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US Army Corps of Engineers
USACE Learning Center (ULC)

The Purple Book
FY2017

MANAGERS AND SUPERVISORS TRAINING HANDBOOK

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SECTION 1 — REGISTRATION INSTRUCTIONS AND GENERAL INFORMATION

SECTION 1 – REGISTRATION INSTRUCTIONS AND GENERAL INFORMATION

Welcome to the USACE Learning Center (ULC) FY17 annual course catalog, the Purple Book, for the PROSPECT Program. The Purple Book is virtual, providing the most current course information on the ULC website at http://ulc.usace.army.mil.

HOW TO USE THIS HANDBOOK

Sections of the Handbook

This handbook is divided into 4 sections. Those sections are displayed in the Table of Contents. Use the Table of Contents to quickly reference the information you're seeking.

Scheduling Requirements

Annually, ULC solicit class allocations and your Training Coordinator distributes procedures for requesting quotas. USACE Division, District, and non-USACE agencies Training Coordinators consolidate requirements and submit them electronically to the ULC.

Note to students: Enrollment is through the Training Coordinator. Contact your supervisor if you do not know your Training Coordinator. **Courses that do not have a tuition cost will not be offered in this FY.**

Priority System

A priority must be specified for all types of formal training. Training that is not prioritized may not be conducted. The PROSPECT schedule is formulated annually using the criteria below from AR 350-1 Army Training and Leaders Development (DTD 19/08/2014) for determining the appropriate priority for assigning is as follows:

Priority	Description	Explanation
P1	Training - Knowledge, Skills, and Abilities (KSA)	Training that is typically a condition of employment/deployment must be successfully completed within a specified time period, and meets one or more of the following criteria. Individual must have for acceptable performance; training is essential for mission accomplishment; training is mandated by higher authority (law or DOD) or is required for certification, health, or safety reasons; training is mandated by the ASA(M&RA) as an ACTEDS leader development core course; or training is essential functional training for interns.
P2	Education – KSAs	Training that should be successfully completed within a specified time period, but may be delayed if funding is not available, and should meet one or both of the following criteria. Individual should have for maximum proficiency and/or training improves the quality of mission accomplishment.
P3	Development – KSAs	Training should be funded after Priority I and II requirements. Provides or enhances KSAs needed on the job and/or leads to improvement of mission accomplishment

Onsite Training Sessions (Mobile Training Teams (MTT))

An Onsite is a regular classroom training course that is required by a specific organization for a specific skill set for a specific mission requirement. When the request is from an USACE organization the audience will not extend to outside of a Corps Division organizations. Onsite training requests will be submitted through the ULC's Training Management Information System (TMIS) to the Registrar Office. USACE Training Coordinators will be provided a TMIS Log-in for submission and Non-USACE Agencies will submit Onsite requests through the ULC website at http://ulc.usace.army.mil ULC will accept requests but will not act upon them until the final schedule for FY 17 is published. The priority use of instructors will be focused to complete the annual course schedule. Upon the release of the final schedule ULC will coordinate with instructor for availability to conduct an Onsite request. When considering onsite sessions a regular course class size is the key factor in determining if it is an onsite request or an in house class scheduled in your local area. To be cost effective an onsite should be calculated at 80% of a regular class size.

Training Documentation

Each student will provide an approved SF 182 Request, Authorization, Agreement and Certification for Training Form through the Training Coordinator to the ULC Registrar NLT 60 days prior to start date of class. This will ensure that instructors have a by name list of students prior to class date. It is also student responsibility to have the SF 182 signed by instructors upon completion of training to return to their supervisor as training documentation.

Tuition Billing, Cancellation, and Payment Process

Billing

Pending USACE Finance Center availability ULC will bill each allocation at 60 days before start of course with payment due NLT 30 days after receipt of bill. If dates change the outside of scheduled week and/or locations change each organization will have three (3) work days to confirm a requirement still exist. Enrolling students is an organization's commitment to pay for allocated class seats with obligated funds.

NOTE: For requested allocations/quotas, tuition, travel and per diem cost is paid by student organization.

Cancellations

Once final validation and verification are complete allocations are billable. Cancellations will be considered for exceptions; Deployment, Emergencies (TC provides deployment orders for individual or documentation of emergency with a Memorandum for Record from Commander). Department of the Army Interns (DAIs) must provide the disapproved SF-182 RASS request from the Army G-1.

Payment

Corps Government Employees:
Use of the Government Purchase Card (GPC) is mandatory using **Pay.gov** (https://pay.gov/paygov/). Do NOT use a Government Travel Credit Card. ULC also accepts Standard Form (SF) 182s for Department of Army Interns (DAIs), Career Program Careerist for the Army Civilian Training, Education and Development System (ACTEDS). Bills for tuitions paid by

SF-182 will be processed following completion of training, through the USACE Finance Center. The SF-182 will be validated by instructor at the end of class and student will return to supervisor for loading into CEFMS. Payment by MIPR is by exception through coordination with ULC Chief and HNC Resource Management.

Non-USACE Government Employees:
Please make payments using Pay.gov. Payment must be received 30 days from start date of class, if not received seat allocation will be revoked and offered to another customer. Once bill has been issued it becomes a financial obligation. Cancellation process is below in paragraph "Cancellations".

NOTE: Step-by-step procedures for making a Pay.gov payment(s) – see Page 1-112

Onsite Payment

Acceptable payment methods for onsite sessions are Military Interdepartmental Purchase Request (MIPR), Standard Form (SF) 182s for DA Interns/Career Program Careerists for the ACTEDS students and Pay.gov.

Prerequisites

Always check the prerequisites in the course descriptions. Supervisors are responsible for ensuring primary or substitute enrollees meet all listed requirements. Students, that don't meet course prerequisites, must request a prerequisite waiver through the Training Coordinator to the CEHR-ULC-PMO NLT 120 days from start date of course. The Registrar Office will coordinate with Course Managers to attain approval from Proponent for attendance. Once waiver is approved the Registrar will forward to training coordinator. A student that does not have a prerequisite waiver they will be returned to organization.

Training Locations

The ULC gives priority to placement of classes at the most advantageous locations to support the PROSPECT program. If no other options exist then schedule defaults to the Bevill Center in Huntsville, Alabama, the Corps' training facility.

Student Notification

The Registrar transmits the Student Reporting Instructions (SRIs) electronically to Training Coordinators approximately 60-90 days before the class session start date. These instructions provide classroom locations and all other pertinent course information.

Summary Lists to Help Find Courses in Course Descriptions: http://ulc.usace.army.mil/
Active resident and distributed learning (dL) courses listed by course title: Course descriptions provide course purpose, description, prerequisites, continuing education credits, tuition, and course length. Reminder: Supervisors are required to check the prerequisites in course descriptions (Section 1, Prerequisites).

For Registrar-related questions, select link, for course dates, locations, and enrollment information. This will allow you to email Registrar office.

For course specific questions, select link, for course content, purpose, description or prerequisites. This will allow you to email Course Manager. http://ulc.usace.army.mil/

Questions

Refer all questions **through local Training Coordinators** to one of the following:

Purpose	**Telephone/FAX**	**E-Mail**
Registration, Billing, and Course Specific Information	TEL: 256-895-7425 TEL: 256-895-7437 TEL: 256-895-7478 FAX: 256-895-7469	DLL-ULC-Registrar@usace.army.mil
Technical Problems	TEL: 256-895-7471	Logging into TMIS, Passwords or Course Information

FAQs

You may view and download this current Purple Book and Frequently Asked Questions (FAQs) from the ULC website at http://ulc.usace.army.mil.

CONTINUING EDUCATION CREDITS

General Information

Many States and other certifying and licensing bodies require their members to earn continuing education credits to maintain certifications and licenses.

The ULC maintains a rigorous certification/registration program. Many PROSPECT courses provide continuing education credits through seven national professional organizations:

Organization	Credit
American Institute of Architects (**AIA**) www.aia.org	**LU** (Learning Unit)
American Planning Association (**APA**), www.planning.org /American Institute of Certified Planners (**AICP**), www.planning.org/aicp	**CM** (Certified Maintenance) (hour)
International Association for Continuing Education and Training (**IACET**), www.iacet.org	**CEU** (Continuing Education Unit)
National Society for Professional Engineers(**NSPE**) www.nspe.org	**PDH** (Professional Development Hour)
Project Management Institute (**PMI**) www.pmi.org	**PDU** (Professional Development Unit)
American Council of Education (ACE) www.acenet.edu	**Recommended College Credit**

Customers can view credits supported by an applicable course by going to our website (http://ulc.usace.army.mil) and clicking "View Course Schedule". Then select the course control number link for your desired course. If the course supports one or more of these credits it will be reflected in the descriptions that identify their respective credits. Additionally, PROSPECT course certificates indicate the type and number of credits earned. Managers and employees should consider these crediting courses when developing Individual Development Plans (IDPs).

COURSES SUPPORTING USACE COMMUNITIES OF PRACTICE (COPS)

The Corp's Communities and sub-Communities of Practice (CoPs/sub-CoPs) ensure that employees develop and maintain technical competencies. CoP/sub-CoP leaders designate proponents who determine course curriculum based on results from ULC supported surveys and results of the Competency Management System (CMS). This link to proponents allows PROSPECT to serve as a conduit for individual and organizational learning.

Customers can view competencies supported by an applicable course supports by going to our website (http://ulc.usace.army.mil) and clicking "View Course Schedule". Then select the course control number link for your desired course. If the course supports one or more competencies, you will see "Competencies" link under "Notes". Click the link and the competency title(s) and description(s) will pop up.

1391 PREPARATION

253 Length: 36 Hours 5413901A

Tuition: $1535 Class Type: Classroom

Purpose.

Students will learn MILCON programming policies and procedures that include: (a) Headquarters, Department of the Army (HQDA)/Headquarters, US Army Corps of Engineers (HQUSACE) military construction policies; (b) program development cycles; (c) various MILCON appropriations and programs with a focus on Military Construction, Army (MCA); (d) program formulation and approval; (e) various Army level reviews such as Installation Management Command (IMCOM) Headquarters and Regions /Army Commands (ACOM)/ Army Service Component Commands (ASCC)/Direct Report Units (DRU)/HQUSACE/Major Subordinate Commands (MSC)/US Army Information Systems Engineering Command (USAISEC)/HQDA review, project certification and approval process; and (f) how to develop and market a project.

This course includes an overview of the automated applications supporting military construction processes.

Description.

This course provides a logical framework for preparing the DD Form 1391, "Military Construction Project Data". It provides students a working knowledge of how to verify requirements, and prepare the documentation package to request Congressional approval for military construction (MILCON) project(s).

Topics include: (a) identify, define, verify, and justify project requirement; (b) define courses of action; (c) research and apply criteria and standards; and participate in practical exercises (case study). Prepare DD Form 1391 and related documentation to include: (1) detailed justification; (2) supplemental data (e.g., economic analysis, cost estimate, and site considerations); and (3) project summary.

Prerequisites.

This course is recommended for personnel at all levels (installation, IMCOM Region, ACOM/ASCC/DRU, USACE district, USACE division, HQUSACE, HQIMCOM, HQDA, Office of the Secretary of Defense (OSD)) who prepare, review, certify, approve, and use DD Forms 1391; (b) Occupational series: 0301, 0800, 0020, and other personnel involved in DD Form 1391 process; (c) Grade: GS-05 and above. Nominees should have 6 months "on-the-job" training prior to attending. Other recommended attendees include personnel from other services, defense agencies and the private sector who are involved in DD Form 1391 preparation, planning and design charrette processes.

1391 PROCESSOR

252 Length: 28 Hours 5413P01A

Tuition: $1335 Class Type: Classroom

Purpose.

The DD Form 1391 Processor System, which is available in a web-enabled environment, is the means for documenting and submitting military construction project requirements and justification data for funding requests to Congress. Through lectures and practical exercise sessions, this course introduces the student to the capabilities, formats, functions, and usage procedures of the DD Form 1391 Processor System. The DD Form 1391 Processor System allows the user to prepare, edit, query, submit, review, and distribute DD Forms and supporting DD Form 1391 documents electronically using a personal computer.

Description.

Topics covered include creating, submitting, reviewing, and editing individual DD Forms 1391 as well as creating directories and custom reports. The custom reporting and directory features can assist an organization in managing its military construction program. All features of the system are covered.

