7 Steps to Mastering Time (4 hours)
This 4 hour online course is a complete, integrated time management system. It contains only seven steps, which if followed, will assist the learner in developing an effective and efficient method for allocating time and regaining control of their life.

A Brief Overview of Construction Mediation: Beginner (1 hour)
This 1-hour online course provides a brief overview to teach the construction professional the definitions of the basic concepts of the mediation process.

A Comparison of Seismic Design Methods (1 hour)
There are basically four different types of seismic design methods. Most building designers immediately assume that the building code provides the best seismic design method. This is a good assumption, as the engineer must satisfy the building code regardless of their preferences. Besides, the building code seismic design is accepted and relied upon even though no one might check its applicability.

A/E's, Owners, & Contractors: Managing Projects to Success (5 hours)
This 5-hour online course consists of eight sections providing the information and procedures for owners, owner representatives, architects, engineers, and contractors to complete satisfactory successful projects.

A Wetland Primer for Design Professionals (1 hour)
An understanding of wetlands is increasingly important for design professionals, including architects, engineers, land surveyors and landscape architects. This 1-hour online course will acquaint you with the changed perception of wetlands in North America, contemporary definitions of wetlands and types of wetlands found on this continent.

A Wetland Primer, Advanced: Field Evaluation & Permitting Considerations for Design Professionals (2 hours)
This 2-hour online course is a follow-up to "A Wetland Primer For Design Professionals" by the same author. Although a basic understanding of wetlands--crucial for architects, engineers, land surveyors and landscape architects--is mastered in that first course, design professionals often need a broader understanding of *why* wetlands play an increasingly important role in site considerations, and how they are identified. This course does exactly that, in a easily understood series of steps.

Achievable Barrier Removal & Accessibility (3 hours)
This three hour online course is aimed at helping people in the construction industry learn what they have to do to comply with the Americans with Disabilities Act of 1990. The course focuses on a couple angles of compliance. Those angles are common questions about barrier removal, and design details concerning accessible parking, accessible lodging, and accessible stadiums

ADA Guidelines for Small Towns (2 hours)
This two hour online course is aimed at helping people who work for government agencies, or do contract work on government buildings and facilities, understand what they need to do to comply with Title II of the Americans with Disabilities Act.

Advanced Industrial Wastewater Treatment (3 hours)
This 3-hour online course will review chemical, physical and biological treatment technologies for industrial wastewater and industrially impacted groundwater.

Advanced Stormwater Treatment Design (3 hours)
This 3-hour online course leads the student through evaluation and design of stormwater treatment systems.

Advanced Wastewater Treatment Plant Design for Consulting Engineers (3 hours)
This 3-hour online course is based upon the very latest wastewater treatment plant design criteria and considerations as published in any number of current authoritative texts. It is designed for consulting engineers who perform wastewater treatment design, or those who simply wish to become more familiar with treatment plant design.

Air Compressors (2 hours)

This 2-hour online course describes the applications, characteristics, and operation of various types of compressors. Reciprocating, rotary, centrifugal, and axial flow compressors are all covered. The presentation is based on air compressors, but the principles apply to all gas and vapor compressors, such as those used on construction sites, refineries, process industry, refrigeration, and air conditioning.

Akin v. Godwin - A Dave Gibson Lot and Block Case (2 hours)

This 2 hour online course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for LOT AND BLOCK parcels. It introduces many of the principals of boundary surveying in a systematic fashion.

Alternative Dispute Resolution - Arbitration & Mediation (3 hours)

This 3-hour online course provides a basic overview of alternative dispute resolution as a means to avoid litigation. It specifically focuses on mediation and arbitration as techniques that can be employed after the completion of a project to avoid litigation.

Analyzing Costs & Determining Fees for Land Surveyors (1 hour)

This 1-hour online course gives you the analytical tools to determine the costs of operating a land surveying business and converting those costs into hourly rate fees to cover the expenses.

Asbestos Management (3 hours)

This three hour online course is based on the Environmental Protection Agency's Handbook for Managing Asbestos in Place. Asbestos containing materials are still found in hundreds of thousands of buildings, so it is important for members of the construction industry to know how to deal with it. Asbestos is dangerous when its fibers are released into the air, so removing the asbestos is not always the best course of action. This course focuses on how to start and run a successful asbestos operations and maintenance program.

Asbestos: What Is It And How Do You Remove It? (3 hours)

This three hour online course is aimed at informing the student about the health risks concerning asbestos, and the methods of safely removing it.

Asphalt Pavement - Design Basics (2 hours)

This 2-hour online course covers some of the basic design considerations for proper structural design of pavements.

Automotive Turn Signal & Hazard Flashers - Federal Requirements (1 hour)

This 1-hour online course covers the National Highway Traffic Safety Administration, Department Of Transportation Federal Motor Vehicle Safety Standard 108 (FMVSS108) and how it applies to turn signal and hazard warning flasher modules.

Avoiding Costly Discrimination Lawsuits (2 hours)

This two hour online course will give each student, who is either a business owner, manager, or supervisor, a general overview of the anti-discrimination statutes so that they are better equipped to deal with employees in the workplace.

Babcock & Wilcox Pressurized Water Reactors - An Introduction (2 hours)

This 2-hour online course provides an overview of the reactor and major reactor support systems found in a Babcock & Wilcox (B&W) Pressurized Water Reactor (PWR) Power Plant.

Barba v. Walker - A Dave Gibson Public Lands - Related Case (2 hours)

This 2-hour online-course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for PUBLIC LANDS-RELATED parcels. It introduces many of the principals of boundary surveying in a systematic fashion.

Basic Blueprint Reading & Related Math (3 hours)

This three hour online course covers those areas. It also reviews the basic parts of a residential blueprint, as well as how to read elevations.

Basic Civil Engineering - Asphalt (1 hour)

This one hour online course outlines the problems that can arise when working with asphalt and the current solutions, helping you remain as invisible as possible.

Basic Civil Engineering - Culvert Design (1 hour)
This 1-hour online course covers how to design the parts of a conveyance system, the drainage facilities and features which collect, contain and provide for the flow of surface and storm water from the highest points on the land down to a receiving water. This course also takes a look at sizing gutters, ditches, pipes and channels.

Basic Civil Engineering - Sewage Treatment (1 hour)
This one-hour online course will acquaint you with the history of wastewater treatment. It covers the main treatment functions, and gives a clear insight into what goes on in a wastewater treatment plant. The course identifies the micro-organisms that do the work, and descriptions and hints are given as to the precursors to problems you may experience.

Basic Civil Engineering - Sewers and Sewerage (1 hour)
This one hour online course is a general background of what sewerage is all about, from the home to the treatment plant. It looks at common terminology and the different types of sewer lines.

Basic Civil Engineering - Water Distribution (1 hour)
This 1-hour online course takes up where "Water Supply" leaves off; it takes you through sizing a pump, hydro-pneumatic tank and supply lines. This course gives the steps needed, along with examples, to move water from your source (well, lake, river or whatever) to the tap.

Basic Civil Engineering - Water Supply (1 hour)
This 1 hour online course gives you the basic building blocks, the formulas needed and the general assumptions made to get that water from there to here. It explains and de-mystifies the process one needs to go through, both for a small home and for a city, to insure that the water supply we create will be both safe and will work!

Basic Concepts of Photogrammetry (3 hours)
This three hour online course will help you become familiar with some of the basic concepts in photogrammetry. Terms and equations, which are the foundation of the discipline, are presented. It is designed with the professional surveyor who is contracting with the photogrammetrist in mind.

Basic Construction Mathematics (2 hours)
This two hour online course presents the basic mathematical skills required in a variety of construction trades. This includes the basic arithmetic and geometry required to accurately perform routine tasks and estimate simple quantities. The student will learn how to work with stationing for linear projects, as well as use arithmetic to calculate simple areas and volumes. This course also touches on using geometry to calculate more complex volumes.

Basic Electrical Theory (1 hour)
This one-hour online course covers the definitions of current, voltage, resistance, and wattage and will explain the relationship between each. This is a short course to introduce you to the world of electricity. We will try to present the very basic theory. This course also discusses some uncharged objects and examples of how they can become charged.

Basic Electricity (2 hours)
This two hour online course introduces basic electrical terms and calculations. Simple electrical circuits are used to illustrate the application of Ohm's law including the calculation of voltage, current, resistance and power in various circuit configurations. Basic electrical terms are defined and explained.

Basic Electricity II (3 hours)
This 3-hour online course is a companion to the "Basic Electricity I" course. It expands on the fundamentals introduced in Basic Electricity and introduces mesh analysis as a method to solve complex DC circuits.

Basic Erosion & Sediment Control (6 hours)
This 6-hour online course is designed to teach the principles and practices for effective management of erosion and sedimentation on construction sites and all other land disturbing activities. This course covers a vast amount of basic knowledge and presents the fundamentals of erosion and sediment control.

Basics of Failure Investigations & Forensic Engineering (1 hour)
This one hour online course examines some of the main reasons for failure investigations, basic terminology used in the field, some of the basic causes of failure, and what everyone can learn from failure.

Basic Financials for Land Surveyors: The Bottom Line (1 hour)
This 1-hour online course is an introduction to the basic financial statements needed to operate a small land surveying business, and a brief overview of their use.

Basic Wind Loads: ASCE 7-02 Revealed, Part 1 (2 hours)
This 2-hour online course walks you through the ASCE manual and helps make a very, very complex system much easier to understand and perhaps even useful

Basics of Industrial Wastewater Treatment (1 hour)
This 1-hour online course will discuss these common water contaminants and many others, and what can be and is being done to remove them.

Basics of Water Resources - Groundwater Hydrology (1 hour)
This 1-hour online course covers the fundamentals of water supply hydrology. From the hydrologic cycle to the nature and character of groundwater as it goes from recharge zones to discharge points, the basic concepts and terminology are introduced in a clear and easy to read form.

Beautiful Sliding Doors for Privacy (1 hour)
This 1-hour online course allows the student to peer over the shoulder of the author as he designs and installs a low-cost method for hanging four interior sliding doors in an opening between the formal dining room and an addition in his house. Step-by-step, you'll learn how to fabricate low-cost tracking systems for a beautiful system of sliding doors and how to avoid pitfalls.

Beginning CAD R2000 Part 1: Introduction, Drawing Setup & Line Command (3 hours)
In this 3-hour online course, you will cover computer hardware and software introductory information, as well as AutoCAD drawing setup and line command. You'll learn how to move around the screen, access commands and set up drawings.

Beginning CAD R2000 Part 2: Common Drawing Commands (3 hours)
In this 3-hour online course, you will become familiar with some of the most command drawing commands in AutoCAD. This course covers circles, arcs, rectangles, layers and osnaps.

Beginning CAD R2000 Part 3: Zoom Command & More (3 hours)
In this 3-hour online course, you will become familiar with the zoom command, a helpful tool in creating a complete and accurate drawing. You will also review more advanced drawing commands such as polygon, ellipse, donut, view res and divide/measure.

Beginning CAD R2000 Part 4: Editing Commands (3 hours)
In this 3-hour online course, you will become familiar with using and editing polylines, as well as adding hatch patterns to your designs. Hatching is a wonderful way to add more detail and elaboration to your designs. You will also learn some of the most common editing commands, which let you make needed corrections and changes to your design.

Beginning CAD R2000 Part 5: Blocks & Advanced Editing Commands (4 hours)
In this 4-hour online course, you will become comfortable with creating and applying blocks and wblocks in your drawings. This is a great way to create a library of objects and images that can be used over and over again in several drawings and designs.

Beginning CAD R2000 Part 6: Sketch, Modify & Text Commands (3 hours)

In this 3-hour online course you will become comfortable creating, adding and editing text within your drawings. This is very important for labeling and adding notes. You will also learn to use the modify properties command. With this, you can change several properties, as needed, about an object or drawing (very good for editing remarks, etc).

Beginning CAD R2000 Part 7: Undo, Redo & Using Grips (4 hours)

In this 4-hour online course, you will learn to use some more advanced editing commands, which will allow you to make multiple changes to your designs and drawings. You will also learn how to undo mistakes. Finally, you'll start using object grips for advanced editing.

Beginning CAD R2000 Part 8: Dimensioning (3 hours)

In this 3-hour online course, you will learn and use the basic aspects of setting up, applying and editing dimensions within your design (You'll use these everywhere). You will learn several handy "information" commands, which allow you to learn details about your objects and your drawing, i.e., the square footage of a space, or size and characteristics of your drawing file.

Beginning CAD R2000 Part 9: Isometric & 3-D Designs (4 hours)

In this 4-hour online course, you will become familiar with several advances commands that will enable you to draw isometric drawings and objects and lines on any rotation angle. You will also become comfortable with several beginning aspects of 3-Dimensional designs and how to apply them in your drawings.

Beginning CAD R2002, Part 1: Introduction, Drawing Setup & Line Command (3 hours)

In this 3-hour online course, you will become comfortable accessing AutoCAD from your computer. You'll cover the basics of moving around your screen, accessing commands, and opening and setting up drawings. You'll also start to draw using the line command and you will learn to erase objects.

