your project focusing on Post Award.

Construction - Engineering

Disputes and Claims Resolution 1-day course $100
This introductory level course teaches you how to resolve disputes and claims per CDOT specifications.

Construction Force Accounts (eLearning)
For Project and Resident Engineers involved in working with force account method of payment on construction projects, this course provides examples of force accounts, from simple to complex, to explain the who, what, why, and when of force account.

Managing Contract Time 1-day course $100
The online section of this course familiarizes learners with important information found in existing CDOT materials relating to managing contract time and addressing delays. Project Managers and Project Engineers learn about how to identify types of delays, establish contract time and determine when to use different contract types and methods. Includes prerequisite eLearning course ‘Managing Contract Time’.

Materials Technician Training (New eLearning Course Under Development)
This online CDOT Materials Technician Training is designed for materials testers who are new to working with CDOT, providing them with information about simulated situations where they can learn about and practice the CDOT approach to administering testing, documentation, and communication on construction projects. By the end of the course, materials testers will understand their role as a materials tester on a CDOT project and be able to find and use available resources, follow best practices for tasks throughout the project, communicate with team members, enter and verify data in LIMS, and follow appropriate documentation procedures.

Construction - Project Management

Construction Budget Management for Project Managers and Engineers (eLearning)
This course is designed to provide a basic understanding of project construction budgets and our overview of Resource Allocation. It introduces the software programs used to manage the financial and planning process. The course also covers the project budget management process, including the STIP, key terms, different project phases, overs/unders, and indirect costs.

Concrete Pavement Rehabilitation (New eLearning course FY19)
This course introduces the key subsections in the Section 100 Standard Specification. It addresses the basic rules and regulations of project administration and issues where the majority of conflicts and disputes on a project arise. This is a prerequisite for the instructor-led Construction Project Administration course.

CPM Scheduling for Construction 1-day course $100
Includes prerequisite eLearning course for both
Basic learning objectives include:
• Describe the fundamental techniques used to create and analyze a Critical Path Method schedule.
• Utilize Microsoft Project schedule to track changes in delivery of project schedule.
• Create a reasonable, achievable design and construction (Form 859) schedules in Microsoft Project based on the project’s key tasks.
• Analyze a complex construction schedule to determine the status of a project, and identify slack or float and delays.

Contact Us:
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Seating Availability
Seating is available on a first-come, first-served basis. Additional course offerings may be provided based on demand and resource availability.

Enrollment
To register for any TETP course or to view program details:
www.codot.gov/programs/tetp
eLearning classes are no cost.

NHI Courses
If you are interested in any courses offered through the National Highway Institute (NHI), please contact your regional training coordinator or Allison Wilson.

Disclaimer
These educational courses are intended as guidance regarding design, construction, and management of transportation projects and do not constitute official rules or regulations of CDOT.