Prerequisites.

Nominees must be assigned current positions at Army installation, Region, MACOM, USACE district, USACE division, HQUSACE, HQ, IMA, or HQDA who are involved in preparing and/or reviewing the DD Form 1391 and related documentation associated with the military construction planning, programming, and budgeting process. (Note: Although this course is focused on Army policy, employees of other Services are welcome to attend for information purposes.)

Advanced 1D/2D Modeling with HEC-RAS

352 Length: 36 Hours 35ADM01A

Tuition: $2078 Class Type: Classroom

Purpose.

This is an advanced course in applying computer program HEC-RAS. The course provides participants with the knowledge to effectively use computer program HEC-RAS to analyze difficult hydraulic conditions in natural and constructed channels, utilizing one-dimensional and two-dimensional modeling techniques.

Description.

Topics include: Developing terrain models for 2D modeling; Creating a 2D computational grid; Boundary conditions for 2D Flow Areas; Hooking up 1D elements to 2D Flow Areas; Running a combined 1D/2D model; Viewing 1D/2D results with RAS Mapper; and Debugging 2D model computations.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800 and 1300; (b) Grade: GS-7 or above. Students must be experienced engineers who have attended Steady Flow with HEC-RAS (Crs. No. 114), and have also either attended Unsteady Flow Modeling with HEC-RAS (Crs. No. 188) or have experience applying HEC-RAS using the Unsteady Flow modeling components. Participants must be in positions where they are currently engaged in using HEC-RAS in hydraulic investigations.

ADVANCED APPLICATIONS OF HEC-HMS

369 Length: 36 Hours 35AHC01A

Tuition: $2403 Class Type: Classroom

Purpose.

This course provides advanced instruction in the use of the Corps' Hydrologic Modeling System (HEC-HMS) for ecosystem restoration, flood damage reduction, forecasting, and navigation studies where advanced simulation strategies are required. Workshops are used to provide hands-on reinforcement of scientific and engineering principles presented in lecture. Students will be prepared to work on more complicated studies after completing the course.

Description.

The course covers a variety of areas that go beyond the Basic HEC-HMS course which focuses on event-based flood hydrology. This course starts with a module on continuous simulation, including the details of modeling water content in the soil, evaporation and transpiration, and parameter estimation from soil databases. It continues with a module on interior drainage exploring both event and continuous analysis techniques. The next module covers snow processes and snowmelt modeling, with particular attention paid to proper calibration techniques when using snow data. A module is included for surface erosion and wash-off, channel sediment transport, and sediment settling in reservoirs. The last module provides approaches to dealing with hydraulic complications in channel routing.

Prerequisites.

Nominees must have a working knowledge of hydrologic processes and how they are represented in HEC-HMS. Students should have taken Course 178, Hydrologic Modeling with HEC-HMS, or have equivalent work experience. Basic HEC-HMS navigation skills will not be taught in this class. Nominees must be assigned (a) Occupational Series: Selected 0800 and 1300; (b) Grade: GS-09 or above.

ADVANCED STREAMBANK PROTECTION

394 Length: 36 Hours 35ASP01A
CEUs: 3.2 PDHs: 32

Class Type: Classroom

Purpose.
This course provides guidance on system-wide watershed rehabilitation by introducing advanced concepts in fluvial geomorphology and channel dynamics, along with engineering methods for conducting background assessments and field data investigations, selecting and siting structures, evaluating channel stability, and producing stable channel designs.

Description.
The Mississippi Delta Headwaters Project (MDHP), formerly the Demonstration Erosion Control Project, was initiated to address problems related with watershed erosion, sedimentation, flooding, and environmental degradation. The project activities encompass 16 watersheds, ranging in size from 0.5 to 600 miles2 (mi2) in the Yazoo River Basin of northwest Mississippi. The MDHP revolutionized the systems approach to addressing channel stability issues by considering an entire watershed, rather than only local characteristics and problems. A systems approach is critical when identifying and addressing interconnected problems within a watershed. This approach provides a process-based framework to define watershed dynamics and to develop comprehensive solutions, with widespread applicability in various fluvial environments. The Advanced Streambank Protection course incorporates classroom and streamside lectures within the MDHP area, providing a unique learning environment. The MDHP covers 2630 mi2, making it one of the nation's largest watershed rehabilitation projects. The analysis tools and structural techniques developed here have been used in all parts of the country.

Utilizing a group of nationally recognized instructors, students will participate in a series of half- and full-day field trips to investigate a wide array of stream types within a 50 mile radius of Grenada, Mississippi. Classroom lectures will cover state-of-the-industry protection techniques, watershed dynamics (sediment and hydraulic), and prediction methods in watershed management (i.e., Sediment Impact Analysis Methods (SIAM)). Over 25 streamside interactive mini-lectures will be conducted with subjects including: identifying dominant hydraulic, geotechnical, and morphological processes; bed gradation sampling methods; analysis of riparian vegetation and hydraulic impacts; and the role of vegetation in bank protection. The long-term performance (hydraulic, geotechnical, and environmental) and effectiveness of several grade control and streambank protection projects will be analyzed. Some projects are over 30 years old. Some failed sites will be reviewed. Repair or redesign and replacement of these projects will be discussed. Using advanced geomorphic analysis techniques, several severe bank erosion and bed degradation sites will be reviewed from both a local and system-wide perspective. For these sites, project goals will be formulated and conceptual designs developed. In-class discussion will focus on further review of completed projects, failures, and erosion problems studied during the field trips. Students are encouraged to give a brief presentation of a current project for group discussion and review.

Prerequisites.
Within the last five years the student must have completed the Streambank Erosion and Protection course (#285). Federal nominees must be assigned (a) Occupational Series: Selected 0000-0100, 0400, 0800, 1300, and (b) Grade GS-07 or above.

APPLICATION OF ENGINEERING GEOLOGY

251 Length: 36 Hours 35AEG01A

Tuition: $1980 Class Type: Classroom

Purpose.
This course presents a combined application of engineering geology, geophysics, and rock mechanics. The course is recommended for engineering geologists, design engineers, and construction engineers.

Description.
Lectures, demonstrations, and reading assignments will cover: the history and evolution of Engineering Geology; Site Investigations; Seismology; Basic Rock Mechanics; Rock Excavation; Foundation Treatment; Rock Reinforcement; Rock Slope Stability; Underground Construction; Ground Water; and Hazardous, Toxic and Radioactive Waste.

Prerequisites.
Nominees should be assigned: Occupational Series: Selected 0800, 0810, 1310, and 1350; Grade: GS-07 or above and project management personnel.

ARCHITECT-ENGINEER CONTRACTING

4 Length: 36 Hours 41AEP01A
CEUs: 3.1 PDHs: 31 LUs: 31
ACE: 3.0
Tuition: $1157 Class Type: Classroom

Purpose.

This course is for engineers, architects, technicians, project managers, contract specialists, and other personnel responsible for A-E contract procurement, and/or the supervision and administration of A-E contracts. The course provides a concentrated look at all aspects of A-E contracting, including acquisition planning, public announcement, selection, preproposal activities, negotiations, contract award, administration and closeout.

Note: Students must achieve at least 70% on end-of-course written test.

Description.

Through lectures, individual study, and work group activities, this course provides detailed explanations of the laws and regulations affecting the A-E acquisition process, including selection, cost principles, preparation of Government cost estimates, cost or pricing data (truth-in-negotiations), negotiation strategies and techniques, contract award, and contract administration. Also covered are types of A-E contracts, contract clauses, proposal analysis, contractor liability, performance evaluations, and the A-E Contract Administration Support System (ACASS). The students are provided a course manual with essential background information, regulations, examples and exercises.

Learning Outcomes: Upon completion of the course, the student will be able to:
A-1 Identify the principal requirement of the Brooks Act.
A-2 Define A-E Services
B-1 Identify major considerations and methods for acquisition of A-E services.
B-2 Identify the primary types of A-E contracts used by USACE and when they are appropriate.
C-1 Identify Requirements to Publically Announce an A-E Contract.
C-2 Using a public announcement, analyze the criteria to determine the appropriate firm's requirements to be written into the announcement, with no more than 2 instructor assists. Students may use provided guidance and their notes. The students must review the criteria and then determine the appropriate firm's requirements that will be written into the announcement.
D-1 Identify the purpose and general content of SF 330.
D-2 Identify steps, considerations, and governance of an A-E Selection Board.
D-3 Using a synopsis, a scenario, an ACASS Summary, and Board documentation sheet; establish the final ranking using the criteria contained in the synopsis, with no more than 2 instructor assists. Students may use provided guidance and their notes. Students (the Board) must reach consensus on the final ranking and document their findings on the enclosed forms.
E-1 Identify the principle activities of the pre-proposal phase of an A-E contract (Project Specific Firm Fixed Price, Indefinite Delivery Contract, Task Order)
F-1 Identify information required to prepare an Independent Government Estimate.
F-2 Using a scenario, course materials, a computer, excel software, and an IGE template, create a Government Estimate for an A-E contract with no more than 2 instructor assists. Students may use provided guidance and their notes.
G-1 Identify the main items of an A-E firm's price proposal.
H-1 Identify the Negotiation Preparation process.
H-2 Using a scenario, course materials, a computer, excel software, and an A-E proposal, analyze the proposal to determine if its elements are reasonable, with no more than 2 instructor assists. Students may use provided guidance and their notes.
I-1 Identify the process of negotiating contracts
I-2 Using a scenario and role-play, course materials, and a computer, negotiate on an AE fee using previously completed IGE, with no more than 2 instructor assists. Students may use provided guidance and their notes.
J-1 Identify elements of and process of an A-E contract award.
K-1 Identify primary A-E contract clauses and Administration Requirements.
L-1 Identify the role, responsibilities, and tasks for technical management of an A-E contract.
L-2 Using an A-E contracting scenario from a case study and course materials, evaluate the scenario to develop solutions/actions, with no more than 2 instructor assists. Students may use provided guidance and their notes. Students will present solutions to class for discussion.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0340, 0800, 0900, and 1100. (b) Grade: GS-11 or above. Lower grade employees are eligible only if their current duties are directly related to A-E contracting. (c) Employees with current or pending assignments which entail selection, negotiation of and/or administration of A-E contracts are eligible. (d) Nominees must not have attended similar courses within the past 3 years. (4) Attendees must bring a pocket calculator, and if possible, a laptop computer with EXCEL software.

ARCHITECTURAL HARDWARE-QUALITY VERIFICATION

3 Length: 36 Hours 35AHQ01A
CEUs: 2.8 PDHs: 28 LUs: 28

Tuition: $1664 Class Type: Classroom

Purpose.

This course develops new skills oriented to the quality verification of hardware used in building construction and updates the student's knowledge of current industry practices and changes in specifications. It also provides training that results in a more effective quality assurance.

Description.

This course presents the fundamentals of the industry including hardware materials and finishes-their purpose, use, and application; basic information covering all architectural hardware products, terminology, and types of doors and frames; and the fundamentals of hardware schedules, preparation, and use. Emphasis is placed on how to interpret a hardware schedule for installation purposes and field use, as well as an analysis of a hardware schedule submitted to the designer for approval.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800; (b) Grade: GS-05 or above; (c) current or projected assignment with responsibility for providing quality verification of hardware, specifying hardware, or reviewing hardware submittals from contractors for approval. Student must not have attended this or a similar course within the past 5 years.

BASICS OF COASTAL PROCESSES FOR ENGINEERS AND PLANNERS

11 Length: 36 Hours 35CEN01A
CEUs: 2.8 PDHs: 28

Tuition: $2821 Class Type: Classroom

Purpose.

This course provides a formal introduction to the technical and management issues important to coastal studies and projects. The course addresses the foundation areas for effectively understanding and working on projects in the coastal zone and is divided into five areas addressing physical setting/location (geology and geomorphology), forcing factors (weather, tides, waves, storm surge), coastal processes (hydrodynamics and sediment transport), coastal problems and solutions, and special planning considerations (sea-level change, regional sediment management, dredging, etc.) The problems, the approach to addressing the problems, and the solutions presented in the class are particularly applicable to the Corps of Engineers' planning and environmental management missions but would be useful to project managers, planners, engineers, scientists, regulatory specialists, attorneys, and members of public stakeholder groups involved with studies and projects in the coastal zone.