Beginning CAD R2002, Part 2: Common Drawing Commands (3 hours)

In this 3-hour online course, you will become familiar with some of the most common drawing commands in AutoCAD, including circles, arcs and rectangles. You will cover how to set up and control the layering of objects, and use object-snapping commands, which allow you to draw your plans.

Beginning CAD R2002, Part 3: Zoom Command & More (3 hours)

This 3-hour online course focuses on how to use the zoom command. Zoom changes the view of your drawing and allows you to see very detailed aspects of your design, as well as the overall picture. This is very helpful in creating a complete and accurate drawing. Additional drawing commands are covered, including Polygon and Ellipse, and you'll cover some basic editing commands such as Point, Measure and Fill.

Beginning CAD R2002, Part 4: Editing Commands (3 hours)

This 3-hour online course covers how to use and edit polylines, as well as how to add hatch patterns to your designs. Hatching is a wonderful way to add more detail and elaboration to your designs. This course also reviews some of the most common editing commands, which let you make needed corrections and changes to your design.

Beginning CAD R2002, Part 5: Blocks & Advanced Editing Commands (4 hours)

This 4-hour online course teaches you how to create and apply the use of blocks and wblocks within your drawings. This is a great way to create a library of objects and images that can be used over and over again in several drawings and designs. (A great time saver!) The course also covers several more editing commands that will make it easier for you to edit and change your drawings.

Beginning CAD R2002, Part 6: Text, Modify & Change Commands (3 hours)

This 3-hour online course covers how to create, add and edit text within your drawings. This is very important for labeling and adding notes. You" also review how to use the “modify properties command.” With this. you can change several properties, as needed, about an object or drawing.

Beginning CAD R2002, Part 7: Array, Scale, Stretch, Rotate, Undo & Grips (4 hours)

This 4-hour online course covers more advanced editing commands; tools which will allow you to make multiple changes to your designs and drawings. In addition, you'll learn how to undo mistakes (very handy), and start using "object grips."

Beginning CAD R2002, Part 8: Dimensions, List, Area, Distance & Status (3 hours)
This 3-hour online course covers the basic aspects of setting up, applying and editing dimensions within your design. It reviews several handy “information” commands, which allow you to learn details about your objects and your drawing, like the square footage of a space or size, and characteristics of your drawing file.

Beginning CAD R2002, Part 9: Advanced Techniques (4 hours)
This 4-hour online course covers several advance commands that will enable you to draw isometric drawings, as well as draw objects and lines on any rotation angle. It also reviews several beginning aspects of 3-Dimensional designs and how to apply them in your drawings.

Better Roadway Design - Curvature & Passing Zones (2 hours)
This 2-hour online course covers the subjects of roadway curvature and passing zones in the FHWA document. The recommendations of FHWA can generally be implemented very economically.

Better Roadway Design - Intersections (3 hours)
This 3-hour online course covers the subjects of intersections in the FHWA document. The recommendations of FHWA can generally be implemented very economically.

Better Roadway Design - Intersection Signalization (2 hours)
This 2-hour online course covers the subject of signalization for turning movements at roadway intersections in the FHWA document. The recommendations of FHWA can generally be implemented very economically. While the AASHTO and state DOT standards remain the minimum standards, the designer should recognize that they are just that - minimum standards. Designs can be improved by following the guidance in this course.

Better Roadway Design - Intersection Signing (3 hours)
This 3-hour online course covers the subjects of signing at roadway intersections in the FHWA document. The recommendations of FHWA can generally be implemented very economically. While the AASHTO and state DOT standards remain the minimum standards, the designer should recognize that they are just that - minimum standards. Designs can be improved by following the guidance in this course.

Biofilms: An Introduction (1 hour)
This 1-hour online course is an introduction into the fascinating world of biofilms, which exist everywhere from natural hot springs to heat exchangers to pharmaceutical bioreactors to human teeth.

Biomechanics: Understanding Barrier-Free Design (3 hours)
This 3-hour online course consists of one of the most in-depth studies of the built environment as related to "The Americans with Disabilities Act". This course uses multidisciplinary research: architecture, medicine, physics, engineering, ergonomics, anthropology, psychology, sociology, and others, to discuss the impact of the built environment elements on the human body, especially on the physically disabled, the elderly, and the pregnant.

Building the Privacy Fence (1 hour)
This 1-hour online course is a real life case study of one contractor's methods in building an attractive, residential privacy fence. It engages the student in the details of the construction process from planning stages to finish.

Boundary Agreements (4 hours)
This 4-hour online course explores unwritten rights and title to land, specifically the complex and often misunderstood area of Boundary Agreements.

Brayton Cycle (Gas Turbine) Analysis (1 hour)
In this 1-hour online course, the open, simple Brayton Cycle used for stationary power generation is considered. The Brayton Cycle thermal efficiency is also presented (but only for the air as the working fluid) and the thermal efficiency derivation is presented with a simple mathematical approach.

Bridge Design Basics (AASHTO LRFD) (1 hour)

This one hour online course is designed for engineers who have certain experience with the AASHTO Standard Specifications and the new LRFD design method. It introduces the concept and advantages of the LRFD design and summarizes the changes from AASHTO LFD to LRFD.

Business Communications: Effective Email (2 hours)
This 2-hour online course covers the fundamentals of Effective Professional Email. Electronic mail is a new communications media with new characteristics and professional use of this media can be powerful and effective.

Business Management (8 Hours)
This eight hour online course is aimed at helping you manage your business. The course is designed to provide the professional with the basic tools needed to be successful in managing his/her own business.

Business Management Part I (2 hours)
This is the first in a series of Internet courses aimed at helping you manage your business. The series is designed to provide the professional with the basic tools needed to be successful in managing his/her own business. This two hour online course discusses mission statements, how to develop your business vision, values and business philosophy.

Business Management Part II: The Business Plan (3 hours)
This is the second in a series of online courses aimed at helping you manage your business. The series is designed to provide the professional with the basic tools needed to be successful in managing his/her own business. This second course will help you develop a comprehensive business plan.

Business Management Part III: Marketing & Fin. Planning (2 hours)
This two hour online course is designed to provide the professional with the basic tools needed to be successful in managing his/her own business. This course will help you develop comprehensive marketing and financial plans.

Business Rules for Land Surveyors: The Gospel According to Dan (2 hours)
This 2-hour online course gives the student a strong background in fundamental principles of managing a land surveying business that are commonly not applied.

Capacitor Applications (2 hours)
This 2 hour online course reviews the application issues involved in installing and operating capacitors on an electric power distribution system. Capacitor theory, design, and application are discussed in detail. Methods to calculate the appropriate capacitor size for a given situation are presented. The application of capacitors to increase system voltage and to lower system losses is also presented, as well as a discussion of the harmonic effects of capacitor banks.

Centrifugal Pumps (3 hours)
This 3-hour online course describes the advantages, disadvantages, characteristics, and applications of the centrifugal pump. It defines, derives, and describes the performance parameters, performance curves, and all the characteristic that an engineer needs to know to intelligently specify a centrifugal pump for a specific application.

Change Orders - Block 1, What is a Change Order? (2 hours)
This course is a 2-hour online course which covers all aspects of change orders as a part of the construction process. This course outlines the definition and importance of change orders. The benefits and fairness of change orders to everyone involved including the Owner, the Architects, the Engineers and the Constructor are also clearly explained.

Change Orders - Block 2, Is This Really A Change? (2 hours)
This 2-hour online course lists an outline of a construction process and indicates where change orders fit in.

Change Orders - Block 3, How to Execute (2 hours)
This 2-hour course is part 3 in a series and examines procedures and forms involved in the execution of change orders after the Owner, Architect and Engineer have decided that work items *do* in fact require a change order.

Change Orders, Blocks 1 - 3 (6 hours)
This 6-hour online course includes all three Change Order courses examining the outline of a construction process and indicating where change orders fit in as well as the procedures and forms involved in the execution of change orders

Channel Restoration Design 1: An Alternative to Channelization (2 hours)
This 2-hour online course provides an introduction to an enhanced channel design framework for restoring the channels of meandering rivers.

Channel Restoration Design 2: Designers & Their Toolkits (6 hours)
This 6-hour online course presents a detailed chronological review of existing methods for designing stable river channels and an examination of their applicability to meandering river restoration.

Channel Restoration Design 3: A Design Framework (4 hours)
This 4-hour online course discusses the geomorphological principles that should form the basis of a river restoration project to yield stable channel dimensions that are commensurate with the catchment context and observed natural variability.

Circuit Analysis (AC): Sinusoidal Generation & Definitions (1 hour)
This 1-hour online course introduces the sinusoid waveform and its generation. It also introduces and defines the basic terminology used throughout the study of AC Circuits

Circuit Analysis (DC Conventional): Current & Voltage in Parallel Circuits (1 hour)
This 1-hour online course provides the basis for understanding parallel circuits.

Circuit Analysis (DC Conventional): Current, Voltage, & Resistance (2 hours)
This 2-hour online course introduces the basic necessities of circuit analysis – Current, Voltage, and Resistance. It starts with a short discussion of atomic theory as it relates to current flow and relates current, voltage, and resistance in a manner easily understood. This course uses the conventional current approach. (As opposed to the electron flow approach.)

Circuit Analysis (DC Conventional): Current & Voltage in Series Circuits (1 hour)
This 1-hour online course provides the basis for understanding series circuits. This course includes downloadable files in word document format.

Circuit Analysis (DC Conventional): Ohm's Law & Power (1 hour)
This 1-hour online course introduces you to Ohm’s Law, the most fundamental and most used relationship in circuit analysis .

Circuit Analysis (DC Conventional): Series - Parallel Networks (2 hours)
This 2-hour online course introduces you to some techniques that can be used to analyze many types of series-parallel circuits.

Circuit Analysis (DC Conventional): Series & Parallel Resistors (1 hour)
Series and parallel resistances are common in almost all electrical circuits. This 1-hour online course introduces terminology used to describe the relationships and describes how the series and parallel resistors combine in a circuit.

Circuit Analysis (AC): Sinusoidal General Format & Phase Relationships (1 hour)

Circuit Analysis (DC Electron Flow): Current & Voltage in Parallel Circuits (1 hour)
This 1-hour online course provides the basis for understanding parallel circuits. This course uses the electron flow approach. (As opposed to the conventional current approach.)

Circuit Analysis (DC Electron Flow): Current & Voltage in Series Circuits (1 hour)
This 1-hour online course provides the basis for understanding series circuits.

Circuit Analysis (DC Electron Flow): Current, Voltage, & Resistance (2 hours)
This 2-hour online course introduces the basic necessities of circuit analysis – Current, Voltage, and Resistance.

Circuit Analysis (DC Electron Flow): Ohm's Law & Power (1 hour)
This 1-hour online course introduces you to Ohm's Law, the most fundamental and most used relationship in circuit analysis.

Circuit Analysis (DC Electron Flow): Series - Parallel Networks (2 hours)
This 2-hour online course introduces you to some techniques that can be used to analyze many types of series-parallel circuits.

Circuit Analysis (DC Electron Flow): Series & Parallel Resistors (1 hour)
This 1-hour online course introduces terminology used to describe the relationships and describes how the series and parallel resistors combine in a circuit.

Coastal Engineering: Sea Level Rise (2 hours)
This 2-hour online course covers the fundamentals of sea level rise; why it is happening, how it is measured, how it is predicted, and the land use conflicts and problems that it brings. We will examine the controversy over measurement and prediction methods, and why the impacts are more keenly felt in some areas than others.

Coastal Engineering: Storm Surge (1 hour)
This 1-hour online course covers the basic concepts of storm surges and the factors that cause them. Nine out of ten hurricane fatalities are caused by the storm surge. The nature of the cause, local variations and damages caused are introduced as well as the vocabulary of storm surges, storm surge prediction and tidal datums.

Coastal Engineering: Tides (2 hours)
This 2-hour online course covers the basic concepts of the tides and the astronomical forces that cause them. The nature of global and local tidal variations is introduced as well as the vocabulary of tides and tidal datums.

Common Indoor Air Quality Measurements (1 hour)
This online course is a brief introduction to making measurements that might be needed in the course of developing an IAQ profile or investigating an IAQ complaint. It highlights the more practical methods, as well as notes inappropriate tests to avoid. The course provides suggestions for collecting and interpreting information on: temperature and humidity, airflow patterns, carbon dioxide, ventilation (outdoor) air quantities, and commonly measured environmental contaminants.

Communication & Leadership (4 hours)
This course teaches the basics of communication and leadership. The communication portion of the course focuses on the different modes and styles of communication, and how you can use this information to better communicate with a variety of people. The leadership portion of this course will help managers become better leaders by teaching them different leadership techniques, and when to use them.

Communication for Managers & Supervisors (2 hours)
This two hour online course teaches the basics of communication, such as the different modes and styles of communication. The course focuses on how you can use this information to better communicate with a variety of people.

Computerized Maintenance Management Systems (1 hour)
This 1-hour online course provides the student with a detailed study of Computerized Maintenance Management Systems (CMMS) and how the implementation of such systems can boost company profitability.

Concrete Evaluation & Repair 1 (6 hours)

This 6-hour online course is the first in a series that provides guidance on evaluating the condition of the concrete in a structure, relating the condition of the concrete to the underlying cause or causes of that condition, selecting an appropriate repair material and method for any deficiency found, and using the selected materials and methods to repair or rehabilitate the structure.

Concrete Evaluation & Repair 2: Repair Planning, Design & Implementation (8 hours)

This 8-hour online course is the second in a series that provides guidance on evaluating the condition of the concrete in a structure, relating the condition of the concrete to the underlying cause or causes of that condition, selecting an appropriate repair material and method for any deficiency found, and using the selected materials and methods to repair or rehabilitate the structure.

Concrete Fundamentals: An Introduction (2 hours)

This 2-hour online course introduces the student to the basic fundamentals of concrete.

Concrete: Self-Consolidating (SCC) (1 hour)

Self-Consolidating Concrete (SCC), also called self-compacting concrete, is a revolution in the field of concrete technology. SCC is a very fluid, high strength concrete that flows like water, compacts with little or no vibration, does not segregate, and is self-leveling. This 1-hour online course introduces the student to this new concrete product.

Construction Arbitration: An Introduction - Beginner (2 hours)

This 2-hour online course provides an overview of the arbitration process for the construction professional. Arbitration is often used to resolve disputes arising from the construction process, both during and after contract performance.

Construction Arbitration: A Brief Overview - Beginner (1 hour)

This 1-hour online course provides a brief overview of the arbitration process for the construction professional. Arbitration is often used to resolve disputes arising from the construction process, both during and after contract performance.

Construction Arbitration: Participating Effectively as a Party - Advanced (6 Hours)

This 6-hour online course teaches the construction professional how to participate effectively in the arbitration process as a party.

Construction Arbitration: Participating Effectively as a Party - Intermediate (4 hours

This 4-hour online course provides an overview teaching the construction professional how to participate effectively in the arbitration process as a party.

Construction Claims: Acceleration (1 hour)

This 1-hour online course provides a basic understanding of the two types of acceleration: directed and constructive, as well as a basic overview of acceleration in general.

Construction Claims: Changed Work (2 hours)

This 2-hour course provides a basic understanding of types of changes in work—directed or constructive change—and changed conditions. It provides an in-depth examination of cumulative impact, emphasizing how to identify types of change-related impacts, that includes a detailed discussion of the Leonard Study.

Construction Claims: Delay (3 hours)

This 3-hour online course provides a basic understanding of the types of delays in terms of impact and responsibility—non-prejudicial, prejudicial, excusable, compensable, noncompensable, and nonexcusable—and concurrent delays.

Construction Claims: Labor Productivity Loss (3 hours)

This 3-hour online course provides a basic overview of what is lost productivity and how to calculate damages resulting from it. It provides an in-depth examination of the causes of lost productivity, such as scheduled overtime, increased crew size, overcrowding, stacking of trades, impacts to the learning curve, out-of-sequence work, adverse weather, unavailability of materials, tools and equipment, and project characteristics.

Construction Claims: Termination (1 hour)
This 1-hour online course provides a basic understanding of the type of claim that results when an owner or contractor stops work on a project or stops a project altogether before the project has been completed. It focuses on the two different types of termination: termination for convenience and termination for default, including the criteria for each.

Construction Contract Law (2 hours)
This 2-hour online course will provide a general introduction to construction contract law. The discussion will include basic principles of contracts in general, as well as key aspects of construction contracting, including contracts between project owner and contractors, and between owners and their design professionals.

Construction Contract Law - Advanced (4 hours)
This 4-hour online course provides a general introduction to "Construction Contract Law" including basic principles of contracts and key aspects of construction contracting, including contracts between project owner and contractors, and between owners and their design professionals.

Construction Law Case Notes - ConstructionRisk.com Report [11/02] (1 hour)
This 1-hour online course consists of one monthly issue of the ConstructionRisk.com Report, the Nov./Dec 2002 edition, containing several case summaries of court decisions concerning design professionals, project owners and contractors.

Construction Law Case Notes - ConstructionRisk.com Reports #1 (3 hours)
This 3-hour online course consists of three monthly issues of the ConstructionRisk.com Report, the September 2002 edition through the November 2002 edition. It contains case summaries of court decisions concerning design professionals, project owners and contractors.

Construction Contract Time (1 hour)
The text of this 1-hour online course is taken from the Federal Highway Administration's Technical Advisory on construction contract time.

Construction Paperwork (3 hours)
This 3-hour course will acquaint participants with the construction paperwork necessary for successful project management.

Construction Payment Collections (2 hours)
This 2-hour online course is designed to help solve the problem of "getting your money", and avoid the problems which occur when payment for services or work rendered is delayed or denied.

ConstructionRisk.com Report Case Studies [Oct. 2002] (1 hour)
This 1-hour online course consists of one monthly issue of the ConstructionRisk.com Report, containing several case summaries of court decisions concerning design professionals, project owners and contractors.

Contract Basics: The Small Contracting Agreement (1 hour)
This 1-hour online course describes the basic construction of the small contracting agreement. It provides a look at an array of clauses that can be used to prevent misunderstandings with your customers.

Contract Guide for Design Professionals: Advanced (5 hours)
This 5-hour online course provides a review and discussion of the terms and conditions of design professional agreements with an analysis of risk management concerns including the insurability of contract clauses.

Contract Guide for Design Professionals: Basic Principles (2 hours)
This 2-hour online course provides a review and discussion of the terms and conditions of design professional agreements, with an analysis of significant risk management concerns including the insurability of the risks undertaken by way of the contract clauses.

Contract Guide for Design Professionals: Intermediate (3 hours)

This 3-hour online course provides a review and discussion of the terms and conditions of design professional agreements, with an analysis of significant risk management concerns including the insurability of the risks undertaken by way of the contract clauses.

Contractor Lawsuits Against Design Professionals: ConstructionRisk.com Report Case Summaries (2 hours)

This 2-hour online course contains case summaries of court decisions reported in the ConstructionRisk.com Report, in which contractors filed suit against design professionals. The contractors in these decisions alleged they were entitled to recover damages from the design professionals for a number of reasons.

Contracts for Professionals (1 hour)

This one hour online course deals with the subject of contracts, and their use by land surveyors and other professionals. Covered in this course are the benefits of preparing written contracts, the necessary elements of written contracts, voiding contracts and items, which design professionals, and land surveyors should always include in their written contracts.

Copyright Protection for Professionals (1 hour)

This one hour online course deals with the issue of protecting the drawings and maps that professional surveyors, architects, and engineers prepare for their clients, to prevent loss of control, misuse of plans and potential liability.

Corrugated Steel Pipe Durability (1 hour)

This 1-hour online course discusses the large number of types of coatings available and provides some guidelines for determining the life of a corrugated steel pipe.

CPM Scheduling (8 hours)

This course provides an overview of scheduling techniques, plus an introduction to the background, principles and techniques of Critical Path Method (CPM) Schedule application for the management and control of projects.

CPM Scheduling Part I (4 hours)

This 4-hour online course provides an overview of scheduling techniques, plus an introduction to the background, principles and techniques of Critical Path Method (CPM) Schedule application for the management and control of construction projects.

CPM Scheduling Part II (4 hours)

This online course is a continuation of CPM Scheduling Part 1. The course emphasizes the basic concepts of Critical Path Method scheduling and the application of those concepts. Topics covered include scheduling techniques, specifying the schedule, developing and integrating the schedule, relating schedule and cost, and delay claims and analysis.

Culvert Sizing using HY-8, Basics (3 hours)

This 3-hour on-line course discusses the basics of sizing a culvert using the FHWA program HY-8. This program is available free from FHWA and is a quick and simple tool to use. The course includes information on data necessary to evaluate a culvert, selection of appropriate design parameters and basic analysis of results.

Culvert Sizing using HY-8, Inlets (2 hours)

This 2-hour online course discusses the influence of inlet type and inlet control for culverts, using the FHWA program HY-8 to demonstrate impacts.

Data Validation for Engineers, Scientists & Contractors (1 hour)

This 1-hour online course reviews the basics of Data Validation, or the quality assurance review of technical data.

Dave Gibson's All-Star Lot & Block Boundary Cases (6 hours)

Discussing the legal points of a good boundary case is FUN and instructive!! This six hour online course presents interesting land boundary cases that I've enjoyed over the years. They are particularly instructive as to the proper application of boundary location principles for LOT AND BLOCK land parcels.

Dave Gibson's All-Star Metes & Bounds Boundary Cases (6 hours)

Arguing the legal points of a good boundary case is FUN and instructive!! This six hour online course presents interesting land boundary cases that I've enjoyed over the years. They are particularly instructive as to the proper application of boundary location principles for METES AND BOUNDS land parcels.

Daylighting in Design (2 hours)

Windows are an integral part of designing a home or interior, and the concept of incorporating daylight into that design is just as important. This two hour online course focuses on the relationship between the two subjects. This course gives the student a basic overview of the history of daylighting, description of window types, and factors necessary to consider when you are determining daylight strategy.

Design & Construction Claims: Prevention (5 hours)

This 5-hour online course provides an overview of design and construction potential disputes and claims. The course emphasizes the practical concepts of claims prevention and the application of those concepts by the owner; by the design professional; by the contractor; and even by the subcontractor.

Design of Detention Ponds for Parking Lots (4 hours)

This 4-hour online course discusses the basics of designing a detention pond for a parking lot or other similar hard-surface area. Engineers and architects are often required to include the design of a parking lot when designing a building. This basic course is intended for engineers and architects that do not have much training in hydrology and hydraulics.

Design of Small Water Systems (6 hours)

This 6-hour online course reviews the Army Corps of Engineers *Engineering and Design - Design of Small Water Systems* Manual.

Design within the Environmental Process (2 hours)

This 2-hour online course relates basic principles of environmental design to federal, state, and local regulations for environmental protection.

Design-Build - An Introduction (2 hours)

This 2 hour online course will review the most critical aspects of the design-build process, starting with why the process is being used by owners and concluding with some of the most common challenges of the system.

Design-Build in the Public Sector (3 hours)

This 3-hour online comprehensive course educates the student about the "ins and outs" of public sector design-build.

Design-Build: Lessons Learned from 2002's Caselaw (2 hours)

This 2-hour online course was created to review the lessons learned from ten design-build cases discussed in the 2002 edition of Design-Build Lessons Learned, an annual publication that analyzes the facts and lessons to be learned from reported design-build decisions. Each case discussed is unique and will provide you with an understanding of how to protect yourself from liability under a design-build relationship.

Design-Build Professional Liability Risk Management & Insurance - Advanced Level (3 hours)

This 3-hour online course addresses professional liability exposures of the design professional and contractor on projects that utilize the design-build method. Professional liability risks are analyzed in terms of owner expectations, risk allocation contained in the contract terms and conditions, court decisions applying contractual and legal principles affecting design-builders, and insurance and bonding considerations.

Design-Build Professional Liability Risk Management & Insurance - Beginner Level (2 hours)

This 2 hour online course addresses professional liability exposures of the design professional and contractor on projects that utilize the design-build method. Professional liability risks are analyzed in terms of owner expectations, risk allocation contained in the contract terms and conditions, and court decisions applying contractual and legal principles affecting design-builders.

Design-Build: Comparing the Latest in Standard Form Contracts (2 hours)

This 2-hour online course will review in detail the four most widely used standard form design-build contracts -- those families of documents developed by the American Institute of Architects ("AIA"), the Design-Build Institute of America ("DBIA"), Associated General Contractors of America ("AGC") and the Engineers Joint Contract Documents Committee ("EJCDC") (including the soon-to-be-released second edition of EJCDC's forms).

Designing for Occupant Comfort (1 hour)

This one hour online course covers the basics of comfortable environments, giving engineers or architects a foundation for designing buildings which are pleasant to be in. It covers the effects of body heat, as well as the conditions within a room which can affect comfort levels.

Determining Base Flood Elevations for Approximate Zone A Areas on FEMA Flood Maps (1 hour)

This 1-hour course will provide the user with sources and simplified methods for determining base (100-year) flood elevations (BFEs) for Zone A (also referred to as "approximate Zone A" or "unnumbered Zone A") on Federal Emergency Management Agency (FEMA) flood maps.

Developing & Managing a Project Budget (4 hours)

This 4-hour online course introduces the cost management concepts that are commonly used to create and control a project budget such as Resource Planning, Cost Estimating , Cost Budgeting and Cost Control The goal of this course is to orient professionals who have little or no training or experience in preparing a project budget.

Diagnosing and Mitigating IAQ Problems (4 hours)

This four hour online course is designed to introduce the principles for resolving indoor air quality problems. This online course provides criteria for: diagnosing a potential IAQ problem, judging potential mitigation strategies and determining whether a problem has been solved.

Diagnosing and Mitigating IAQ Problems Part I (2 hours)

This two hour online course is part one in a two part series designed to introduce the principles for resolving indoor air quality problems. Part I focuses on the procedures for diagnosing IAQ problems, while part II focuses on mitigating IAQ problems.