Description.

Major topics to be covered include: coastal geology and geomorphology, hydrodynamics, littoral sediment transport processes, sediment budgets, coastal problem identification and analysis of alternative solutions, impact prediction and monitoring, coastal data collection, and the basic issues of coastal project planning and design. Unique coastal settings (including lake shores), regional management, stewardship and mitigative practices will be emphasized. The mission and authorities of the Corps of Engineers, particularly as they relate to other Federal agencies and state coastal zone management, will be explored.

Attendees will be introduced to the "Coastal Engineering Manual" (CEM) as a basic reference, as well as journal publications and other publications useful for a better understanding of coastal zone issues. Common computer tools used in coastal engineering will be described but will not be taught as part of this course. Issues and principles will be illustrated through the instructors' examples, case studies, and a field trip to select sites on the North Carolina Outer Banks. The training site is the USACE Coastal Field Research Facility (FRF), and elements of the course are designed to take advantage of this venue.

Prerequisites.

Nominees should be assigned as engineers, geologists, physical scientists, environmentalists, biologists,

planners, project managers, regulatory specialists, or attorneys who have review, planning, or design responsibilities for coastal shore protection, navigation, and environmental projects. Grade: GS-07 or above.

BOAT OPERATOR LICENSE EXAMINER

172 Length: 40 Hours 33BOL01A

Tuition: $3449 Class Type: Classroom

Purpose.

This course trains, tests, and licenses individuals as motor boat license examiners for the Corps of Engineers.

Description.

Lectures, demonstrations, group assignments, and practical exercises cover the areas listed below and enable students to perform duties as outlined in Engineer Regulation 385-1-91 and be in compliance with EM 385-1-1 Safety and Health Requirements Manual. Specific areas to be covered include (a) USACE Boat Licensing Policy: (b) equipment requirements and equipment maintenance: (c) boat orientation and boat maintenance: (1) getting underway (2) checking equipment (3) starting procedures and (4) refueling procedures: (d) trailers and trailer maintenance (e) marlinspike seamanship (f) aids to navigation (g) rules of the road (h) fire suppression (i) course familiarization (j) emergency procedures: (1) rescue sequence (2) self rescue techniques (3) man overboard rescues:
(k) boat operation: (l) practical course maneuvering exercises: (1) serpentine course (2) transition serpentine (3) avoidance course (4) docking (5) trailering (6) launching and retrieving (7) alongside maneuvering (8) towing and (9) anchoring procedures.

Prerequisites.

Individuals attending this course must show proof of completion of a U.S. Coast Guard or National Association of State Boating Law Administrators (NASBLA) training course for the state in which they are operating and be: (a) currently licensed as Corps of Engineers Class A and Class I boat operators (b) able to swim in a Personal Flotation Device (PFD) for 100 yards (c) an experienced motor boat operator and (d) designated to train local motor boat operators in boating skills.

BUDGET TRAINING

254 Length: 32 Hours 42BTC01A
CEUs: 3.3

Tuition: $ 860 Class Type: Classroom

Purpose.

This course is targeted for those civilian and military employees of the Corps of Engineers who work directly within the financial management arena. It provides a framework and knowledge of the federal budget process with specialized emphasis on policies and procedures of the Corps of Engineers. The objective is to provide a uniform understanding of Corps budgeting so that operations are improved/streamlined at all Corps organizational levels.

Description.

The course describes program and budget activities at the HQUSACE, MSC, District, FOA, and Laboratory levels, and how these activities interrelate with those at Army, DOD, OMB, and the Congress. The curriculum is structured around the formulation and execution of an activity's operating budget. The material is presented through lectures and practical exercises covering various budgeting processes and budget-related issues. Major topics/areas include command operating budgets; Corps of Engineers funding sources to include military, civil and reimbursable programs; military and civil works budgeting; budget execution; statutory and administrative limitations; mobilization; and Corps of Engineers revolving fund.

Prerequisites.

Restricted to full time Corps members in the Grade of GS-11 (0-3) and higher in all professional fields who have significant financial management responsibilities in their commands. The target Corps members are individuals in the CP-11 career field. Priority enrollment to this course will be afforded to the CP-11 careerist. Waivers will only be considered for CP-11 personnel below the GS-11 level and those must be approved by the student's local Chief of Resource Management prior to requesting a space allocation. Other professional series below the GS-11 will not be considered.

BUILDER Assessor

450 Length: 24 Hours 41BLA01A

Tuition: $1380 Class Type: Classroom

Purpose.

BUILDER has been adopted by the Department of Defense as part of its efforts to standardize facility condition assessments across DOD. To that end, participants will be introduced to the BUILDER concepts of Inventory, Assessment, Prediction, Work Planning and Forecasting through the analysis of the current condition of asset as well as future predictions of asset conditions

Description.

This course provides a broad overview of the Sustainment Management System (SMS), BUILDER. BUILDER is an enterprise system designed to help agencies know when, where, and how to invest in their facilities. Assessor training will focus on the Inventory and Assessment concepts and using the BUILDER Remote Entry Database (BRED), the primary tool used to collect BUILDER inventory and condition assessment data in the field. Participants will be trained on how to inventory facility components and conduct condition assessments to support Sustainment, Restoration (or Renovation/Renewal) and Modernization (SRM) planning for a variety of Installation Support and Facility Engineering Management customers. In addition, processes for site visits and field assessment techniques will be discussed along with opportunities to apply what is learned through practical classroom and field exercises.

Prerequisites.

Attendees should have a general knowledge of real property and infrastructure systems and components. Knowledge of process and experience performing component inspections are an essential skill set as well as knowing how to read A/E drawings, use a measuring wheel or laser distant meter, basic calculator, electrical testers, moisture meters, digital thermometers, etc. Additionally, attendees should have moderate computer skills to be able to operate a data entry program (program will be taught in class) to capture inventory and condition assessment results.

BUILDING AIR BARRIERS and PRESSURE TESTING

126 Length: 32 Hours 35BAP01A
CEUs: 3.2

Tuition: $1255 Class Type: Classroom

Purpose.

Engineering and Construction Bulletin 2009-29 initially implemented new Army requirements to install continuous air barriers and to perform pressure testing to determine overall air leakage in all new construction and major renovation projects. Further, ECB 2014-16 expanded guidance on the quality control of air barriers as a critical component of the building envelope system. This class will provide architects, engineers, and QA personnel knowledge and skills to design and construct effective continuous air barriers correctly in Army facilities and to witness building pressure tests on completed facilities which will determine overall building air leakage rates.

Description.

Through lecture, hands-on laboratory sessions, and testing, this course presents building air barrier and pressure testing related subjects, including: design and construction of building air barriers including materials, components, and systems; design and construction of HVAC air distribution systems; the USACE Air Leakage Test Protocol; building pressure testing equipment, including manufacturer's fan capacities, calibration requirements, and accuracies; collection of pressure test data (i.e. CFM pressure); and data analysis and calculations, including linear regression, correlation, confident intervals, and error evaluation.

Prerequisites.

Nominees should be assigned (a) Occupational Series: 0800; (b) Grade: GS-05 through GS-14, or equivalent; (c) current or projected position as an architect, engineer, engineering technician, construction representative, or project manager.

BUILDING INFORMATION MODELING

51 Length: 20 Hours 41BIM01A

Tuition: $1571 Class Type: Classroom

Purpose.

Project Managers, Construction Managers, and Facility Managers have either been exposed to Building Information Modeling (BIM), or at least have heard that BIM will be used at their site. The problem is, once these Managers receive a BIM model, they don't know what to do with it. If they do learn how to manipulate the model, chances are the type of information they require from it is not there. This class will introduce these Managers to BIM and the many results that can be extracted from a BIM model. While this is not a "How to use BIM software" course, the Managers will understand what to expect from a BIM model, and learn that they need to establish their presence and influence early on in the concept/design stages of the model.

Description.

Building Information Modeling (BIM) is an evolving process within USACE that results in new approaches and new responsibilities for Project Managers, Construction Managers, and Facility Managers. This course provides an overview of the impact of BIM on managers and addresses their roles and responsibilities in dealing with BIM requirements and BIM deliverables. Class exercises will facilitate discussions to identify relevant, minimum BIM data requirements and the respective workflows during each phase of the project life cycle. Exercises will demonstrate that overpopulation of data during the incorrect phase is counterproductive and costly, and that entering the right data at the right time will help produce a better coordinated data set. Various agencies' data collection activities, Executive Orders, and vendor-specific solutions will be presented to further illustrate the need to make data decisions early.

Prerequisites.

Project Managers, Construction Managers, and Facility Managers (GS9-13), Series 0800 and 1640. This class is not intended for designers.

CE CONTRACT LAW

342 Length: 36 Hours 37ECL01A

CEUs: 2.8 PDHs: 28

Class Type: Classroom

Purpose.

This course is primarily intended to instruct USACE attorneys in the basic legal principles and procedures related to Corps of Engineers construction contracting. Attendees will be able to provide competent legal advice on contractual matters and to process contract actions such as bid protests, mistakes-in-bid, and claims and appeals.

Description.

Through the use of lectures, workshops, and case study sessions, this course primarily addresses those aspects of construction contract law essential to successfully accomplishing the Corps' contract mission. This course is designed for training Corps of Engineers attorneys, acquisition personnel, and project managers.

Prerequisites.

Nominees must be assigned (a) Occupational series: 905, 1102, or 340; (b) Grade: GS-09 or above; (c) Other: This course is recommended for attendees that have had basic government procurement law training.

CERCLA/RCRA PROCESS

356 Length: 24 Hours 33HEL01A
CEUs: 2.1 PDHs: 21

Tuition: $1059 Class Type: Classroom

Purpose.

This course trains personnel on the Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA) hazardous substance response process and the Resource Conservation and Recovery Act (RCRA) corrective action process as it relates to the Department of Defense. It addresses the Defense Environmental Restoration Program which includes the Installation Restoration Program (IRP), the Base Realignment and Closure (BRAC) Program, and the Formerly Used Defense Sites (FUDS) Program. It also has applicability to cleanups conducted under the Formerly Used Sites Remedial Action Program (FUSRAP), the EPA Superfund program, and cleanups at Army Corps of Engineers Civil Works facilities. This is an ISEERB approved course.

Description.

This course has been developed by in-house USACE staff and focuses on the regulatory requirements for cleaning up hazardous substances, pollutants, and contaminants under CERCLA and solid and/or hazardous wastes at RCRA sites. This course covers the CERCLA process as outlined by Subpart E of the National Contingency Plan and the RCRA corrective action process as implemented via EPA guidance, RCRA permit requirements, and consent orders. CERCLA topics addressed include preliminary assessments, site inspections, removal site evaluations, engineering evaluations/cost analyses, removal actions, remedial investigations, feasibility studies, proposed plans, records of decision (ROD), pre and post-ROD changes, remedial design and construction, and public participation requirements. RCRA topics include the initiation of the RCRA corrective action process via permit conditions and consent orders, the RCRA Facility Assessment, RCRA Facility Investigations, Interim Stabilization Measures, Corrective Measures Studies, and Corrective Measures Implementation. In addition to the RCRA course, individual two-day workshops on the CERCLA or RCRA process can be tailored to meet your site specific training needs. Whether you are interested in an onsite CERCLA/RCRA process course or a separate course featuring either the CERCLA or the RCRA process, contact the USACE Learning Center, Huntsville, AL.

Prerequisites.

Nominees must have at least one year of environmental experience. Priority will be given to personnel directly involved in environmental restoration. The target audience for this course includes the following occupational series: 800 series Engineers (0801, 0819, 0830, 0893, 0896, etc); Environmental Protection Specialist (0028); Program Mangers, Engineering and Science (0340); Industrial Hygienists (0690); Geologists/Hydrologist (1350, 1315); and Chemists (1320).

CIVIL DESIGN FOR PLANNING

218 Length: 36 Hours 35CDP01A
CEUs: 3.0 PDHs: 30 LUs: 30

Tuition: $1477 Class Type: Classroom

Purpose.