Diagnosing and Mitigating IAQ Problems Part II (2 hours)

This two hour online course is part two in a two part series designed to introduce the principles for resolving indoor air quality problems. Part I focused on the procedures for diagnosing IAQ problems, while part II focuses on mitigating IAQ problems.

Don Wilson's Court Decisions Every Surveyor Should Know About: Part 1 (2 hours)

This 2-hour online course presents four court decisions covering basic issues of surveying including defining what a survey is and dealing with overlapping descriptions.

Drinking Water Treatment: Arsenic Removal (1 hour)

In this 1-hour online course, the engineer will learn the latest information about the regulatory status of arsenic in drinking water, methodologies for evaluating arsenic treatment needs, and both established and innovative technologies for removing arsenic.

Ductile Iron Pipe (2 hours) This 2-hour on-line course discusses the characteristics of ductile iron pipe, the advantages of this type of pipe and the design criteria for proper selection of pressure class. It also briefly discusses joint types available and their applications and the old system of classification for ductile iron (such as Class 52). The material is taken from the Ductile Iron Pipe Research Association.

Bullet Catcher One: Dynamics - Simple Ballistics (2 hours)
This 2-hour online course examines the equations of motion and some of the limitations.

Bullet Catcher Three: Thermodynamics - Pilot Ejection Seat (4 hours)
This 4-hour online course examines the First Law and the generation of gas using solid propellant. Uniform state, steady state and non-steady state problems are analyzed.

Earthquake Mitigation and Design (1 hour)
This one-hour course takes a look at some of the techniques used in mitigating earthquake damage, and earthquake design.

Easements: Part 1 Basic Elements (3 hours)
This 3- hour online course is Part 1 of a three-part series covering easements and reversion rights. This course deals with the basic elements of easements and rights in land, particularly those interest which are less than absolute, or fee simple, ownership.

Easements: Part 2, Roads & Highways (2 hours)
This 2-hour online course contains information on the creation, alteration and termination of public highways and other types of roads. This is Part 2 of a three-part course concerning Easements & Reversion Rights.

Easements: Part 3, Reversion Rights (3 hours)
This 3-hour online course contains the elements of reversion and the results when reversion takes place. It also includes diagrams of the methods for the division of vacated streets. This is Part 3 of a three-part course series offered on RedVector.com concerning Easements & Reversion Rights.

Economic Conductor Selection (1 hour)
This one hour online course will enable the student to make economic conductor selections for utility power systems. Methods are presented that will allow the student to calculate the total annual operating cost of a line and methods are presented to determine the most economic conductor to choose for a given set of conditions.

Effective Project Team Building: Getting to Trust (2 hours)
This 2-hour online course familiarizes participants with a proven project team building process. This process involves the communication and negotiation of commitments between key project members called stakeholders.

Effective Public Relations for the Construction Industry (1 hour)
In this 1-hour online course, we cover practical elements of public relations such as writing a media release, working with the press for coverage, dealing with a crisis (such as an accident), and making public relations an effective marketing tool. Practical, detailed information is given.

Effective Writing Skills for Business and Industry (3 hours)
This course stresses the basic techniques, tips, and strategies needed to write effectively: clearly, concisely, and correctly. The techniques you'll learn are applicable to all workplace documents, including email, memos, letters, reports, proposals, and manuals

Electric Motors (3 hours)
This three hour online course is about electric induction motors. It covers how a motor works, the types of electric motors available, and how to apply an electric induction motor. The course looks at the relationship between motor speed, slip, and torque, and covers how to select a motor with the correct parameters for a particular load. Finally, all of the basic data on a motor nameplate is reviewed and explained.

Electric Motors & Generators: Basic Magnetics (1 hour)
This 1-hour online course provides the basis for understanding how motors and generators work from an intuitive (as opposed to a mathematical) standpoint.

Electric Motors & Generators: Generators and Alternators (2 hours)
This 2-hour online course provides the basis for understanding how generators and alternators work from an intuitive (as opposed to a mathematical) standpoint. No prior knowledge of magnetics is required beyond what is presented in the course titled “Electric Motors and Generators: Basic Magnetics.”

Electric Power - National Security & Economic Welfare (1 hour)
This one hour online course deals with existing procedures for setting electric power policy and its failure to consider the long-term national interests. The impact of these procedures on the cost and reliability of electric power in the USA is reviewed. The reasons for these failures are explored. Recent decisions by the FERC and DOE are reviewed based on our national problems resulting from the terrorism of September 11, 2001.

Electric Power Course 1: Really Basic Stuff About Electricity (1 hour)
This 1-hour online course covers the history of the development of electric power systems in the United States and their growth, contributions of key people, and the technological changes that have occurred over time. Emphasis is placed in providing an understanding of electricity and what it is, the reason our systems are three phase, AC and DC circuits, and why power flows.

Electric Power Course 2: Grids, Control Areas & VARs (1 hour)
This 1-hour online course discusses the regional grids, what is a grid, and interconnections. The use of the grid for power transfers including its operation and control is reviewed. The importance of Kirchhoff's Law, the flow of power on parallel paths, and reactive power are discussed. The newly emerging power exchanges, ISOs, and RTOs are reviewed.

Electric Power Course 3: Transfers & the New Structure of the Industry (1 hour)
This 1-hour online course covers electric power transmission, how the systems work, and how power can be transferred. Reliability criteria and the contingencies that must be provided for are reviewed. Ways of identifying the uses of the transmission system are discussed. The deregulation and new industry structure is also reviewed.

Electrical Conductor Sizing (2 hours)
This 2- hour online course covers the conductor sizing recommendations of several documents that cover several different applications. Wire size units and wire resistance calculations are also covered. Several examples are given.

Electrical Equipment: Specifying the 3-Phase Substation Transformer (5 hours)
In this 5-hour online course, you are assigned to write a transformer specification to present to bidders on a particular project. This course is written for the engineer who needs to write a technical specification for a 3-phase, substation transformer, Request for Proposal (RFP).

Electrical Protection Grounding (2 hours)
This two hour online course examines the methods used to provide grounding protection for both people and equipment. The purpose of protection grounding, National Electric Code requirements, and the various factors that affect electrical grounding are discussed. Design calculations are presented for single rod grounding systems, linear grounding systems, and rectangular grid grounding systems.

Electrical Systems (1 hour)
This one hour online course is a brief review of electrical systems and their design. It covers circuits, receptacles, lighting, switches, conductors, conduit sizing and other related topics. This course also reviews useful terminology.

Energy Conversion Systems (1 hour)
Advanced energy conversion technologies will play a vital role in the future well-being of the United States. As a reliable, affordable energy resource, coal and gas fuels will power economic growth, and help us achieve environmental goals at the same time. In this one-hour online course, energy conversion systems, their breakdown, descriptions, benefits, basic concepts and glossary are presented.

Engineering Economic Analysis (5 hours)
This five hour online course is a review of engineering economy analysis concepts. The course reviews the basic concepts of economic analysis including the time value of money, cash flow diagrams, and present value methods.

Environmental Compliance (3 hours)

This 3-hour online course reviews the body of relevant law at the Federal level and in the states of Louisiana and New Jersey as it is codified and promulgated into specific regulations. The course addresses the Clean Air Act and amendments, the Clean Water Act and amendments, the Oil Pollution Act of 1990, the Resource Conservation and Recovery Act with SARA amendments, CERCLA, EPCRA and related OSHA actions, and other relevant Federal programs along with parallel State legislation and implementation policies.

Envrionmental Qualification of Class 1E Electrical Equipment for Nuclear Plants (1 hour)

This 1-hour course is an introduction to the subject of environmental qualification of electrical equipment for nuclear reactors.

Environmental Risks: Construction Risk.com Report Case Summaries (2 hours)

This 2-hour online course contains case summaries of six court decisions involving design professionals or contractors who performed environmental remediation work or encountered environmental conditions on job sites and incurred risk or liability as a result. Other cases that are discussed include potential Superfund liability of an engineer, suits against remediation engineers and contractors, asbestos liability of a construction contractor, and the question of whether damages are covered under a commercial general liability policy.

Erosion & Sediment Control (8 Hours)

This 8-hour online course will present an erosion and sediment control design manual and require the student to employ design standards that are applicable to construction projects anywhere. The erosion of soil during construction activities arguably presents the most significant source of water pollution in the U.S. There should be little argument that it is certainly the most preventable. Over the past two decades, significant progress has been made in the development of best management practices designed to both prevent erosion by diverting storm water and to treat sediment-laden runoff prior to its discharge from the construction site.

Erosion and Sediment Control - An Overview (4 hours)

This 4-hour online course outlines the principles and practices of erosion and sediment control. It provides you with information needed to develop a comprehensive erosion and sediment control plan, as well as how to select and install the correct sediment control devices in the field. Topics covered include; The Natural Erosion Process, Predicting Soil Loss, Rules and Regulations, Storm Water Runoff, Stable Channel Design, Sediment Control Practices, Vegetative Soil Stabilization, and Developing Sediment and Erosion Control Plans.

Ethical Decision Making for Engineers (4 hours)

In this 4-hour online course, standards of ethical conduct are examined in a variety of situations amply illustrated with case studies. The engineer will focus on ethical issues in contemporary professional practice by looking at a sampling of “real” ethical issues that other professionals sometimes face. Using the NSPE Code of Ethics for Engineers as a guide and applying the ethical decision making model, the engineer will examine some of the everyday complex issues of professional practice, such as whistle blowing, confidentiality and gifts.

Ethical Decision Making for Engineers Part I (2 hours)

In this 2-hour online course (part 1 of 2), standards of ethical conduct are examined in a variety of situations amply illustrated with case studies. The engineer will focus on ethical issues in contemporary professional practice by looking at a sampling of “real” ethical issues that other professionals sometimes face. Using the NSPE Code of Ethics for Engineers as a guide and applying the ethical decision making model, the engineer will examine some of the everyday complex issues of professional practice, such as whistle blowing, confidentiality and gifts.

Ethical Decision Making for Engineers Part II (2 hours)

In this 2-hour online course (part 2 of 2), standards of ethical conduct are examined in a variety of situations amply illustrated with case studies. The engineer will focus on ethical issues in contemporary professional practice by looking at a sampling of “real” ethical issues that other professionals sometimes face. Using the NSPE Code of Ethics for Engineers as a guide and applying the ethical decision making model, the engineer will examine some of the everyday complex issues of professional practice, such as whistle blowing, confidentiality and gifts.

Ethics for Professional Architects (4 hours)

In this 4 hour online course, standards of ethical conduct are examined in a variety of situations amply illustrated with case studies. The architect will focus on ethical issues in contemporary professional practice by looking at a sampling of "real" ethical issues that other professionals sometimes face. Using the AIA Code of Ethics as a guide and applying the ethical decision making model, the architect will examine some of the everyday complex issues of professional practice, such as conflicts of interest, whistle-blowing, safety, confidentiality and gifts.

Ethics for Professional Architects Part I (2 hours)

Unethical conduct by prominent individuals in various professions from government to business, from teaching to architecture, is constantly being reported in the news. In a time when our moral foundations are continually being questioned, what tools do architects have to deal with ethical dilemmas? In this online course, standards of ethical conduct are examined in a variety of situations amply illustrated with case studies.

Ethics for Professional Architects Part II (2 hours)

Unethical conduct by prominent individuals in various professions from government to business, from teaching to architecture, is constantly being reported in the news. In a time when our moral foundations are continually being questioned, what tools do architects have to deal with ethical dilemmas? In this online course, standards of ethical conduct are examined in a variety of situations amply illustrated with case studies.

Ex Situ Remediation Technologies for Contaminated Soils (5 hours)

This 5-hour online course gives an overview of Ex Situ Remediation Technologies for Cleanup of Contaminated Soils. It also describes containment technologies (such as landfill cap) and confined disposal facilities. It is designed for scientists and environmental/civil engineers who are directly or indirectly involved in the remediation of contaminated soil, sediment and/or sludge. This course describes in detail the fundamental concepts of different ex situ remediation treatments.

Excavation Safety and Shoring/OSHA (4 hours)

This 4-hour online course will give the student a basic understanding of OSHA approvable shoring, sloped sidewall trenches, and safety measures for excavations. As an engineer or competent person you will learn valuable skills in identification of site conditions, selection of shoring, construction, and inspection.

Facilities Management (1 hour)

This 1-hour online course is an overview of the facilities management function within a company. The course begins with details of the responsibilities of a facility manager and then provides additional details of the maintenance responsibilities.

Facilities Management, An Introduction (3 hours)

This 3-hour online course serves as an overview of Facilities Management as a business and as a profession, covering both theoretical and applied aspects.

FEMA Letters of Map Amendment/Revision (4 hours)

This 4-hour online course provides an overview of the National Flood Insurance Program's Letter of Map Change Process. A thorough, step-by-step analysis and description of the Letter of Map Change process will be discussed including the requirements for Letters of Map Revision/Amendment, Conditional Letters of Map Revision/Amendment, and Letters of Map Revision based of Fill Letters of Determination Review (LODR). This course also begins with an overview of how to find and use data found in a Flood Insurance Study (FIS).

Feng Shui, The Basics (1 hour)

This1-hour online course introduces the student to this ancient science of harmony and placement – its source, why we should care, and where to begin.

Finance & Accounting for the Non-Financial Manager (4 hours)

This 4-hour online course is designed for the professional who needs to develop a working knowledge of finance and accounting in order to be a better manager. One cannot run any part of a business without having a working knowledge of finance and accounting. Having this knowledge enables you to do something with the reports that come out every month, to work with vendors and customers in negotiating payment terms and credit, and in planning for the future.

Finite Element Analysis (3 hours)
This 3-hour online course introduces the basics, along with some intermediate and advanced topics of the finite element method. The finite element method will be used in a step-by-step approach to evaluate the deflection of a simply supported beam with a known bending moment applied. The steps required for a finite element analysis will be presented and explained. The steps presented include creating the solid model; defining the element type; creating the mesh; assigning material properties; applying loads and boundary conditions; and verifying the results.

Fire Prevention Basics and Design (2 hours)
This 2-hour online course is a brief introduction to the management of fire risk and the engineering and design of fire safety measures. It begins with a review of the nature of fire and its causes. It then moves on to fire prevention and means of escape.

Flood Mitigation and Special Flood Hazard Areas (4 Hours)
This 4-hour online course covers some of the basic facts about flooding, as well as the different flood zones. It also focuses on techniques used to mitigate flooding problems in special flood hazard areas. This course focuses on some of the steps that should be taken on buildings in special flood hazard areas. It covers the requirements for openings in foundations, walls and wet flood proofing, as well as flood resistant materials.

Flow in Gutters (1 hour)
This 1-hour online course provides a discussion of various gutter cross-sections and presents equations necessary to compute the flow rate and depth of flow in gutter sections of streets and roadways. The depth of flow and corresponding width of flow are often design constraints. In order to improve safety of roadways, runoff should generally not be allowed in driving lanes. In order to compute the amount of water that is intercepted by an inlet, the depth of flow must be determined. The text of the course is taken from the Federal Highway Administration's circular on Urban Drainage.

Fourier Transforms & Analysis Windows (2 hours)
This 2-hour online course introduces the student to the effects of temporal windowing on the "Fourier Transform" of a signal.

Frost's Survey- A Dave Gibson Metes and Bounds Case (2 hours)
This 2-hour online course presents one interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for Metes & Bounds parcels. It introduces many of the principals of boundary surveying in a systematic fashion.

Fuel Cell Power Systems (2 hours)
This two hour online course is a review of the current technology for using fuel cells to generate electricity. Fuel cells are a promising fuel source for many applications ranging from large generating plants, to small home power sources, to portable power sources. Fuel cells use hydrogen as the fuel source and they generate electricity in an environmentally clean, quite, and safe manner.

Gas Turbine Performance Enhancements (1 hour)
This 1-hour online course identifies and describes several methods of enhancing the performance of gas turbines (also known as combustion turbines, or GTGs). By enhancing the performance, we mean increasing power output and /or improving the efficiency. The enhancements are described in terms of the hardware that can be included in the design or added as retrofits. Derivations of formulas are avoided, and while the bases of the enhancements are explained, this course does not delve very deeply into thermodynamics.

General Nuclear Worker Radiation Training (1 hour)
This 1-hour online course gives the student an understanding of the basic radiological knowledge requirements for nuclear plant workers who must work in areas where they may be exposed to ionizing radiation.

General Project Management Part I (2 hours)
This 2-hour online course will acquaint the participants with the tools and techniques required to successfully manage a project. It is a well-known fact that formal education does not prepare us for the challenges of managing projects. However, more and more firms are assigning professionals, with little or no project

management experience to these positions. This course provides the participants with a reference tool to be used as a building block for continued education. It is broken into two parts - I and II. This is part one. Part one includes Introduction to Project Management and Project Management Leadership and the Project Team.

General Project Management Part II (3 hours)

This 3-hour online course will acquaint the participants with the tools and techniques required to successfully manage a project. It is a well-known fact that formal education does not prepare us for the challenges of managing projects. However, more and more firms are assigning professionals, with little or no project management experience to these positions. This course provides the participants with a reference tool to be used as a building block for continued education. It is broken into two parts - I and II. This is part two. Part two touches on the project cycle and context, project planning, and project controlling and reporting. It is recommended, but not required, that the student take part one before part two.

General Property Surveys & Real Property Law (4 hours)

There are two primary systems that form the basis of land descriptions in the United States. Those systems are the metes and bounds survey and the public lands survey. Both systems start with research. This 4-hour online course will explain the steps a land surveyor must take when doing the research required for a project.

General Nuclear Worker Training (1 hour)

This 1-hour online course provides a general overview of the job knowledge requirements for a worker at a nuclear power plant.

GIS: The Very Basics (1 hour)

This one hour online course is a brief introduction to Geographical Information Systems, or GIS. Today, GIS is being used in business and industry, education and environment, and much more. The powerful tool gives users the ability to associate information with a feature on a map and to create new relationships. This course answers the question “What is GIS?”. The student will also learn about the components of GIS, what you can do with GIS, and how to analyze GIS products. This course also includes a glossary of helpful GIS terms. This course is a broad review, and does not entail a lot of detail.

Giving a Deposition (1 hour)

The moment has come, you have been DEPOSED. The papers have been received, the stage has been set. YOU are about to be on that stage. Do you know what that means? How do you prepare? What now? This 1-hour online course answers those questions, and reviews information, which will help you get through a deposition and testimony. Specific topics discussed include actions during discovery, characteristics of a deposition, preparing for a deposition and hints for giving testimony.

Gravel Road Design, Construction & Maintenance (5 hours)

The purpose of this 5-hour online course is to provide clear and helpful information for doing a better job of maintaining gravel roads. It is recognized that very little technical help is available to small agencies that are responsible for managing these roads. Gravel maintenance has traditionally been "more of an art than a science" and very few formal standards exist. This leads to many arguments between grader operators, managers, and motorists over questions such as: What is enough surface crown? What is too much? What causes corrugation? This course contains guidelines to help answer these and other questions about the maintenance of gravel roads.

Gravity Sewer Design (1 hour)

Gravity sewer design is one of the most common design tasks facing the civil engineer. All states have minimum design criteria that dictate gravity sewer design. This 1-hour online course takes the student on a step-by-step journey through a standard set of regulatory design requirements, introduces the justification behind those requirements, and allows the student to implement the design criteria. This course includes a multiple-choice quiz at the end.

Ground Fault Circuit Interrupters - Operational Overview & NEC Requirements (1 hour)

This 1-hour online course provides a description of the operational theory and purpose of ground fault circuit interrupters (GFCIs).

Groundwater Hydrology (6 hours)

This 6-hour online course reviews the Army Corps of Engineers *Engineering and Design - Groundwater Hydrology* Manual. This basic course covers such topics as subsurface distribution, groundwater forces, confined/unconfined aquifers, hydraulic conductivity, storage, transmissivity, general flow equations, flow nets, pumping wells, porosity, specific yield, groundwater studies, field investigation methods, computer modeling, and surface water/ground water interactions.

Guide to Development in FEMA's Regulatory Floodway (1 hour)

This 1-hour online course provides the user with a comprehensive overview of the Federal Emergency Management Agency (FEMA) "regulatory floodway," or simply the "floodway." This course examines special considerations for development associated with the floodway, which must be understood by engineers, building officials, developers, and others.

Guide to the FEMA Elevation Certificate (2 hours)

The Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP). This 2-hour online course provides an overview of using the FEMA elevation certificate, including a step-by-step description of how to correctly complete the certificate. This course was adapted from a power point presentation and includes a lot of useful slides.

Hazardous Waste: The Basics (3 hours)

Are you confused by all of the jargon and acronyms used regarding hazardous waste and remediation? What do you know about the latest (real or perceived) threats to groundwater or air quality? Do you want to learn whether your neighbor's stash of trash and rusted drums is merely annoying or legally hazardous? Learn the background to answer these and other questions in this course **"**Basics of Hazardous Waste." This 3-Hour online course is presented in two sections, with a multiple-choice quiz at the end of each section.

Hazardous Waste: Treatment (4 hours)

Are you concerned about the latest (real or perceived) threat to groundwater or air quality? Do you want to learn the best methods to render it legally non-hazardous? Learn the answers to these and other questions in this 4-hour online course "Hazardous Waste Treatment." It is assumed that students already have a working knowledge of hazardous waste definitions, acronyms, RCRA and Superfund issues, either through their own experience or through taking the course "Hazardous Waste: Basics" also offered on RedVector.com.

HEC-RAS - Open Channel Flow Basics (3 hours)

This **3-hour** online course discusses the basics of computing open-channel flow using the US Army Corps of Engineers program HEC-RAS.

Henderson et al - A Dave Gibson Metes and Bounds Case (2 hours)

This 2 hour online course presents one interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for Metes & Bounds parcels. It introduces many of the principals of boundary surveying in a systematic fashion.

Highway Rumble Strips (1 hour)

This 1-hour course contains information on state-of-the-practice for the design and installation of shoulder rumble strips and provides guidelines for their use on appropriate rural segments of the National Highway System (NHS).

How to Calculate Markup and Profit (2 hours)

If you don't know how to figure the right markup and profit that you need to make your business a success, then this 2-hour online course will show you how. The course will also give you the right approach and formulas you need to correctly figure your markup. When you've finished this course, you'll thoroughly understand what markup is and how to arrive at it.

How to Market Your Architectural, Engineering and Construction Services Like Magic! (4 hours)

This 4-hour online course is designed to enhance the marketing capabilities of Architects, Engineers and Contractors. This course will show the student how to develop and build dynamic promotional materials that will attract more customers, sales, referrals, repeat business, and qualify leads.

How to OSHA Proof Your Construction Operations (3 hours)
This 3-hour online course, overflowing with proven strategies and techniques, will show the contractor, sub-contractor, architect, engineer, project manager, superintendent, and operations manager how to effectively safeguard their construction operations from OSHA and its enormous fines.

Homeland Security 2: DoD Minimum Antiterrorism Standards for Buildings (3 hours)
This **3-hour** online course presents the DoD Minimum Antiterrorism Standards for Buildings (UFC 4-010-01, dated July 2, 2002), issued under the authority of DoD Instruction Number 2000.16, *DoD Antiterrorism Standards* that requires DoD Components to adopt and adhere to common criteria and minimum construction standards to mitigate antiterrorism vulnerabilities and terrorist threats.

Homeland Security 1: Protecting Building Environments Against Airborne Chemical, Biological & Radiological Attacks (2 hours)
This 2-hour online course identifies actions that a building owner or manager can implement without undue delay to enhance occupant protection from an airborne chemical, biological, or radiological (CBR) attack.

Homeland Security 3: Safe & Secure Whole Building Design and Construction (4 hours)
This 4-hour online course focuses on designing and constructing safe and secure buildings in light of the terrorist attacks on September 11, 2001, in conjunction with sustainability objectives. It emphasizes an integrated, "whole building approach" and the four fundamental principles of safe building design: Plan for Fire Protection, Ensure Occupant Safety and Health, Resist Natural Hazards, Provide Security for Building Occupants and Assets.

HVAC Systems and Indoor Air Quality (2 hours)
This 2-hour online course provides information about specific HVAC system designs and components in relation to indoor air quality. It also serves as an introductory material for building owners and managers who may be unfamiliar with the terminology and concepts associated with HVAC (heating, ventilating and air conditioning) system design. This course covers types of HVAC systems and components of HVAC systems. It also reviews some important ASHRAE standards and guidelines.

Hydraulic Accumulators - An Introduction (1 hour)
This 1-hour online course describes the various types of accumulators, and the reasons that one may be preferred over the other.

Hydraulic Motor Selection for Industrial Conveyors (3 hours)
This 3-hour online course describes procedures for selecting a hydraulic motor to drive industrial conveyors. Advantages and disadvantages of hydraulic motors are listed and engineering theory is described with special emphasis on maximizing efficiency. A model is used to help the student visualize the fluid parameters that affect efficiency. Two types of fluid circuits are described and their relative efficiencies are discussed. Load parameters of conveyors are discussed relative to their impact on hydraulic motor selection. Also, two example problems are worked out to demonstrate the selection procedure for both circuit types.

IAQ: Humid Climate Issues (8 hours)
This 8-hour online course examines Indoor Air Quality (IAQ) issues related to building, design, construction, maintenance, and occupant health in humid climates. Case studies will illustrate architectural and engineering design considerations. The studies also analyze solutions to existing moisture intrusion and IAQ problems. The course also reviews the legal aspects of owner and occupant claims due to moisture intrusion and IAQ.

IAQ: HVAC Systems & Common Measurements (3 hours)
This 3-hour online course is broken up into two sections. The first section provides information about specific HVAC system designs and components in relation to indoor air quality. It also serves as an introductory material for building owners and managers who may be unfamiliar with the terminology and concepts associated with HVAC (heating, ventilating and air conditioning) system design. The second half of the course is a brief introduction to making measurements that might be needed in the course of developing an IAQ profile or investigating an IAQ complaint. It highlights the more practical methods, as well as notes inappropriate tests to avoid.