This course focuses on the proprietary Corps of Engineers (USACE) Civil Works project development process. It provides a general understanding of the broad-range of engineering studies and sensitive engineering issues that impact and influence project formulation, the feasibility planning phase (including the SMART Planning processes), as well as the pre-construction engineering and design (PED) phase. The course also covers the processes involved in accomplishing studies (e.g. Civil Works Review Process, quality control, value engineering), and tools (mapping, risk based analysis, Project Management Plans, etc.). It discusses the role of the designer, planner, and project manager in the context of the Project Delivery Team. It is intended to reach newly assigned professional scientists/engineers within the engineering, planning, and project management functions of the Corps, or those who are new to the Civil Works process. The class can also provide an excellent refresher and update for staff currently working in the program. Individuals not working with, or planning to work with, the USACE Civil Works process may receive less benefit from this class.

Description.

The objective of this course is to develop knowledge, skills, and aptitudes regarding the policies, procedures, tools, and techniques for the execution (planning and design) of a USACE Civil Works project. After completing this course, the student should be able to more effectively execute and coordinate a multi-disciplinary USACE Civil Works project. Topics include organization and development of resources required to execute the process, policy guidance, and various sensitive design concerns within the project planning process (including engineering overview, geotechnical, electrical/mechanical, hydrology and hydraulics, risk-based analysis, value engineering, structural engineering studies, and geographic information systems). Emphasis is placed on navigating the review process including Agency Technical Review (ATR), and the SMART Planning Process. This course tracks the Corps of Engineers Project Management Business Process from the authorization of the first study to the completion of construction. The course was developed for USACE Civil Works personnel and may be of reduced value to personnel from other agencies. Students completing the class may receive 3.0 CEU (Continuing Education Units), or 30 LU (Learning Units), or 30 PDH (Professional Development Hours).

Prerequisites.

Nominees should be on, or have a potential assignment to a Civil Works study team in the Planning or Engineering phases and have functional responsibilities within the Planning, Engineering, or Project Management organizations. (a) Occupational Series: All series; and (b) Grade: GS-07 through GS-13. Individuals not working with, or planning to work with, the USACE Civil Works process may receive less benefit from this class.

CIVIL WORKS COST ENGINEERING

24 Length: 36 Hours 35CCW01A
CEUs: 3.2 PDHs: 32 LUs: 32

Tuition: $1486 Class Type: Classroom

Purpose.

This course is needed due to the demand for training Cost Estimators in the Civil Works (CW) field. Currently there are a large number of cost estimators in the Corps that do not have the intermediate and advanced civil works cost estimating skills and knowledge to adequately perform their job duties. Estimating civil works projects is a specialized field, whereby correct and accurate estimating is needed in order to support and to successfully complete projects. Also a recent audit of the CoE concluded that the Corps needs to provide more training in the Civil Works field.

Description.

The topics covered include the Civil Works Cost Estimating regulations and CW Cost Engineering technical letter. The requirements for performing risk analysis for CW projects will be discussed. Cost Engineering and the interrelation to project management will be reviewed. Advanced methodology of quantity takeoff and review of plans and specifications will be taught. The course will include discussions and examples on real life civil works cost estimating and conditions effecting production rates, bidding strategies, acquiring transportation and placement of materials. Cost estimating software used for estimating CW will be introduced, however the detailed software applications are covered in other PROSPECT classes.

Prerequisites.

The employees that should attend this class include Cost Engineers and estimators at the District and Division level. Occupational Series: 0800 engineering series and engineering technicians; grades: GS-09 and above. The people attending this class should be currently assigned in Cost Engineering or working in the Civil Works field. This course is designed for the intermediate to advanced cost engineer that works on Civil Works projects during their work duty/responsibility. Potential candidates with less than five years experience in preparing cost estimates or grades GS-7 and below are eligible if recommended by their supervisor. It is strongly suggested that potential students have taken the Cost Estimating Basics and MII PROSPECT classes.

CIVIL WORKS PROGRAMMING PROCESS

358 Length: 36 Hours 46CWB01A
CEUs: 3.1 PDHs: 31

Tuition: $ 952 Class Type: Classroom

Purpose.

This course is designed primarily for programmers, project managers, study managers and functional mission personnel. It provides a comprehensive understanding of civil works activities, programming and project/study management concepts and their interrelationship with mission accomplishment.

Description.

The course includes practical exercises and discussions of: (1) the Corps of Engineers, the Administration, the Congress, and actions relative to civil works studies and projects, authorizations, and appropriations; (2) program development and formulation at the district and the division level, including new starts, continuing programs and capabilities; (3) detailed preparation of study/project cost estimates, schedules, justification documents, and related project management documents; (4) program defense including the question and answer process, district briefings, division testimony, and OMB and congressional hearings; (5) study/project and program execution, including work allowances, reprogramming actions, and related documents.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Any job series within career program 18 (engineers and scientists) and career program 11 (comptroller); (b) Grade: GS-07 and above - below GS-07 individuals are eligible if recommended by their supervisors.

COASTAL ECOLOGY

263 Length: 36 Hours 33COE01A
CEUs: 2.6

Tuition: $2581 Class Type: Classroom

Purpose.
This course provides Corps of Engineer personnel with state-of-the-art knowledge and technology in marine and coastal ecology. Students are given an overview of the latest scientific and analytical techniques in the field of coast ecology and related sciences.

Description.
Through a series of lectures, practical and field exercises, and field trips, students are introduced to the basic concepts of marine/estuarine ecology (including benthic ecosystems, fisheries, coastal marsh and seagrass ecology), sensitive resources, experimental design, and current marine ecological techniques. The role and importance of coastal ecosystems will be discussed. Temperate, subtropical, and tropical ecosystems will be covered for the Gulf, Atlantic, and Pacific coasts. Students should bring appropriate clothing/gear (e.g. boots, sunscreen, etc.) to participate in the field component of the course.

Prerequisites.
Nominees must be assigned: (a) Occupational series: 0020, 0400s, 0800s, and 1300s; (b) Grade: GS-09 and above; and (c) This course is meant primarily for engineers, scientists, and technicians with planning, operations, or regulatory duty assignments involving marine and coastal systems.

CONCRETE FUNDAMENTALS

21 Length: 36 Hours 35QVC01A
CEUs: 2.4 LUs: 24

Tuition: $1535 Class Type: Classroom

Purpose.
This course provides the participant with the specific fundamental knowledge of materials, techniques, and procedures for quality concrete construction.

Description.
Through lectures and demonstrations, this course covers concrete fundamentals such as materials, sampling, testing, handling, mixing, placing, consolidating, finishing, curing, and other miscellaneous items.

Prerequisites.
None

CONCRETE MAINTENANCE AND REPAIR

257 Length: 36 Hours 35CMR01A

Tuition: $1780 Class Type: Classroom

Purpose.
This course provides the participant with specific knowledge of materials, techniques, and procedures for evaluation, repair, and maintenance of concrete.

Description.
Through lecture and demonstration sessions, the student will be able to identify the causes of distress, determine extent of failure, list advantages and disadvantages of making repairs, and recommend methods of repair with concrete, mortars, resins, surface coatings, and joint sealants. This course does not cover repair or maintenance of concrete pavements.

Prerequisites.

CONSEQUENCE ESTIMATION WITH HEC-FIA

60 Length: 36 Hours 35CEH01A

Tuition: $2310 Class Type: Classroom

Purpose.

This course is intended to teach users how to use the HEC-FIA tool to do many different types of analysis including; agriculture damages due to flooding, calculation population at risk and life loss associated with flooding, and economic consequences associated with flooding.

Description.

The course presents a software program (HEC-FIA) for conducting economic and life loss consequences for Flood Risk Mitigation projects such as levees, channels, and reservoirs. Included are lectures and case studies describing procedures for creating H&H, Population, Economic and Agriculture inputs for various project site characteristics and how they are used in HEC-FIA. Procedures for conducting simulations for evaluating single flooding events are described using current software developed for the personal computer. Concepts and procedures are demonstrated and practiced in classrooom workshops. Current Corps policy related to economic and life loss is also discussed. Project function focuses on typical features associated with riverine flood reduction project, as well as catastrophic failure of those projects. Examples and case studies illustrate potential problems and solutions.

Prerequisites.

Nominees for the course should have experience in the hydrologic, hydraulic, economic, or plan formulation aspects of flood risk analysis. Noiminees must be assigned (a) Occupational Series: Selected 0000-0010, 0800, and 1300; (b) Grade: GS-09 or above. Nominees should have a basic unerstanding of concepts, terms, and analysis as presented in Hydrologic Engineering in Planning ()57) and Risk Analysis for Flood Risk Management (209).

CONSTRUCTION CONTRACT ADMINISTRATION

366 Length: 36 Hours 41CCA01A

CEUs: 2.5 PDHs: 25 LUs: 25

ACE: 3.0

Tuition: $1491 Class Type: Classroom

Purpose.

This course provides a basic review of the DOD acquisition process as it relates to administration of fixed-price construction contracts. The primary focus is post-award contract administration, but the course includes pre-award coordination and review for field-level personnel. As an introductory course, it also serves as a developmental link between the members of Project Delivery Team (PDT) through the project life cycle.

Note: Students must achieve at least 70% on end-of-course written test.

Description.

This course covers the administration of construction contracts. The student is provided with the basic tenants of the FAR acquisition process and a detailed review of the construction management functions. The course provides a basic understanding of construction contracts, applicable status and regulations, FAR, AFARS, DFARS, and UAIS. Lectures and exercise are presented to illustrate the important contractual and procedural issues encountered during the construction contract administration.

Learning Outcomes: Upon completion of the course, the student will be able to:

1-1 Identify the authorities and responsibilities of the USACE Contracting Organization.

1-2 Recognize the statutory and regulatory requirements to ensure competition, proper contract type, and acquisition planning.

2-1 Using a case study, interpret the requirements of Labor Standards Laws to construction contracts with no more than 2 instructor assists. Students may use provided guidance and their notes.

3-1 Identify the requirements for pre-award planning to construction contracts.

4-1 Identify the roles, responsibilities, and authorities of the Project Delivery Team

4-2 Identify the tenants of EM1180-1-6 in management of daily activities for overall construction quality management.

5-1 Using a case study, interpret the rules of Contract contained in the Specification Clause with no more than 2 instructor/facilitator assists. Students may use provided guidance and their notes.

6-1 Identify an agenda for the preconstruction conference and document the results of the conference.

6-2 Identify the purpose of the contractor's accident prevention plan and the Mutual Understanding Safety

Conference.
7-1 Using a case study, explain USACE policy of Construction Management as it pertains to Quality Control and Quality Assurance, with no more than 2 instructor assists. Students may use provided guidance and their notes.
7-2 Using a case study, explain the tenets of the right of the Government to reject work and AE liability with no more than 2 instructor assists. Students may use provided guidance and their notes.
8-1 Using a case study, interpret specific clauses that allow KO/ACO authority for modifications with no more than 2 instructor assists. Students may use provided guidance and their notes.
8-2 Using a case study, interpret the sources, types, and factors required to issue appropriate modifications with no more than 2 instructor assists. Students may use provided guidance and their notes.
9-1-1 Identify USACE pricing policy for fair and reasonable settlement and equitable adjustment.
9-1-2 Identify the basic concepts of price, cost, technical, profit, analysis.
9-2 Identify the process for preparing for and holding negotiations.
10-1 Identify the requirements to process construction progress payment.
11-01 Define the policy and requirements for contract completion and closeout.
12-1 Using a case study, apply the circumstances under which delays and suspensions can occur with no more than 2 instructor assists. Students may use provided guidance and their notes.
13-1 Identify funding sources and limitations of their use.
14-1 Describe the basic objectives in selecting and applying a remedy short of termination.
15-1 Identify the requirements of the Buy American Act on construction contracts.
15-2 Identify when the Government may terminate a contract.
16-1 Identify provisions of the disputes clause.

Prerequisites.

None. Recommended Series: Selected 0340, 0800, 0905, 1100, and 1102: GS-05 and above.

CONSTRUCTION QUALITY MANAGEMENT

29 Length: 20 Hours 35CQM01A
CEUs: 1.5 PDHs: 15 LUs: 15

Tuition: $ 0 Class Type: DL

Purpose.

This course is designed to be the primary introduction to the Construction Quality Management System as practiced in the Corps of Engineers. The targeted audience is all persons involved in the surveillance of construction contracts.

Description.