In Situ Remediation Technologies for Contaminated Soils (4 hours)

This 4-hour online course gives an overview of in situ remediation technologies for cleanup of contaminated soils. It is designed for scientists and environmental/civil engineers who are directly or indirectly involved in the remediation of contaminated soil, sediment and/or sludge. The course describes in detail the fundamental concepts of different in situ remediation treatments.

Indoor Air Quality: Introduction, Diagnosing & Mitigating (8 hours)

This 8-hour online course is designed to introduce the principles for identifying and preventing indoor air quality problems. The material covers the factors affecting indoor air quality and the procedures for establishing and maintaining a communications system that can help prevent and resolve indoor air quality problems. This course also describes a method for discovering the cause of the complaint and presents a "toolbox" of diagnostic activities to assist you in collecting information.

Industrial and Outdoor Lighting (5 hours)

This 5-hour online course covers the theory of lighting, the characteristics of the most common illumination sources, the types of lighting fixtures available, and how to design a lighting system. The course presents a detailed explanation of lighting including electromagnetic wave theory, optics, and photometrics.

Industrial Noise Control (3 hours)

This three hour online course is an introduction to industrial noise control. The course describes the characteristics of sound and how sound levels are calculated and measured.

Insurance Coverage Disputes - ConstructionRisk.com Report Case Summaries (2 hours)

This 2-hour online course contains eleven case summaries of court decisions reported in the ConstructionRisk.com Report, in which contractors and other parties sued insurance carriers for denying coverage for damages and claims under various insurance policies.

Insurance for Construction Defects (3 hours)

This 3-hour online course provides a combination of a technical and legal overview and analysis of how insurance for construction defects can be included in various insurance policy forms such as commercial general liability, builder's risk and professional liability policies.

Insurance for Design-Build and Complex Projects (2 hours)

This 2 hour online course provides a comprehensive overview of the types of insurance coverage available to protect design professionals and contractors against liability on design-build projects, large projects and complex projects.

Intelligent Transportation Systems & National ITS Architecture: An Overview (4 hours)

This 4-hour online course provides an overview of the Intelligent Transportation Systems (ITS) and the national ITS architecture. First, it describes ITS, its history, objectives, significance, and current emphasis. Next, it describes and explains the ITS Architecture concept, national ITS Architecture, and key architecture components that include user services, logical and physical architecture, data flows and processes, market packages, etc.

International Engineering (1 hour)

This 1-hour online course is designed to provide a flavor of the differences between engineering work in the U.S. and that done internationally.

Introduction to Construction Mediation: Beginner (2 hours)

This 2-hour online course provides an overview to teach the construction professional basic principles of the mediation process.

Introduction to Electronic Component Packages (1 hour)

This 1-hour online course is designed as an introduction to the types of electronic component packages available, why each package is used, and the advantages/disadvantages of each package style.

Introduction to FEMA Flood Maps and Flood Studies (3 hours)

This three hour online course will provide the user with a background of the National Flood Insurance Program (NFIP), Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FIS).

Introduction to Indoor Air Quality (4 hours)
Indoor Air Quality Issues (4 hours) is a basic orientation course designed to introduce the principles for identifying and preventing indoor air quality problems.

Introduction to Indoor Air Quality Part I (2 hours)
This online course is designed to familiarize the practicing professional with the factors affecting indoor air quality and the procedures for establishing and maintaining a communications system that can help prevent and resolve indoor air quality problems.

Introduction to Indoor Air Quality Part II (2 hours)
Introduction to Indoor Air Quality Part II is a follow-up course to Part I. The course touches on what to look for during inspections and how to use that information to diagnose a problem.

Introduction to Mineral Soils (1 hour)
This 1-hour online introductory course focuses on general aspects of soil mineralogy and attempts to relate it to chemical and physical properties of soil related both to agronomical, environmental and engineering aspects.

Introduction to Photovoltaics (2 hours)
The information in this two-hour online course was taken from DOE materials and is a brief introduction to the process of turning light energy into electricity. This course also includes the history of photovoltaics, as well as examples of PV systems in practical use.

Introduction to Whole Building Design (1 hour)
This one hour online course focuses on some of the building techniques used in whole building design, including: Passive solar energy, Photovoltaic systems, Trombe panels, Shading/Overhangs, Window glazing options, Natural Ventilation.

Laying Floor Tiles: A Case Study (1 hour)
This 1-hour online course takes you through a case study of an interior floor project wherein the author changes the interior floor covering of his very own home from wall-to-wall carpeting to ceramic tile.

Landscape Architecture: Energy Saving Tips (1 hour)
This one hour online course focuses on simple landscape architecture techniques that will help cut a homeowner's energy costs. It covers climate and design considerations as they relate to shading and windbreak planning.

Landscaping with Native Plants (1 hour)
This one hour online course explores the benefits of using native plants in your landscaping plans. The course examines the main economic and environmental reasons landscape architects should incorporate native plants into their designs. It also takes a look at some of the design principals related to using native plants.

Lead Safety (5 hours)
This five hour online course focuses on preventing and dealing with lead poisoning in the construction industry.

Leadership for Managers & Supervisors (2 hours)
This two hour online course will help managers become better leaders by teaching them different leadership techniques, and when to use them.

Lighting Calculations (1 hour)
This one hour online course reviews basic lighting terms and lighting calculations. Some of the concepts covered include accent lighting and beam spread, the amount of luminance needed for certain tasks, and techniques used to calculate the number of fixtures needed in a certain space.

Lighting Fixtures and Energy Efficiency (5 hours)
This five hour online course focuses on the importance of energy saving lighting fixtures, and how to select them.

Look Inside My Toolbox (1 hour)
This 1-hour online course is a look inside a real contractor's toolbox. Pictures of the toolbox and the tools have been provided, along with an assessment of the relative utility of each tool.

Lot 21 -- A Dave Gibson Lot and Block Case (2 hours)
This 2 hour online course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for LOT AND BLOCK parcels. It introduces many of the principals of boundary surveying in a systematic fashion.

Low Pressure Sewer Design (2 hours)
This 2-hour online course provides a design procedure for low pressure sewer systems.

Managing Communication, Documentation & Reports (2 hours)
This 2 hour online course reviews and analyzes risks of communication, documentation and report writing.

Managing Water Use in Businesses and Homes (2 hours)
This two hour online course focuses on some of the basic strategies of water management, and how to implement them.

Manholes - Head Loss Calculations and Sizing (2 hours)
This 2-hour online course provides a discussion on and equations for computing head losses in manholes.

Material Considerations in Steel - Brittle Fracture (An Overview) (1 hour)
This one hour online course does not address fracture mechanics but rather reviews the parameters of brittle fracture that affect structural design.

Mitigating Urban Heat Islands (1 hour)
This one hour online course takes a closer look at the phenomenon, and some of the ways to help cities “chill out”. Some of the solutions discussed in this program include landscape architecture techniques, and the use of cool roofs.

Mold Remediation in Schools & Commercial Buildings (4 hours)
This 4-hour online course describes mold prevention, control, and remediation techniques, as recommended in *Mold Remediation in Schools and Commercial Buildings,* prepared by the Indoor Environments Division of the U.S. Environmental Protection Agency.

Motivating Employees (2 hours)
This two hour online course deals with motivating your employees so that they can perform at their peak.

National Electrical Code Grounding (4 hours)
This four hour online course is a review of Article 250 of the 2002 National Electrical Code® which describes proper grounding and electrical bonding procedures.

NDA Drilling Safety Guide (3 hours)
This 3-hour online course reviews the National Drilling Association's Drilling Safety Guide.

NDA Groundwater Knowledge (4 hours)
This 4-hour online course requires you to review the NDA's Driller Handbook, which is included as a PDF file download. After reviewing the handbook, you will be asked to answer 43 quiz questions testing your level of groundwater knowledge.

NDA Monitor Well Construction (6 hours)

This 6-hour online course requires you to review the NDA's Driller Handbook, which is included as a PDF file download. After reviewing the handbook, you will be asked to answer 75 quiz questions testing your knowledge of monitor well construction.

New York City Guidelines on Assessment & Remediation of Fungi in Indoor Environments (1 hour)

This 1-hour online course describes guidelines developed by the New York City Department of Health for assessment and remediation of indoor mold contamination.

Noise Mitigation Through Design (1 hour)

This one hour online course focuses on some of the techniques that help quiet our home and work environments, from site planning to specific design techniques.

Nuclear Plant Security Systems (1 hour)

This 1-hour online course introduces the student to the design of security systems for commercial nuclear power plants.

Occupancy Sensors Part 1 - The Technologies (1 hour)

This 1-hour online course provides a basic understanding of the three primary technologies used in occupancy sensors.

Occupancy Sensors Part 2 - Applications (1 hour)

This 1-hour online course provides an understanding of the proper application of the two major types of occupancy sensor technologies.

Occupancy Sensors Part 3 - Economics (2 hours)

This 2-hour online course provides an understanding of the economics of occupancy sensors. The importance of location, direction of aim, and environmental factors is discussed as it relates to reliable operation and the economics. This course is Part III of a three-part series on occupancy sensors. The other courses , “Occupancy Sensors Part 1 – The Technologies” and “Occupancy Sensors Part 2 – Applications”, are also available from RedVector.com Inc.

Onsite Wastewater Treatment - Additives & Water Softeners (1 hour)

This 1-hour online course discusses the types of septic tank additives commonly used and their impacts on the system.

Onsite Wastewater Treatment - Design Basics (4 hours)

This 4-hour online course presents the design basics of onsite wastewater treatment systems. The material is taken from a recently published EPA document on Onsite Wastewater Treatment.

Onsite Wastewater Treatment – Disinfection (1 hour)

This 1-hour online course presents the design considerations for disinfection for onsite systems.

Onsite Wastewater Treatment - Dosing (1 hour)

This 1-hour online course presents design of dosing systems. While many onsite wastewater systems are conventional gravity systems, the use of pumps and siphons for dosing is becoming more common.

Onsite Wastewater Treatment - Flows & Quality (4 hours)

This 4-hour online course presents information regarding the design flows to be used for residential and commercial developments.

Onsite Wastewater Treatment - Intermittent Sand Filters (1 hour)

This 1-hour online course describes intermittent sand filters, their applications, design and performance in onsite wastewater systems.

Onsite Wastewater Treatment - Nutrient Removal (1 hour)

This 1-hour online course discusses the types of systems available to remove these two nutrients and the effectiveness of these systems.

Onsite Wastewater Treatment - Recirculating Sand Filters (2 hours)
This 2-hour online course describes recirculating sand filters, their applications, design and performance in onsite wastewater systems. Recirculating sand filters provide an economical choice for advanced treatment, beyond that achieved by a standard septic tank and drain field. They are particularly applicable to commercial sites and to serve multiple residences.

Onsite Wastewater Treatment - Septic Tanks (2 hours)
This 2-hour online course presents the design considerations for septic tanks and for septage.

Open Channel Hydraulics I: Introduction and Energy Balance (2 hours)
This two hour online course is the first of several RedVector.com courses presenting the basic hydraulics of open channel flow, the field of engineering fluid mechanics encompassing free-surface discharge.

Open Channel Hydraulics II: Force Balance and Critical Depth (2 hours)
This two hour online course is the second of a RedVector.com series presenting the basic hydraulics of open channel flow, the field of engineering fluid mechanics encompassing free-surface discharge.

Open Channel Hydraulics III: Uniform Flow (2 hours)
This two hour online course is the third of a RedVector.com series presenting the basic hydraulics of open channel flow, the field of engineering fluid mechanics encompassing free-surface discharge.

Open Channel Hydraulics IV: Introduction to Water Surface Profiles (2 hours)
This two hour online course is the fourth of a RedVector.com series presenting the basic hydraulics of open channel flow, the field of engineering fluid mechanics encompassing free-surface discharge.

Open Channel Hydraulics V: More Water Surface Profiles (2 hours)
This two hour online course is the fifth of a RedVector.com series presenting the basic hydraulics of open channel flow, the field of engineering fluid mechanics encompassing free-surface discharge.

OSHA Concrete and Masonry Construction (2 hours)
This online course is a brief review of Concrete and Masonry Construction Regulations as posted under Subpart Q, Part 1926, from OSHA's Safety and Health Regulations for Construction.

OSHA Cranes, Derricks, Hoists, Elevators & Conveyors (3 hours)
This online course is a brief review of Regulations regarding cranes, derricks, hoists, elevators, and conveyors as posted under Subpart N, Part 1926, from OSHA's Safety and Health Regulations for Construction.

OSHA Demolition (1 hour)
This online course is a brief review of Regulations regarding Demolition as posted under Subpart T, Part 1926, from OSHA's Safety and Health Regulations for Construction.

OSHA Electrical Regulations (5 hours)
This five hour online course is a brief review of Electrical Regulations as posted under Subpart K, Part 1926, from OSHA's Safety and Health Regulations for Construction.

OSHA Fatal Accidents & Prevention (2 hours)
This online course is developed from OSHA accident reports and is taken directly from OSHA's Fatal Facts. It covers numerous types of accidents.

OSHA Fire Protection & Prevention (4 hours)
This four hour online course is a review of OSHA's Fire Prevention and Protection Regulations taken directly from Subpart F, Part 1926, Safety and Health Regulations for Construction.

OSHA Tools- Hand and Power (3 hours)
This online course is a brief review of Government Regulations regarding Tools - Hand and Power as posted under Subpart I, Part 1926, from OSHA's Safety and Health Regulations for Construction.

OSHA Underground Construction (4 hours)
This online course is a brief review of Government Regulations regarding Underground Construction, Caissons, Cofferdams and Compressed Air as posted under Subpart S, Part 1926, from OSHA's Safety and Health Regulations for Construction.

OSHA Welding and Cutting (2 hours)
This two hour online course is a brief review of Government Regulations regarding Welding and Cutting as posted under Subpart J, Part 1926, from OSHA's Safety and Health Regulations for Construction.

Overview of Electric Power Systems (1 hour)
This one hour online course explains how the various utility components make up the overall power grid as well as a working knowledge of the electric utility industry.

Palm Court - A Dave Gibson Lot and Block Case (2 hours)
This 2 hour online course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for LOT AND BLOCK parcels.

Palm Harbor - A Dave Gibson Lot and Block Case (2 hours)
This 2 hour online course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for LOT AND BLOCK parcels. It introduces many of the principals of boundary surveying in a systematic fashion.

Parking Lot Storm Drain Design (2 hours)
This 2-hour online course discusses the basics of designing an adequate system for storm drainage for a parking lot or other similar hard-surface area.

Participating Effectively as a Party in Construction Mediation: Advanced (6 hours)
This 6-hour online course provides an overview to teach the construction professional how to participate effectively in the mediation process as a party.

Participating Effectively as a Party in Construction Mediation: Intermediate (4 hours)
This 4-hour online course provides an overview to teach the construction professional how to participate effectively in the mediation process as a party.

Partnering for Design & Construction Projects (2 hours)
This two-hour online course discusses partnering as a construction management commitment between the Owner, the Architect/Engineer, and the Construction Contractor.

Patent Protection Basics (2 hours)
This 2-hour online course, "Patent Protection Basics", provides a business-oriented summary of Patent Law, Patentable Subject Matter, and how to take steps to obtain Patent Protection.

PC Fundamentals for Design Professionals (1 hour)
The goal of this 1-hour online course is to provide a basic understanding of what's inside the Personal Computer that you use every day.

PC Networking for Design Professionals (2 hours)
This 2-hour online course introduces you to today's most commonly used networking technologies.

Performance Indicators for Managing Maintenance (15 hours)
This 15 hour online course will explore common performance indicators for managing maintenance. Key performance indicators (KPI) typically used for strategic and tactical managing will be evaluated. Formulas for establishing indicators for managing maintenance daily, weekly, monthly, and annually will be discussed and detailed. In addition, how to identify problems highlighted by using the indicators and typical solutions for the uncovered problems will be discussed.

Personal Protection Equipment (1 hour)
This one hour online course focuses on what is involved with facilitating a personal protection equipment program.

Personnel Administration (4 hours)
This online course will discuss several personnel issues of interest to all organizations.

Personnel: EEO, Sexual Harassment, & Other Issues (2 hours)
This online course will discuss several personnel issues of interest to all organizations including personnel Administration, sexual harassment.

Pipe Support Systems (2 hours)
This 2-hour online course describes the importance of pipe support design, particularly in the power industry where high pressure and high temperature systems are encountered.

Planning & Design of Navigation Locks (6 hours)
This 6-hour online course reviews the Army Corps of Engineers *Engineering and Design - Planning and Design of Navigation Locks* Manual. It provides guidance and criteria for the planning, engineering layout, and design of navigation locks and appurtenant structures.

Plasma (Ion) Nitriding- Level One (4 hours)
This four hour online course is designed for the novice engineer who is not familiar with this vital and most promising new surface modification technology.

Power Plant Electrical Distribution Systems (1 hour)
This 1-hour online course provides an introduction to the design of electrical distribution systems found in electrical power generation plants.

Precast Concrete Erection Procedures (2 hours)
This 2 hour online course discusses erection considerations for precast concrete structures.

Precipitation, Coagulation & Flocculation: Course 1
This 2-hour online course is based largely upon the US Army Corps of Engineers Engineering Manual EM 1110-1-4012 Precipitation/Coagulation/Flocculation.

Prestressed Concrete - An Introduction (2 hours)
This two hour online course introduces the student to prestressed concrete and offers a basic background in design and applications. Standard prestressed concrete sizes and shapes are described and typical buildings using these members are discussed.

Prestressed Concrete - Hollow Core (2 hours)
This 2-hour online course discusses the design, manufacture, erection and production of prestessed concrete hollowcore plank.

Prestressed Concrete II - Structural Design (2 Hours)
In this two-hour online course, functional and structural design considerations will be discussed using a precast prestressed concrete building application, a parking garage.

Preventing and Investigating Accidents (2 hours)
This two hour online course is taken from OSHA material and is broken down into two sections: (a) preventing accidents and (b) investigating accidents. The first part focuses on how employers can prevent accidents by conducting a job hazard analysis.

Preventive Maintenance (1 hour)
This 1-hour online course is designed to help companies develop a highly effective Preventive Maintenance program and to help increase the productivity of already existing P.M. programs.

Pricing as a Professional (2 hours)
This 2-hour online course provides an in-depth look at the elements of pricing that you as a contractor must consider if you are to operate on a successful professional level.

Printed Circuit Board Basics (1 hour)

This practical 1-hour course will acquaint the student with Printed Circuit Board (PCB) technology.

Professional Painting (1 hour)
This 1-hour online course discusses painting materials, tools, techniques, and methods, as applicable to the professional painter.

Professional Standard of Care - Proof & Defense: ConstructionRisk.com Report Case Summaries (2 hours)
This 2-hour online course contains 12 case summaries of court decisions in which contractors and other parties sued design professionals and the courts considered the question of whether the design firm had potential liability for negligent acts, errors and omissions.

Project Management (8 hours)
This course will acquaint the participants with the tools and techniques required to successfully manage a project, as well as manage people. It is a well-known fact that formal education does not prepare us for the challenges of managing projects.

Project Management: Trends of the New Millennium (1 hour)
This 1-hour online course describes ten specific trends that are affecting projects today and will impact the way projects are managed in the future.

Project Risk Management (2 hours)
This 2-hour online course introduces the concept and principles of project risk management – risk identification, risk quantification, risk response development and risk control.

Project Management: Professional Techniques (2 hours)
This 2-hour online course goes over the professional techniques for project management. Topics include project management and the organization, work breakdown structure and scheduling, resources and project financing, and project control and evaluation.

Psychology of Color (2 hours)
This 2-hour online course will review why color is so important in the environment, how we react to color, how to create moods with color, and which colors evoke certain responses. It will also discuss how colors play a part in our well being. In addition, it will look at color in the workplace, and how it affects safety.

Pump Suction Characteristics (1 hour)
This 1-hour online course describes the significance and importance of the net positive suction head (NPSH) in designing a pumping system, specifying a pump, and diagnosing pumping problems.

Pumping Stations - Part 1, Basic Concepts (2 hours)
This 2-hour online course provides an introduction to pumping station design. It is the first in a series of courses on pumping stations.

Pumping Stations - Part 2, Design Process, Site Planning & Hydrology (2 hours)
This 2-hour online course provides guidance on the "Pump Station Design Process" and on "Site Planning and Hydrology". It is the second in a series of courses on pumping stations.

Pumping Stations - Part 3, Pump Configurations & System Storage (3 hours)
This 3-hour online course provides guidance on pump configurations and system storage requirements.

Pumping Stations - Part 4, Discharge Line & Pump Selection (4 hours)
This 4-hour online course provides guidance on discharge line sizing and pump selection for pumping stations.

Pumping Stations - Part 5, Sump Dimensions & System Checks (2 hours)
This 2-hour online course provides guidance on sump dimensions for pumping stations.

PVC Pipe - Which type should I use? (1 hour)

This 1-hour online course is intended to shine some light on the use of products such as SDR 35, C 900 and Schedule 40 pipe. This course is not intended to be an endorsement of PVC for all applications but rather to provide the student with better information upon which to base a design decision.

Quick Writing Tips (2 hours)
This online course focuses on the four stages of writing. It will provide you with the foundation you need to write effective, persuasive, clear, and concise copy.

Radon & New Homes (1 hour)
This one hour online course is aimed at helping the student learn more about the model building standards and techniques applicable to controlling radon levels in the new construction of one- and two-family dwellings, and other residential buildings three stories or less in height as defined in model codes promulgated by the respective Model Code Organizations.

Radon Measurements (4 hours)
This four hour online course focuses on measuring radon and radon decay indoors.

Reliability Engineering Techniques for Product Development (4 hours)
This 4-hour online course is a discussion of practical reliability engineering methodologies which are relevant for development of robust product. The theoretical basis of the methodologies is discussed.

Renewable Energy Generation (1 hour)
This course is a brief overview of the various types of environmentally friendly, renewable energy available today.

Responsible Outdoor Lighting (2 hours)
This 2-hour online course is designed to help you gain a better understanding of the negative environmental impacts of poorly designed outdoor lighting systems.

Renewable Sources of Energy: Wind Power (3 hours)
By emphasizing the economic and environmental benefits of wind power to both the consumer and distributor of electricity, this 3-hour online course answers the question, "Why are consumers and utilities choosing wind power as a Renewable Source of Energy?" This course explains what wind energy is and how it is converted to electricity through the mechanics of wind turbines.

Retaining Wall Design - Part 1 (2 hours)
This 2-hour online course is part one of a two part course for analyzing and designing cantilever type retaining wall structures.

Risk Management for the Design Professional: Advanced (5 hours)
This 5-hour online course forms a basis of risk management workshops and outlines key areas for discussion (with real-world examples) that have significant impact on risk management from a design professional's perspective.

Risk Management for the Design Professional: Basic Principles (2 hours)
The written material presented in this 2-hour online course presents basic principles of risk management for design professionals.

Risk Management for the Design Professional: Intermediate (3 hours)
The written material presented in this 3-hour online course forms the basis of risk management workshops presented by J. Kent Holland, Esq., Director of Risk Management Services for the design professional liability unit of Arch Insurance Group, Inc., and of Counsel with the construction law firm of Wickwire Gavin, P.C.

Rivers vs. Lozeau - A Dave Gibson Public Lands - Related Case (2 hours)
This 2 hour online course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for PUBLIC LANDS-RELATED parcels.

Runoff Analysis using the SCS Method - Part 1 (3 hours)
This 3-hour online course presents the basics of the SCS Method of determining runoff, using Technical Release No. 55 (TR 55), "Urban Hydrology for Small Watersheds."

Runoff Analysis using the USGS Method - Florida (1 hour)
This 1-hour online course presents a method developed by the US Geological Survey for determining the magnitude and frequency of peak flows for gaged and ungaged rural streams in the Suwannee River Water Management District of Florida.

Runoff Analysis using the USGS Method - Georgia (1 hour)
This 1-hour online course presents a method developed by the US Geological Survey for determining the magnitude and frequency of peak flows for ungaged streams in Georgia.

Runoff Analysis using the USGS Method - Louisiana (1 hour)
This 1-hour online course presents a method developed by the US Geological Survey for determining the magnitude and frequency of peak flows for ungaged rural streams in Louisiana.

Runoff Analysis Using the USGS Method - New York (1 hour)
This 1-hour online course presents a method developed by the US Geological Survey for determining the magnitude and frequency of peak flows for ungaged rural streams in New York state.

Runoff Analysis using the USGS Method - Tennessee (1 hour)
This 1-hour online course presents a method developed by the US Geological Survey for determining the magnitude and frequency of peak flows for ungaged rural streams and ungaged urban drainages in Tennessee.

Safety - An Introduction (1 hour)
While this 1-hour online course is not a comprehensive course in safety, it serves to introduce the student to some common hazards and preventative methods.

Selection of Seismic Design Methods: An Example (1 hour)
This one hour online course selects a building and location for a fictitious project.

Sequential vs. Simultaneous Conveyancing (4 hours)
This 4-hour course examines the conditions necessary for apportionment of excess and deficiency in the measurements of lot frontages.

Sewage Lift Station Design (2 hours)
This two hour online course is designed to introduce the most common types of lift stations and provide rationale for their use.

Signage for Architects, Interior Designers and Landscape Architects (2 hours)
Signage is the means through which people give and receive visual messages. Signage must be carefully planned and completely organized because it plays a vital role in the built environment. This two hour online course covers signage requirements, vehicular related signs, pedestrian related signs, interior signage and signage methods.

Significant Figures & Round-Off Errors by Dr. Ben Buckner (3 hours)
This 3-hour course presents the basic concepts of Significant Figures and Round-off Errors in computations using Measured Data.