After completing this course, the student will understand the objective of construction quality management related to establishing quality requirements, controlling quality during construction, and taking necessary measures to assure quality.

Prerequisites.

Nominees must be assigned (a) Occupational series: 0800 or equivalent NSPS; (b) Grade: GS-05 or above or equivalent NSPS; (c) Other: Students should have a current or projected assignment as a member of the resident or area engineer's staff whose day-to-day function entails construction contract surveillance and contract administration. Specification writers and designers who establish the quality to be incorporated in the contract documents are eligible for attendance.

CONSTRUCTION SCHEDULE PERFORMANCE MANAGEMENT

80 Length: 24 Hours 46NWA01A
CEUs: 2.1 PDHs: 21 LUs: 21

Tuition: $1193 Class Type: Classroom

Purpose.

USACE manages thousands of construction projects which require its contractors to manage schedule performance using sophisticated network scheduling techniques. The triple constraints of technical performance, budget performance and schedule performance must be effectively managed to insure project success. During the construction execution phase of a project, effective schedule performance management is crucial to overall project success. It is not uncommon for the construction phase to initiate later than desired due to late completion of the programming, planning, design and procurement of the requirement. As a result, construction performance periods may be compressed. During the construction phase, time sensitive costs and the risk associated with late project delivery can be severe. When projects fall behind schedule, it is not uncommon for technical performance (quality, safety) to suffer as the contractor attempts to make up lost time. As well, contractors may be entitled to excusable compensable delay costs if the Government is responsible for any delay. It is of paramount importance that USACE in its role as construction agent, perform effective professional schedule performance management consistent with its contract requirements and industry best practices. This course serves that purpose by training the construction management team in schedule performance management.

Description.

After completing this course, the student should be able to

(1) state, interpret, and enforce the contract clauses and technical provisions with respect to schedule performance management,

(2) effectively and efficiently review preliminary, initial, and updated schedules for reasonableness of schedule cost loading, activity coding, and work break down structure

(3) make informed judgments concerning the reasonableness of contractors' schedules to plan the work, predict completion dates, and provide an accurate as-built record of how the project progressed from NTP to final acceptance,

(4) schedule, filter, organize, sort, and produce schedule reports using Oracle's Primavera P6 Professional Project Management software,

(5) understand the QCS/RMS/P6 interface,

(6) perform basic schedule impact analyses, and

(7) efficiently and effectively perform and review schedule updates.

ER 1-1-11, EP 415-1-4, and the UFGS Scheduling Specification are used for reference. Students are taught in a computer lab environment where hands on software training is provided. This is not a course to teach all of the features of Oracle's Primavera P6 Professional Project Management, but rather how to effectively and efficiently use its basic features to eliminate the need to resort to paper plots and reports which are ineffective for schedule analysis.

Prerequisites.

Nominees must be assigned to occupational Series 0800. Student should have a current or projected assignment requiring management and monitoring of military construction schedules. This is a software/computer intensive course – Students MUST be proficient in the use of computers. This course is designed for USACE Project and Resident engineers and District, Division, Branch, and Section heads of construction. A review of basic schedule principles is included; however, students should have prior knowledge of network scheduling.

Continuing Authorities Program (CAP)

49 Length: 28 Hours 46CAP01A
CEUs: 2.3 PDUs: 23

Tuition: $1224 Class Type: Classroom

Purpose.

This course develops the skill sets of Project Managers, PDT members, Program Analysts, Planners, and Section level chiefs in essential CAP knowledge, managing CAP projects, timely decision-making, scaling business processes to match complexity of the project, and developing and maintaining relationships. Given the unique constraints of the CAP Program, it's essential that practitioners are well-trained and familiar with the latest guidance.

Description.

CAP Program Overview, General Principles, Restrictions on Program Eligibility, Coordination Account, Program Cost Sharing, Statutory Federal Participation Limits, Converting GI Funded Studies to CAP, and Converting CAP Feasibility Studies to GI. Project Implementation, Project Management Plan, Plan Formulation, Feasibility and Design and Implementation Phases, Economic Evaluations, Approval Authorities for Decision Documents, Sponsor Agreements & In-Kind Contributions, Accelerated & Contributed Funds Agreements, Post Implementation Federal and Non-Federal Responsibilities, After Action Reviews, Non-Federal Feasibility Work & Non-Federal Design and Implementation Work, Real Estate, Beneficial Uses of Dredged Material Multi-Purpose CAP Projects, Recreation, Ecosystem Restoration and Estuary Policies Applicable to Sections 204, 206, and 1135, Monitoring and Adaptive Management, Design Deficiency Corrections, Guidance for Project Authorities

Prerequisites.

Students should be CAP coordinators, PMs, PDT members (Civil, Geotechnical, H&H, Environmental, Cultural, Cost Specs), Planners, first line supervisors and senior staff responsible for the preparation, review and approval of CAP project/program submittals. Attendees should have basic knowledge of PMBP for Civil Works projects. Training is also valuable for other Program authorities that follow CAP-like and SMART Planning processes.

Contracting Officers Course (Corps Employees Only)

182 Length: 28 Hours 41COW01A
CEUs: 2.4

Tuition: $1488 Class Type: Classroom

Purpose.

This is an invitation only course. This is a best practices course for prospective and current USACE Procuring Contracting Officers (PCOs) and Administrative Contracting Officers (ACOs). Invited participants already have a significant foundation of work experience in Contracting. This is an application-based course with several individual and group exercises which emphasize analytical and problem-solving skills relevant to USACE Contracting Officers. This course is not a cram course for a Contracting Officer Review Board (CORB). This course instead helps to refine the existing skill set of prospective and current Contracting Officers through collaborative learning.

Description.

The course learning objectives are as follows: 1. Articulate Contracting Officer authority and limitations; 2. Implement Project Management Business Process (PMBP); 3. Execute effective Acquisition planning; 4. Perform critical solicitation and award phase requirements; 5. Foster post-award collaboration; 6. Demonstrate competent application of Acquisition knowledge. This course includes several individual and group analytical and problem-solving exercises, including a mock Contracting Officer Review Board (CORB) collaborative group exercise.

Prerequisites.

This is an invitation only course. The intended target audience is prospective and current USACE Procuring Contracting Officers (PCOs) and Administrative Contracting Officers (ACOs). Interested employees may submit a registration request to their supervisor. The registration request should include a brief (2 to 3 sentence paragraph) statement about how the employee would benefit from taking this course. If the supervisor concurs, the supervisor submits the registration request to the respective Principal Assistant Responsible for Contracting (PARC) office. The PARC office will make final seat selections and will inform employees of their status.

Please do not attempt to register for this course through the local training coordinator. All registration requests must follow the process described above for this invitation only offering.

NOTE: This course is not open to Contractors or any persons from outside of the U.S. Army Corps of Engineers (USACE).

CORROSION CONTROL

9 Length: 36 Hours 35CCL01A

Tuition: $2029 Class Type: Classroom

Purpose.

This course familiarizes design engineers, maintenance staff and engineers involved with project operations such as structural, mechanical, electrical, etc., with the mechanism of corrosion, the results if unchecked, and the methods of its mitigation. Designers, if familiar with corrosion phenomena, can temper their designs so as to avoid potential problems or make it easier to provide protection.

Description.

Topics included in this course are: fundamentals of corrosion and engineering alloys; principles of cathodic protection and electrode potentials; design of cathodic protection systems; design considerations; atmospheric corrosion; design for underground cathodic protection systems; types of corrosion; painting practices; sea water corrosion; system test and evaluation; and materials selection.

Prerequisites.

Nominees must be assigned (a) Occupational series: selected 0800; (b) Grade: GS-09 or above; (c) Other: students should be designers or supervisory engineers.

COST ESTIMATING BASICS

181 Length: 36 Hours 35CEB01A

CEUs: 2.9 PDHs: 29

Tuition: $1513 Class Type: Classroom

Purpose.

This course provides training on basic cost estimating principles and fundamentals. The training is intended for individuals who are entering the Cost Engineering profession with little or no cost estimating experience or who will be responsible for the review or preparation of detailed construction cost estimates.

Description.

This is a basic, non-computer based course designed to teach individuals the basic principles of construction cost estimate preparation, and how to identify and classify costs associated with construction. Through the use of lectures, visual aids, individual and group practical exercises, the course provides instructions on: (a) an overview of procurement and cost engineering regulations; (b) work breakdown structures; (c) reading construction drawings; (d) quantity calculation and development; (e) performing manual quantity takeoffs; (f) determining labor costs and crew composition; (g) estimating costs of equipment, material, and supplies; (h) developing indirect costs; (i) determining cost escalation and contingencies; and (j) preparing government estimates summaries.

Prerequisites.

Nominees must be assigned (a) Occupational series: selected 0800; (b) Grade: GS-05 or above; (c) Other: Nominees must obtain Huntsville approval before attending this course. A pocket calculator is required for this class. Also, a tablet or notebook computer is permitted for this class for basic computations (e.g., excel).

COST REIMBURSEMENT

1 Length: 36 Hours 41CRC01A
CEUs: 2.5 PDHs: 25

Tuition: $1535 Class Type: Classroom

Purpose.

This course provides practical guidance on how to structure, solicit, and manage cost-reimbursement contracts. The course is suitable for all functional elements, but is primarily geared to the Corps construction execution workforce. The course directly supports the Corps vision by addressing many contemporary issues regarding the management of innovative contracts and supports the "Best Value" selection process. As noted above, the FY 14 student population was primarily from and interested in service and O&M Contracts... not construction.

Description.

This course covers the acquisition strategy, source selection, and management of cost-reimbursement contracts. The instruction and text material addresses solicitation preparation to final closeout of cost-reimbursement contracts. Specific subjects addressed include the history of cost-reimbursement contracts, acquisition policies, selection of contract type, preparation of the request for proposal, source selection procedures, cost accounting, procurement and property management, Work Authorization Document (WAD) and Earned Value Systems for cost control, fee and profit policies, Corps organization and management, contractors organization, and final closeout.

Prerequisites.

Nominees should be assigned (a) Occupational Series: 0028, 0340, 0560, 0800, 0905, and 1100; (b) Grade: GS-11 or above, or equivalent; Military--Captain or above; (c) Responsibilities: personnel should be assigned or actively engaged in the administration of a current or future cost-reimbursement contract or to a start-up team for a cost-reimbursement contract; (d) Knowledge/skills: nominee should possess a general knowledge of contracting procedures and construction contract administration; (e) Prerequisite training: nominee should have completed the Construction Contract Administration course (No. 366).

COST RISK ANALYSIS BASIC

220 Length: 32 Hours 35CRA01A

Tuition: $2554 Class Type: Classroom

Purpose.

This course provides training on basic cost risk analysis principles and fundamentals. The training is intended for the Cost Engineering professional with little or no cost experience in cost risk analysis techniques who will be responsible for the review or preparation of construction contingencies for Civil Works and MILCON cost estimates.

Description.

This is a computer based course, and is designed to provide a solid introduction to the theory and application of risk analysis problems involving multiple numeric uncertainties (e.g. budget to detailed cost estimating, contingency analysis, and competitive bidding) and demonstrate why risk analysis is necessary, and how to mitigate the probability of having a cost overrun.

Through the use of lectures, visual aids, individual and group practical exercises, the course will provide instructions on: (a) procedures and cost engineering regulations regarding the use of cost risk analysis, (b) basic statistics (c) data gathering, (d) uncertainties identification and quantification, and (e) interpretation and use of the results.

This course will discuss, and provide familiarization and hands on training of the computational tool, Crystal Ball. Crystal Ball is the Corps required software for preparing risk analysis for contingency development.

Prerequisites.

Nominees must be assigned (a) Occupational series: selected 0800; (b) Grade: GS-11 and above, and have completed the Cost Engineering Basic course; (c) Other nominees must obtain CECW-CE approval before attending this course. A pocket calculator and laptop computer with Microsoft Excel and Oracle Crystal Ball is required for this class. Proficiency with Microsoft Excel is required.

CRANE SAFETY

32 Length: 36 Hours 58CNS01A

Tuition: $1424 Class Type: Classroom

Purpose.

This course provides students with an introductory, fundamental but detailed understanding and knowledge of Load Handling Equipment (LHE) as well as USACE and OSHA safety requirements for a crane program, to include rigging, signal personal and rigger requirements. Inspection, maintenance, training and operational requirements (not certifications) for cranes and hoisting devices are also covered in this 36 hour class. Field trip is essential to the understanding of the equipment, rigging and LHE components.

Description.

Areas to be covered in this course include a general but thorough introduction to types of cranes and hoisting equipment, to include common terminology, nomenclature and components. In addition, discussion and overview of the following will be covered:

(a) Basic design and construction of cranes/hoists to include the basic scientific principles associated with crane/hoisting operations; lots of models, examples, hands-on viewing.

(b) Fundamentals of rigging - includes a variety of rigging gear, components and configurations and potential applications to include the requirements for a navel architectural analysis on floating plant, as well as the components of wire rope and inspection requirements and procedures for wire rope, load blocks, and sheaves; lots of samples passed around and explained.

(c) Crane/hoisting signals;

(d) Operator selection, training and certification requirements to include physical requirements;

(e) Inspection requirements of cranes/hoisting equipment;

(f) Operator aids, safety devices and general safety requirements for cranes/hoists;

(g) Operational and load testing requirements to include frequency as well as conditions that trigger the requirements;

(h) Lift planning procedures, to include assembly/disassembly and critical lifts;

(i) Communication and emergency procedures to include accident prevention and investigation and the hazards of power line clearance, and

(j) Similarities and differences between USACE crane/hoist requirements (EM 385-1-1), OSHA requirements, ANSI and consensus standards.

(k) Field trip that provides a hands-on, real world view of equipment, rigging and set-up, parts, pieces, explanations, etc.

Prerequisites.

Nominees should have an occupational need for basic Load Handling Equipment information and related requirements. This course does not provide an in-depth knowledge of cranes and hoists. All grade levels are accepted. Course is specifically recommended for Corps of Engineers Construction QA's, Project Engineers, maintenance foremen/supervisors, safety and health professionals, Environmental Compliance Coordinators, Operational / Maintenance personnel and anyone else with a need to know USACE and contractor crane program requirements to include: basic construction and maintenance safety by stressing vital aspects of following safe work practices and procedures and how and what to monitor for on contractor crane/hoisting operations.

CULTURAL RESOURCES

299 Length: 36 Hours 33CUR01A

Tuition: $1388 Class Type: Classroom

Purpose.

This course provides students with a broad-based understanding of the character and quality of cultural resources, a working knowledge of the identification and assessment procedures applied to those resources, and a review of tribal policy principles that impact agency cultural resources management. The course is designed for planners, environmental resources managers, student managers, project managers, and others who will participate in the management of cultural resources and interact with Indian tribes.

Description.

The attributes, quality, and values of cultural resources are examined with the processes of identification, evaluation, and impact assessment described in detail. Students receive an overview of Corps planning principles and guidelines focusing on the integration of cultural resource considerations with other resource planning and management activities. Attention is given to provisions of the National Historic Preservation Act (NHPA) of 1966, the Archeological Resources Protection Act of 1979, the Native American Graves Protection and Repatriation Act and other legislative and regulatory requirements. This course gives special consideration to the procedural requirements of Section 106 of the NHPA and the interrelationships of the agency, the Advisory Council on Historic Preservation, the State Historic Preservation Office, and officials of Indian tribes. The program also offers an overview of the nature of Corps relations with Indian tribes including an understanding of the Trust relationship, government-to-government relations, treatment of Native American human remains and associated objects and Indian access to sacred sites. State-of-the-art field techniques, methodologies regional overviews, and data management are illustrated.

Prerequisites.

Nominees must be assigned (a) Occupational series: selected 0020, 0100, 0400, 0800 and 1300; (b) Grade: GS-07 or above (water resource planners, rangers, park managers, planners, study managers, designers - anyone potentially involved with cultural resources during the planning, design, or operation of a project). Senior leaders and decision makers at the USACE District and MSC levels are encouraged to enroll in this course offering. Nominees should have attended the Environmental Impact Assessment course and the PCC1 Civil Works Orientation course, or equivalents.

CW PROGRAM DEVELOPMENT

10 Length: 28 Hours 46CWP01A

CEUs: 2.3 PDUs: 23

Tuition: $1237 Class Type: Classroom

Purpose.

This training is primarily designed for civil works project delivery team members and program managers with an emphasis on the budget development and defense process. Those with some CW program development experience will benefit the most since this is not an introductory course. It builds on existing experience to provide a comprehensive understanding of civil works mission accomplishment, HQ-level programs management activities, the importance of the Project Management Business Process (PMBP) in program execution, Civil Works Transformation, and includes HQUSACE interface with Office of Management and Budget (OMB) and Congress.

Description.

The training includes discussions of topics in view of the Project Management Business Process, including: (1) the Corps of Engineers civil works organization, the Administration, and the Congressional committees that provide legislative oversight of the civil works program through authorizations and appropriations; (2) program development, including new start and continuing programs, and funding capabilities; (3) program defense, including OMB and Congressional hearings; and (4) program execution, including work allowances, reprogramming actions, performance measurement.

Prerequisites.

This is not an introductory course. Those with experience in Civil Works program management, or who have taken PROSPECT Course 358 will benefit the most from attending course 010. Nominees must be project delivery team members, GS-340 program managers, chiefs of organizations that support the Project Management Business Process (e.g., Real Estate, Counsel, and Resource Management). Division and district commanders, deputy commanders with civil works missions, and members of the Senior Executive Service are invited to attend this seminar.

DAM SAFETY

28 Length: 32 Hours 54DAS01A
CEUs: 2.6 PDHs: 26

Tuition: $2207 Class Type: Classroom

Purpose.

This course trains managers, engineers, geologists, technicians, and project operating personnel in FOA engineering, construction, and operations divisions on all aspects of the Corps of Engineers Dam Safety Program. The background and history of dam safety in the Corps is covered along with the multi-discipline design, construction, and operational considerations. Details of planning, conducting, and reporting the results of a periodic inspection are included. Guidance on project surveillance by operation personnel along with the Dam Safety Program are covered in detail. Public awareness and preparedness are included.

Description.

Through lectures, case histories, field visits, and structured student discussions, the course covers all aspects of a dam safety program. The course outlines technical considerations (hydrologic, seismic, geotechnical, electrical/mechanical and structural) as well as the operational requirements (operation, maintenance, surveillance, preparedness, training, and notification). The scope and implementation details of the Dam Safety Program are covered in detail. Presentations, video modules, case histories, and a walk-through inspection are used to effectively present a multi-discipline approach to the successful monitoring and evaluation of Corps of Engineers dams.

Prerequisites.

Nominee must be assigned:
(a) Occupational Series: Selected 0800 and 1350.
(b) Grade: GS and WG, as appropriate, GS-05 or above.
This course is intended for all personnel involved in the design, construction, operation, inspection, and maintenance of Corps dams. Attendees should bring proper attire for field visits, e.g., rain gear, comfortable shoes (no sandals or flip-flops.)

Dam Safety Program Management

31 Length: 24 Hours 54DAS03A
CEUs: 2.6 PDHs: 26

Tuition: $1558 Class Type: Classroom

Purpose.

The purpose of this course is to train dam safety professionals in the requirements and best practices of the “routine” dam safety program while providing some familiarity with the “non-routine” program. Recent developments in the USACE program brought sweeping changes to move the program in to risk management, resulting in the issuance of new guidance. This course will equip the dam safety professional in the knowledge required to implement the new requirements and plan, manage, and execute the various aspects of the routine dam safety program. Through instruction, discussion, and practical exercises, students will gain the technical expertise needed to ensure current knowledge of regulations and processes vital to the dam safety program

Description.

Using current version of ER 1110-2-1156 as an outline and text, the course will cover all the aspects of the routine program through lectures, case histories, group discussions, and practical exercises. The course will include: organization, inspection preparation, periodic assessments, instrumentation and monitoring, site-specific training, emergency exercises preparation, Dam Safety Program Management Tools (DSPMT), Scorecard, budgeting and funding, risk reduction measures, and communication. Familiarity with the non-routine, e.g., Issue Evaluation Studies and Modification Studies will be provided.

Prerequisites.

Nominee must be assigned to: (a) Occupational Series: Selected 0800 and 1350. (b) GS-09 or above. Nominees should have current or projected responsibilities in management of a district or MSC Dam Safety program and already have taken the general “Dam Safety” PROSPECT course. Attendees should bring laptop computer and have access and edit privileges to DSPMT.

DESIGN BUILD CONSTRUCTION

425 Length: 24 Hours 35DBM01A
CEUs: 1.9 PDHs: 19

Tuition: $1495 Class Type: Classroom

Purpose.

This course provides current information to Corps of Engineers personnel and customers doing business with the Corps of Engineers on the latest developments, lessons learned and use of Design-Build as a construction method.

Description.

Topics include: (a) Design-Build Overview; (b) Planning the Acquisition; (c) Special Contract Requirements and Important Clauses; (d) Developing Technical RFP Requirements; (e) Proposal Submission Requirements; (f) Proposal Evaluation Requirements; (g) Source Selection Plans; (h) RFP Completion; (i) Source Selection (j) Contract Award and Beyond; and (k) Contract Management.

Prerequisites.

Nominees should be individuals involved in Design-Build contracting, including: Engineering, Construction, Contracting, Counsel, Project Management, and Customers.

DEVELOPMENT OF PROJECT PARTNERSHIP AGREEMENTS

315 Length: 36 Hours 46LCA01A

Tuition: $ 912 Class Type: Classroom

Purpose.

This course provides the basic knowledge, skills, and abilities needed to develop, negotiate and process for approval agreements (Project Partnership Agreements (PPA), Design Agreements (DA), and Feasibility Cost Shared Agreements (FCSA)) used for implementation of cost shared Civil Works water resources development projects and the supporting documents necessary for the agreement packages. Lecturers and instructors include HQUSACE staff, Division staff, and a guest speaker.

Description.

Topics include: (a) Development, negotiation, and processing of Agreements (such as PPA, DA, and FCSA) for cost shared Civil Works water resources development projects; (b) Implementation of cost shared Civil Works projects including cost sharing policies; (c) Planning, Policy, Programs, Real Estate, and Legal aspects and considerations in development of Agreements; (d) In-Kind Contributions authorities; (e) Policies and procedures to account for project funds including preparation of Federal/Non-Federal Funds Allocation Table and determining non-Federal proportionate share; (f) Requirements for accelerated, contributed, and advanced funding; (g) Non-Federal Sponsor Self-Certification of Financial Capability Form; and (h) Project examples and experiences.

Prerequisites.

Nominees must be assigned (a) Grade: GS-09 to GS-15; and (b) current responsibilities in Project Management; Study Management; Engineering Management; Planning; Programs; Real Estate; Counsel; and Cost Share Control Record Managers or others assigned to the Office of Resource Management and Internal Review.

DIESEL GENERATORS: BASICS/TESTING

106 Length: 32 Hours 54DGN01A

Tuition: $2092 Class Type: Classroom

Purpose.

This course provides a general familiarization with the components and systems that make up a diesel generator and teaches the proper testing and checkout procedures to be followed prior to accepting generating units from the construction contractor.

Description.

Through lectures, visual aids, and demonstration sessions, this course covers such subjects as engine and generator basics, fuel systems, heat transfer systems, generator exciters and regulators, governors, instrumentation, design criteria, various factory and field test procedures, automatic transfer switches, and typical installation problems. A portion of this course will utilize a diesel generator unit for performing typical field tests.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0802, 0809, 0810, 0830, and 0850; (b) Grade: GS-07 or WG-07 or above. Nominees should have current or projected responsibilities that include power generation specification, procurement, installation, testing or operation. The broad content of the course is beneficial for technically-oriented construction, design, and maintenance personnel. Although this is not intended to be a maintenance course, maintenance personnel should benefit from this course. Recommend that nominees complete the Electrical, Mechanical, or General Quality Verification Courses prior to taking this course. Engineers are exempt from this prerequisite requirement.

DISTRICT OFFICER INTRODUCTORY COURSE

334 Length: 36 Hours 41DOI01A

CEUs: 3.4

Tuition: $1469 Class Type: Classroom

Purpose.

This course is designed to orient the newly assigned engineering officer who is an engineer by training but has done little or no business in the USACE environment. The course provides a broad overview of the organization and covers a wide range of topics relating to all facets of the Corps of Engineers mission.