Simple 300x100 Parcel - A Dave Gibson Metes and Bounds Case (2 hours)
This 2 hour online course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for METES AND BOUNDS parcels.

Site Safety Risk and Liability (2 hours)

This 2 hour online course presents case summaries from a dozen court decisions discussing site safety responsibility and liability of architects, engineers, project owners and contractors.

Statistical Analysis (6 hours)
This six hour online course is a review of statistical analysis techniques.

Statistical Analysis of Random Errors by Dr. Ben Buckner (4 hours)
The broad goals of this 4hour online course are teaching the student to estimate random errors in measurements through application of statistical analysis and to gain a deeper understanding of the nature of measurement and the important concepts associated with it.

Stefanic et al - A Dave Gibson Metes and Bounds Case (2 hours)
This 2 hour online course presents ONE interesting land boundary case that is particularly instructional as to the proper application of the principles of boundary location for METES AND BOUNDS parcels.

Steam Turbines (2 hours)
This 2-hour online course describes the basic principles of steam turbines. Vector diagrams are used to explain the dynamics involved in impulse and reaction turbine stages.

Storm Drain Inlets - Part 1, Overview & Grates (2 hours)
This course, Part 1, provides a general discussion on types of grates and provides computations for inlet grates.

Storm Drain Inlets - Part 2, Capacity of Curb Openings & Combinations (1 hour)
This 1-hour online course (Part 2 of a series) provides a discussion of computations necessary to determine the capacity of various curb-opening inlets, slotted inlets and combinations of grates and curb-openings.

Storm Drain Inlets - Part 3, Capacity of Inlets in Sags (1 hour)
This 1-hour online course (Part 3 of a series) provides a discussion of computations necessary to determine the capacity of types of inlets in sag locations.

Storm Drain Inlets - Part 4, Inlet Location & Spacing (1 hour)
This 1-hour online course (Part 4 of a series) covers inlet locations and spacing.

Stormwater Management: An Introduction (2 hours)
This 2-hour online course reviews the basics of stormwater management, which is receiving increased scrutiny because of EPA Phase II stormwater regulations.

Storm Water Treatment Using StormFilter Cartridges (2 hours)
This 2-hour online course describes the available filters and media, how to design a treatment system using these filters and provides an example of the type of treatment that can be anticipated.

Stress & Change Management for Design and Construction Professionals (4 hours)
This 4-hour online course discusses the dangerous effects of stress and how to control stress through a Stress Management and Relaxation Training Program (SMART). This course is divided into three parts, providing the student with a background study of stress, reasons why it is a problem and practical tested information and techniques concerning stress. These techniques can improve the quality and, very likely, the length of your life.

Surge Protection: An Introduction (1 hour)
This 1-hour online course is an introduction to the basics of surge protection and how to select surge protection devices.

Sustainable Design - A Primer (2 hours)
This two-hour online course is intended to introduce the concept of “sustainable” or “green” design to both architects and engineers of all disciplines.

The Real Deal on Marketing Land Surveying Services (2 hours)
This 2-hour online course teaches you how to gain a competitive advantage by using tested techniques specifically designed for the land surveying profession.

Tactical Time Management: An Advanced Course (3 hours)
This 3-hour online advanced course on time management builds on the foundation of "The Seven Steps to Mastering Time" also offered on RedVector.com.

Technical Specifications Writing (2 hours)
This 2-hour online course emphasizes the planning, writing, revising, and editing skills that are mandatory to achieve the precision, accuracy, and exactness necessary in any well-written specifications document.

Telecommunications Fundamentals (5 hours)
This 5-hour online course is an overview of the telecommunications industry with an emphasis on digital data transmission.

The Art & Science of Delegation (3 hours)
This 3-hour online course defines delegation, explains its benefits, and guides the student through the process of delegating tasks and projects.

The Genesis of Toxic Mold (2 hours)
This 2-hour online course provides an introduction to what scientists know so far about toxic mold—what it is, where it comes from, and what effects it may have on human health in an indoor environment.

The Not-Quite-New Drywall Repair Technique (1 hour)
This one hour online course covers a new and better technique for repairing damaged drywall. It teaches you how to make this repair utilizing a little known product that is available in most of the larger "do-it-yourself" building supply stores and warehouses.

The Rational Method, State of the Art, State of the Science (8 hours)
This eight hour online course explores the practical realm of hydrologic analysis, bounded by multitudes of complex natural interactions on one hand and the stark non-negotiable simplicity of physical law on the other.

The Theory of Measurement by Dr. Ben Buckner (4 hours)
This 4-hour online course presents the basic concepts and truths of measurement.

The Ultimate Project Manager, Chapter 1: The Changing PM Role (1 hour)
This 1-hour online course is designed to introduce participants to responsibilities ahead and character requirements one must possess in order to be an effective and successful PM.

The Ultimate Project Manager, Chapter 2: Managing the Proposal (1 hour)
This 1-hour online course is designed to educate the participants on every aspect and detail involved in preparing proposals and their importance.

The Ultimate Project Manager, Chapter 3: The Agreement (1 hour)
This 1-hour online course provides the project manager with a basic understanding of contractual matters along with guidance for preparing professional services agreements that will reduce potential risks to the firm, resulting from execution of the work.

The Ultimate Project Manager, Chapter 4: The Project Management Plan (1 hour)
This 1-hour online course provides the project manager with a clear understanding of the project management planning process.

The Ultimate Project Manager, Chapter 5: The Project Schedule (1 hour)
This 1-hour online course provides the project manager with detailed information on how to create "The Project Schedule".

The Ultimate Project Manager, Chapter 6: The Project Budget (1 hour)
This 1-hour online course outlines how the Project Manager can establish the proper budget for services desired by the client.

The Ultimate Project Manager, Chapter 7: Managing The Project Team (1 hour)
This 1-hour course introduces project managers to projects that require the coordination of a number of people simultaneously over a period of time.

The Ultimate Project Manager, Chapter 8: Managing The Client (1 hour)
This 1-hour online course shows Project Managers what they need to *know* and *do* in order to achieve a successful relationship with their clients.

The Ultimate Project Manager, Chapter 9: The Project Start-Up (1 hour)
This 1-hour online course is a valuable tool for principals and project managers alike.

The Ultimate Project Manager, Chapter 10: Managing Your Time (1 hour)
This 1-hour course covers the most valuable commodity of a project manager's time.

The Ultimate Project Manager, Chapter 11: Managing Project Studies & Reports (1 hour) This 1-hour online course requires project managers and team members to utilize a whole new set of skills that are markedly different from those required on design projects.

The Ultimate Project Manager, Chapter 12: Managing Design & Construction Phases (3 hours) This 3-hour online course discusses the development of a written project plan for 10 project work phases.

The Ultimate Project Manager, Chapter 13: Managing Quality (1 hour)
This 1-hour online course showcases the quality of service provided. Quality of service is an essential element in attracting new clients, and often the most important factor in assuring that an existing client will offer you the opportunity for additional work.

The Ultimate Project Manager, Chapter 14: Managing Risk (1 hour)
This 1-hour online course offers suggestions for identifying, assessing, and managing the risk of professional liability associated with professional design/consulting practices.

The Ultimate Project Manager, Chapter 15: Financial Management (1 hour)
This 1-hour course covers everything a Project Manager needs to know about his or her financial responsibilities.

The Ultimate Project Manager, Chapter 16: Project Management Technology (1 hour)
This 1-hour course enhances a project manager's capabilities by allowing him/her to become more efficient and thereby produce higher quality "deliverables."

The Ultimate Project Manager, Chapter 17: Controlling Project Budgets & Schedules (2 hours) This 2-hour online course shows how to use information collected from project monitoring to make decisions about controlling the project.

The Ultimate Project Manager, Chapter 18: Project Close-Out (1 hour) This 1-hour online course is a must for any Project Manager. It explains various stages of project completions, teaches you how to avoid the common pit-falls most PMs miss as well as providing you with detailed checklists and sample tables to use immediately on your current projects.

Thermodynamics of Cogeneration (2 hours)
This 2 hour online course explores the thermodynamic aspects of cogeneration (generation of electric power and utilizing the waste heat for thermal energy needs).

Timber Bridge Design: With Step-by-Step Examples (2 hours)

This 2-hour online course is designed for engineers and contractors who have certain experience with the AASHTO Standard Specifications and timber structure design and construction methods.

Tidal Hydraulics (8 hours)
This 8-hour online course reviews the Army Corps of Engineers *Engineering and Design - Tidal Hydraulics* Manual. The topics covered range from the fundamentals of estuarine engineering, to specific problem solving techniques, including environmental considerations, to a summary of 'lessons learned' from completed projects.

Title II: State & Local Govt. & Complying with the ADA (2 hours)
This online course addresses the requirements of title II of the Americans with Disabilities Act, which applies to State and local government programs, activities, services, and buildings.

Title III: Public Accommodations & Complying with the ADA (4 hours)
This four hour online course addresses the requirements of title III of the Americans with Disabilities Act as it applies to public accommodations, commercial facilities, and private entities offering certain examinations and courses.

Title III: Public Accommodations & Complying with the ADA (8 hours)
This 8 hour online course addresses the requirements of title III of the Americans with Disabilities Act, which applies to public accommodations, commercial facilities, and private entities offering certain examinations and courses.

Titles II and III: Construction Compliance with the ADA (6 hours)
This six hour online course addresses the requirements of titles II and III of the Americans with Disabilities Act.

Toxic Mold Detection, Prevention, & Remediation (4 hours)
This 4-hour online course is a collection of these recommendations, including methods for assessing the magnitude of a mold problem, controlling the growth of mold, and planning and executing a mold cleanup project.

Toxic Mold: Managing the Legal & Insurance Risks (3 hours)
This 3-hour online course reviews the details behind the growth in toxic mold litigation. The course is broken into three different scenarios. The first scenario reviews the background for mold litigation, including the reasons that mold has become a concern and the types of construction problems giving rise to mold infestation in facilities.

Toxic Mold: Regulations & Liability Issues (4 hours)
This 4-hour online course provides a snapshot of the current state of federal and state toxic mold legislation, describes some of the mold liability issues that are emerging in the courts, and suggests steps we can take to reduce our mold liability risks.

Transforming Your Entry Door (1 hour)
This 1-hour online course takes the student through a real-life transformation of an entry door. By providing detailed, step-by-step instructions, this course shows the student how to install a stain glass panel into a plain slab entry door so that it reflects a personal statement of craftsmanship. The significance for security and weather resistance is also discussed.

Understanding Construction Claims - An Overview (2 hours)
This 2-hour online course provides a basic overview of the five different types of construction claims that a contractor might have against an owner: Delay, Changed Work, Labor Productivity Loss, Acceleration, and Termination.

Understanding Organizational Change (1 hour)
“Understanding Organizational Change” is the first in a series of short courses designed to help leaders understand and manage change in modern organizations. Change is rarely welcomed by employees no matter how good the innovation is. In this 1-hour online course, you will be given background information designed to help you understand why this is so.

Understanding Subsurface Utility Engineering (4 hours)
This four-hour online course discusses existing utility locations on design/construction projects.

Understanding the Americans with Disabilities Act (2 hours)
This online course will discuss the American with Disabilities Act of 1990. This information applies to all businesses with 15 or more employees.

Understanding the Hispanic Construction Worker (1 hour)
This 1-hour online course examines aspects of various Hispanic cultures with the goal of aiding superintendents, foremen, and other construction management to better understand how to more effectively deal with Hispanic workers.

Understanding Utility Cadd Standards (4 hours)
This 4-hour online course is intended to help engineers, designers and draftspersons depict existing underground utility systems on engineering and construction drawings.

Use of Steel in Design & Construction (1 hour)
This 1-hour online course discusses the use of steel in design and construction, with the primary focus of the design segment relating to design of buildings, and not entailing design of the myriad of other things in modern society that are made from steel.

Voltage Regulator Application (1 hour)
This one hour online course discusses the basics of regulator application on an electric distribution system.

Water Measurement - Weirs (3 hours)
This 3-hour online course provides a discussion of measurement of flow of water using weirs.

Water Supply Systems in Buildings: The Basics (1 hour)
This course covers types of water, water sources and impurities, water systems, wells, pumps, plumbing fixtures and water demand.

Water Well Design (2 hours)
This two hour online course will introduce you to the necessary steps in a water well design project.

Wetland Delineation 1: The Basics (2 hours)
This 2-hour online course describes technical guidelines and methods using a multi-parametric approach to identify and delineate wetlands for the purposes of Section 404 of the Clean Water Act.

Wetland Delineation 2: Methodology (4 hours)
This 4-hour online course is a continuation of the US Army Corps of Engineers Wetland Delineation Manual-based, "Wetland Delineation 1: The Basics" which is a prerequisite for this course.

Wireless Networking Per IEEE 802.11b (1 hour)
This 1-hour course is an introduction to the Institute of Electrical and Electronics Engineers (IEEE) 802.11 standard.

Workplace Safety: How to Avoid Hazards (1 hour)
This 1-hour online course is a refresher course on workplace safety. This course touches on well-known safety precautions as well some new precautions you may not have thought about.