Description.

Course is structured to take students through all phases of military and civil works projects. Specific topic areas include programming, budget design, project management, acquisition, planning, contracting, construction contract management, legal considerations, and environmental issues. Case studies and practical exercises are utilized to enhance the student's understanding of specific subject matter in selected areas of the course. The course is designed to familiarize the student with the field operating environment.

Prerequisites.

Students will be nominated by HQDA (Engineer Branch), the Military Personnel Division (CEHR-M) of HQUSACE, division and district commanders, and laboratory directors. Nominees should be (a) Occupational branch series: 21; (b) Paygrades: 02, 03, or 04; (c) newly assigned officers who will be assigned duties within the USACE environment in the Area of Concentration (AOC) 21D; (d) newly assigned civilian personnel GS-12 and above.

DIVE SAFETY ADMIN

175 Length: 76 Hours 54DVC01A

Tuition: $5200 Class Type: Classroom

Purpose.

This course provides Corps of Engineers employees who are assigned as diving coordinators, alternate diving coordinators, Dive Inspectors and Safety Office Diving Safety Representatives with the necessary skills, knowledges, and abilities to perform their assigned duties. This training will provide students with state-of-art technology and methodology to evaluate underwater diving operations and effectively manage diving contingencies. NOTE: This course or the course "Working Diver" is required for all diving coordinators and alternate diving coordinators, and is recommended for all Safety and Occupational Health Office Diving Safety Representatives.

Description.

Students will become familiar with diving systems and methodology, including support activities and dive equipment. This course consists of classroom presentations and practical exercises in dive planning and execution involving actual dive operations. The focus of the course is on Safety Requirements, Dive Planning, Hazard Analysis, Risk Management Emergency Management and Contract Administration. Sessions pertinent to underwater diving operations will include, but are not limited to, the following topics and activities: (a) diving physics; (b) diving physiology; (c) diving medicine; (d) modern diving systems and support equipment; (e) SCUBA equipment and operations; (f) surface supplied air equipment and operations; (g) decompression principles & associated tables; (h) modern diving accident management techniques; (i) working dive planning; (j) diver supervision principles and practices (k) preparation and use of Activity Hazard Analyses; (l) USACE, OSHA, and US Navy diving regulations (ER 385-1-86, EM 385-1-1, 29 CFR 1910, and US Navy Diving Manual); and (m) management of the diving function.

Prerequisites.

Students for this course should have a current or projected assignment as a District Diving Coordinator, Alternate District Diving Coordinator, Dive Inspector, or Safety and Occupational Health Office Diving Safety Representative. Students must participate in all lectures, written and practical exercises, and score at least 70 percent on the comprehensive post-course examination to pass the course. Exceptions or deviations to any of these prerequisites shall be approved by the HQUSACE Safety and Occupational Health Office.

DIVE SAFETY ADMINISTRATION REFRESHER

397 Length: 40 Hours 33DIS01A

Tuition: $4350 Class Type: Classroom

Purpose.

This course provides refresher training for Corps of Engineers employees who have contract inspector, safety, and/or oversight responsibilities for diving activities and/or operations. This training provides attendees with the necessary skills, knowledge, and abilities to safely and successfully perform inspections, oversight, and administration of diving operations.

Description.

This course consists of both classroom discussions and water-side exercises. In-depth training sessions cover the following topics: (a) diving physics; (b) diving physiology; (c) dive tables; (d) SCUBA equipment and operations; (e) surface supplied air equipment and operations; (f) diving support equipment; (g) diving in contaminated water; (h) underwater tools; (i) diving accident management; (j) dive planning and contractor submittals; (k) Corps of Engineers regulations; and (l) inspection of diving operations.

Prerequisites.

Nominee must have completed the Dive Safety Administrator Course within the past 4 years and have a current or projected assignment to a position that requires knowledge of contractor and/or in-house diving operations. Attendees must participate in all exercises and score at least 70 percent on the comprehensive post-course examination.

DIVING REFRESHER

259 Length: 68 Hours 54DVR01A

Tuition: $8000 Class Type: Classroom

Purpose.

This course provides Corps divers and diving supervisors with the latest technical and managerial data as it relates to underwater diving. This course is required at 4-year intervals after completing the Working Diver course as stated in ER 385-1-86 for those persons working with underwater diving programs. Students will satisfactorily complete all aspects of the training to receive certification.

Description.

Through lectures and demonstration sessions, this course covers (a) state-of-the-art diving equipment and procedures; (b) latest developments in accident management techniques; (c) refresher training in decompression tables; (d) refresher training in repetitive diving; (e) refresher training in diving medicine; and (f) recompression chamber experience.

Prerequisites.

(a) Attendees must have successfully completed the Working Diver. Divers should have a current or projected assignment in diving activities and have passed a diving medical examination within the previous 12 months. Verification of medical exam will be required at the course. (b) All attendees must make at least 70 percent on comprehensive post-course examination for recertification. (c) Attendees must participate in and complete all phases of instruction. Failure to participate in all class activities will be cause for course failure. (d) Students must provide proof of the last 4 government dives within the past 11 months. For students who are not medically qualified and are attending the course to meet Dive Supervisor requirement, they are required to show proof of 4 government dive supervision tasks within the past 11 months and participate in all instruction activities with the exception of actual in-water diving.

DPW JOB ORDER CONTRACTING ADVANCED

991 Length: 16 Hours 441DJA01

Tuition: $1246 Class Type: Classroom

Purpose.

This course teaches students strategies and procedures for technical discussion and negotiation with contractors in the JOC task order process. Students shall learn how to apply the IDIQ Delivery Order Limits, which is locked in by the FAR and codified in public law. JOC is most applicable to the Directorate of Public Works (DPW) organization on an Army installation or community and USACE MSCs/District Offices.

Description.

After completing the course, the student should be able to serve as a knowledgeable ordering officer for the JOC Branch within the DPW as well as scope SRM projects using the JOC unit price book, manage construction contracts and schedules, and manage projects in accordance with RPMA program requirements, i.e., determine appropriate funding programs, work classification, etc. as well as understand the IQC delivery process, competitive bid process, and firm-fixed price requirements. The students will understand the overall process of contract changes, modifications, and claims processes in accordance with the FAR and AFARS.

The course covers the elements of JOC; task order scoping; task order proposal requesting, receiving, reviewing, evaluation, negotiation, and documentation; task order placement by ordering officers; key JOC management issues; and contract administration procedures under JOC. The underlying themes through all the modules of the course emphasize a cooperative working agreement between contractor and government; efficient and timely processing and completion of projects; and adherence to proper contract administration procedures.

Prerequisites.

It is recommended that nominees be Army installation DPW or supporting contracting office personnel, which includes USACE District support offices, that are, or expect to be, performing as JOC project managers, ordering officers, or contract administration personnel. Contractor personnel are not eligible to attend. It is advisable to have completed the Job Order Contracting Basic Course and have at least one year working experience with JOC prior to taking the Job Order Contracting Advanced Course.

DPW JOB ORDER CONTRACTING BASIC

990 Length: 16 Hours 41DJB01A
CEUs: 2.0

Tuition: $1246 Class Type: Classroom

Purpose.
This course teaches students the basic policies, and procedures for properly executing sustainment, restoration, and modernization (SRM) projects using a Job Order Contracting (JOC) contract applicable to the Directorate of Public Works or a USACE District Office.

Description.
After completing the course, the student should be able to serve as a knowledgeable ordering officer for the JOC Branch within the DPW as well as scope SRM projects using the JOC unit price book, manage construction contracts and schedules, and manage projects in accordance with RPMA program requirements, i.e., determine appropriate funding programs, work classification, etc. as well as understand the IQC delivery process, competitive bid process, and firm-fixed price requirements. Additionally, the students shall be able to apply the IDIQ
Delivery Order Limits, which is locked in by the FAR and codified in public law.

The course covers the elements of JOC; task order scoping; task order proposal requesting, receiving, reviewing, evaluation, negotiation, and documentation; task order placement by ordering officers; key JOC management issues; and contract administration procedures under JOC. The underlying themes through all the modules of the course emphasize a cooperative working agreement between contractor and government; efficient and timely processing and completion of projects; and adherence to proper contract administration procedures.

Prerequisites.
The nominees for this course may include any DPW and contracting office personnel. However, the course is specifically oriented for personnel assigned or about to be assigned duties in the JOC activity within the DPW, and personnel of the supporting contracting office that will be involved in JOC contract administration. This includes USACE District support offices.

DPW QUALITY ASSURANCE

972 Length: 24 Hours 41DQA01A

Tuition: $1095 Class Type: Classroom

Purpose.
This course is for Quality Assurance Evaluators, Contracting Officer Representatives, and other personnel with contract surveillance responsibilities. It incorporates recent DoD guidance addressing techniques for service contracts using commercial item acquisition procedures.

Description.
After completing the course, the students should be able to understand the DOD guidance, techniques, tools, and commercial item acquisition procedures as they relate to performance and service based contracts. The student should be able to prepare an SOW for QA contract as well as prepare a Quality Assurance and Surveillance Plan (QASP); for example, MEO PWS metrics/contracts.

This will be achieved through lectures, individual study, and work group activities. This course provides a detailed description of service contract surveillance techniques. Quality terms and definitions are presented and illustrated through the use of examples and practical exercises. Pertinent quality related contract clauses are identified and explained. New DoD procedures which shift the quality assurance focus from oversight to insight are addressed. The concept of partnering with the contractor to validate the contractor's quality control system, establish meaningful metrics, and monitoring of those metrics is explained. Emphasis is on understanding what is needed in terms of contractor management, worker skills, training, processes, procedures, materials, tools, equipment, facilities, and all other elements of quality control. In addition to DPW quality management techniques and responsibilities, various users' partnerships with and participation in the Corps of Engineers' quality management program and involvement in USACE management of DOD projects will be explored.

The elements of the QASP are discussed and the need for objective quality assurance data is identified. Sample Surveillance Checklists are provided and the students prepare tailored checklists in class. Surveillance methods are explained and practical exercises are used to illustrate the essential features of random sampling, planned sampling and 100 percent inspection. The use of validated customer complaints and unscheduled inspections are discussed. Applicable portions of ANSI/ASQC Z1.4, "Sampling Procedures and Tables for Inspection by Attributes" are covered in detail. Students prepare a government contract quality assurance program using a sample contract as the basis for the work which includes various Assurance QA Plan attachments such

as surveillance activity checklists, inventory of services worksheets, etc. A mock surveillance action is performed and critiqued in class.

NOTE: Attendees need a calculator to benefit fully from the Practical Exercises that are an integral part of the course.

Prerequisites.

None. This course is recommended for personnel assigned or to be assigned as Contracting Officer Representatives, Quality Assurance Evaluators, or others with contractor performance monitoring duties. However, the following GS Series - 1107, 0800, 1170, 0340, & 0020 should attend.

DREDGE COST ESTIMATING

118 Length: 36 Hours 54DGE01A
CEUs: 2.8 PDHs: 28

Tuition: $2448 Class Type: Classroom

Purpose.

This course provides an understanding of cost estimating for dredging projects. Methodology for cost estimating of pipeline, hopper, and mechanical dredging is presented. Training is provided on the use of CEDEP, the official dredge estimating software program.

Description.

Through lectures, discussion, demonstrations and class problems, the course covers the current requirements for the preparation of dredge cost estimates. Specific emphasis is placed on definitions, equipment selection, productivity and cost detail development in the preparation of cost estimates for projects utilizing pipeline, hopper, and mechanical dredges. These principles are further discussed in relationship to the current version of the CEDEP software.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0800; (b) Grade: GS-07 or above; Nominees are those who have a need to learn more about cost estimates for dredging projects. These employees are envisioned to work in the engineering, operation, planning, or construction divisions of Corps Districts or Divisions. Their educational background should not be less than that of an engineering technician or equivalent. (c) Nominees should be knowledgeable of computer software and computer spreadsheet programs. Dredging Fundamentals is a suggested (not required) class to be taken prior to this course.

DREDGING FUNDAMENTALS

333 Length: 36 Hours 54DFM01A
CEUs: 2.5 PDHs: 25

Tuition: $1469 Class Type: Classroom

Purpose.

The purpose of the course is to provide the student with the fundamental knowledge of dredging theories and practices associated with the USACE dredging program.

Description.

Through lectures, group discussions, examinations, and a field trip, this course teaches the student fundamental dredging theory and accepted dredging practices in addition to basic information on how Corps dredging projects are engineered, managed, and maintained. A brief overview of dredge estimating, dredging safety, hydrographic surveys, and dredging contract administration is also provided. A field trip to see dredging equipment and/or navigation features is included to help the student understand the material taught in the classroom. This course is a prerequisite for the Dredge Cost Estimating course.

Prerequisites.

Nominees must be assigned
(a) Occupational Series: Dredging related;
(b) Grade: WG-04/GS-04 and above (or equivalent).

EARLY CONTRACTOR INVOLVEMENT (ECI)

344 Length: 36 Hours 41ECI01A
CEUs: 3.0

Tuition: $2360 Class Type: Classroom

Purpose.

This course provides trainees an understanding of the use and application of the Early Contractor Involvement (ECI) Project Delivery System. ECI is an integrated project delivery system that uses an incentive type contract, operating under the FAR Successive Targets Clause. The delivery system is unique to USACE and differs from the design-build and design-bid-build delivery systems. It is premised on the concept of bringing the designer and constructor together early in the project design phase under two separate contracts.

Description.

The training defines and provides lessons-learned regarding the process of initiating, planning and executing a project using the ECI delivery system. Topics include: ECI definition and introduction; acquisition planning, ECI contract formation and legal sufficiency; ECI project planning, solicitation development, evaluation and award; administering the pre-construction phase; awarding construction options; awarding and administering 'fast track' packets; cost and pricing principles; negotiating at the production point; and involvement of DCMA and DCAA.

Prerequisites.

Nominees should be Project Delivery Team (PDT) members and/or their supervisors, who will be involved in projects utilizing the ECI delivery system (Contracting, Counsel, Project Management, Engineering, Construction and Customers). Varying experience levels are acceptable, but a basic understanding of Acquisition Planning, Best Value Tradeoff Source Selection Process and Construction Contract Administration is required.

EARTHWORK CONSTRUCTION--QUALITY VERIFICATION

40 Length: 36 Hours 35EWI01A
CEUs: 2.4

Tuition: $1433 Class Type: Classroom

Purpose.

This course provides the participant with proper earthwork inspection techniques and improves quality assurance management on construction projects. Insight is also provided as to the technical reasons behind construction requirements and how these requirements contribute to successful construction.

Description.

Through lecture, conference sessions, laboratory demonstrations and practical exercises this course covers the field of soils identification, soil sampling and testing, and techniques for earthwork inspection and testing. This course primarily teaches earthwork embankment construction, although some material pertaining to building foundation preparation is included.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0801, 0802, 0809, 0810, 0830, and 0850; (b) Grade: GS-05 to 09. Students should have a current or projected assignment as a general or earthwork construction inspector or related duties at the field level. This course is also well suited for junior engineers as part of the training provided in Engineer-In-Training programs, and for Corps division, district, and field office personnel directly concerned with construction operations. Nominees must not have attended this or a similar course within the past 5 years.

ECOLOGICAL RESOURCES: INVENTORY & EVAL

168 Length: 36 Hours 33ERI01A

Tuition: $2047 Class Type: Classroom

Purpose.

This course provides students with a working knowledge of current techniques and methods that can be used to identify, analyze, and evaluate ecological resources. Emphasis is placed on state-of-the-art procedures for inventory and data collection and evaluation of natural resources required for compliance with Federal laws, Executive Orders, and Corps of Engineers policy and planning guidance. Ecological resources include broadly defined fish and wildlife populations, habitats, and their relationships to each other and the environmental/ecosystem. While the course is not an introductory level course, it is assumed that the student has limited or outdated knowledge of fish and wildlife population dynamics, vegetation sampling, and assessment techniques for these resources.

Description.

Corps planning guidance and the "Principles and Guidelines" for planning water resources projects are used as the basis to describe the information required for ecological resources evaluation. Emphasis is placed on describing and demonstrating cost-effective, state-of-the-art techniques and procedures for identifying, inventorying, assessing, evaluating, and displaying ecological resources information. Habitat assessment procedures and inventory techniques are described and demonstrated for birds, mammals, reptiles, amphibians, and fishes. Emphasis is placed on those techniques that can be used to inventory sensitive species and evaluate their habitat or potential habitat. Students receive hands-on training through field trips taken to both terrestrial and aquatic sites where they conduct selected animal inventories and habitat assessments. Students will be provided with key sources of ecological resources information and technical assistance within the Corps, other agencies, and outside sources. Instructors emphasize that ecological resources cross geographic and political boundaries and encourage interdisciplinary and cross-stovepipe collaboration.

Prerequisites.

a. This course is primarily for technical personnel whose duties involve the identification, evaluation, analysis or management of ecological resources. Project and Program Managers responsible for project and program management activities, particularly those involving ecosystem restoration, would also benefit.
b. Occupational Series: Primarily 0028, 0400, and 1300.
c. Grade: GS-09 or above. Disciplines (other than the above) may be accepted provided nominee's present or anticipated duties involve the management, analysis, identification, or evaluation of ecological resources.
SPECIAL INSTRUCTIONS: Much of this course involves field exercises. Therefore, students should prepare to work in both upland and aquatic environments and to bring appropriate shoes and clothing. Special tours may be available after class hours.

ECONOMIC ANALYSIS MILCON

101 Length: 28 Hours 35EAM01A

Tuition: $1550 Class Type: Classroom

Purpose.

This course explains the fundamental principles and procedures for developing economic analyses (E/A) in support of military construction and capital investment projects. The practical application of economic principles is provided through "hands-on" computer training sessions in which participants develop economic analyses using the Army's economic analysis package, ECONPACK. Economic Analysis is an integral and required justification for military construction projects and capital investment proposals. This course is specifically designed to enable participants to prepare adequate, analytically accurate economic analyses in support of project funding requests to OSD and Congress. Lectures, work group exercises, practical exercises, and computer sessions are used to familiarize participants with the theoretical principles and automated capability to formulate, develop, document, and evaluate E/A.

Description.

Specific topics include (a) an overview of economic analysis as it relates to the planning, programming, and review process; (b) the economic analysis process: the logical sequential process used to develop E/A; (c) life-cycle cost analysis: terms and definitions; (d) the concept of equivalence, the time value of money, and the discounting and treatment of inflation; (e) life-cycle cost calculations: net present value, savings-to-investment ratio, discounted payback period; and (f) sensitivity analysis: testing data uncertainties. Students, using the automated system, ECONPACK, will perform calculations, document, and report analysis results. The course covers the automatic transfer of completed economic analyses to a DD Form 1391.

Prerequisites.

Nominees must be assigned to current positions involved with planning, preparing, programming, or reviewing requests for government military construction or military capital investment projects.

ECOSYSTEM RESTORATION

280 Length: 36 Hours 33ECR01A

Tuition: $1736 Class Type: Classroom

Purpose.

The restoration and protection of environmental resources in our Nation's ecosystems is a central focus in the Corps of Engineers civil works program. This course will provide an interdisciplinary perspective on ecosystem restoration, protection, and management. Students will learn the principles and vocabulary of selected disciplines outside their own and will become familiar with relevant case studies and issues in planning and conducting ecosystem restoration projects. At the end of the course, students will have a more holistic understanding of ecosystems and the requirements for successfully restoring, protecting, and managing them.

Description.

Through a series of lectures, practical exercises, and field trips, students will be introduced to basic concepts in ecology, hydrology, geomorphology, and biogeochemistry as they interrelate within a given ecosystem. These basic concepts will be explored and evaluated for their roles in the restoration, protection, and management of degraded ecosystems. Emphasis will be on ecological interactions and scale-dependent relationships among the physical environment, biota, and ecosystem processes and disturbances. The structures and functions within an ecosystem will be discussed and related to real-life situations and projects, as appropriate, through field visits. Relevant models and computerized tools will be demonstrated (e.g., decision support systems, monitoring metrics, etc.).

Prerequisites.

(a) This course is meant primarily for engineers and scientists involved in the planning, operation, and management of ecosystem restoration projects, including permits under the Clean Water Act that would involve ecosystem restoration; (b) Grade: GS-09 and above; (c) A Bachelor of Arts or Science degree or higher; and (d) Occupational series: 0200, 0100, 0400, 0801, 0807, 0810, 0819, 0905, 1301, 1315, 1350.

ELECTRICAL DESIGN I

373 Length: 36 Hours 35ED101A
CEUs: 3.3 PDHs: 33

Tuition: $1437 Class Type: Classroom

Purpose.

This course clarifies criteria and practices for electrical engineer designers to assure an adequate design and review of electrical features of government projects and to improve design quality and incorporate AT/FP requirements. The course will develop the complete electrical design of a 40,000 square foot office building, including sizing of service, distribution equipment, feeder and branch conductors, transformers, panelboards, grounding components, fire alarm and fire pump, exterior and interior lighting, lightning protection, energy savings, protective devices, coordination and power requirements.

Description.

(a) INTRODUCTION AND DESIGN PROCESS: This session discusses project development and provides an overview of DD Form 1391, design construction and post completion steps, and cost codes. An overview of the site plan, floor plan, and one-line diagram is presented.

(b) DESIGN-BUILD: This session will discuss the Design-Build process in general and the development of the electrical requirements for the Request for Proposals (RFP) package.

(c) ONE-LINE DIAGRAM: This session develops a one-line diagram from the electrical distribution system connection to the building service entrance equipment. Emphasis is on equipment selection and sizing in accordance with DoD criteria, codes, and good engineering practice. Protection and coordination requirements will be discussed.

(d) LIGHTING DESIGN: This session includes selection and application of interior and exterior lighting fixtures and emergency and exit lighting systems. Interior lighting calculations (using the zonal cavity method) and exterior lighting calculations (using the point-to-point method) are discussed and demonstrated.

(e) ELECTRICAL CALCULATIONS: This session includes calculations for branch circuits and feeders, fire-pump motor circuits, and panel schedules; short-circuit currents (using the per-unit system and the point-to-point method), voltage drop calculations, and demand and diversity factors.

(f) FIRE ALARM SYSTEMS: This session discusses the specific application of NFPA 72 and 101 to the design of the office building. Placement of notification appliances and signaling devices are determined along with

developing the riser diagram.

(g) ELECTRICAL POWER SYSTEMS: This session discusses the electrical design requirements for UPS, harmonics, transformers, surge protection, grounding, and emergency power. Energy savings and design considerations will be presented.

(h)CLASSROOM EXERCISE: Students design a building's electrical system.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0850,and 0855. Those in 0801 series or equivalent electrical professions who have an electrical background may also attend. Nominees should be electrical or electronic engineers or have electrical engineering responsibilities with a basic background in the practical applications of electrical and electronic projects.

ELECTRICAL DESIGN II

374 Length: 36 Hours 35ED201A
CEUs: 3.3 PDHs: 33

Tuition: $1655 Class Type: Classroom

Purpose.

This course clarifies criteria and practices for electrical engineer designers to assure an adequate design and review of electrical features of government projects and to improve design quality and incorporate AT/FP requirements. The course will develop the complete electrical design of a 40,000 square foot office building, including sizing of service, distribution equipment, feeder and branch conductors, transformers, panelboards, grounding components, fire pump, exterior and interior lighting, lightning protection, energy savings, protective devices, coordination and power requirements.

Description.

Specific topics include design process; motors; Branch/feeder, fire pump, voltage drop, demand, and short circuit calculations; one-line diagrams; coordinated power systems protection; and lighting. Students will participate in a classroom exercise.

Prerequisites.

ELECTRICAL EXTERIOR DESIGN

90 Length: 36 Hours 35ESC01A
CEUs: 3.3 PDHs: 33

Class Type: Classroom

Purpose.

This course presents an overview of the basic rules for the design, construction and maintenance of electrical substations, grounding, switchyards, overhead and underground power and communication lines, and coordination. It provides a sound basis for understanding the intent of the National Electrical Safety Code (NESC), applies the code in practical situations, and presents the Corps' policy and guidance, as documented in technical manuals and guide specifications. AT/FP requirements are also discussed. In order to receive the most benefits from this topic it is strongly recommended that the student have a working knowledge in the interpretation of time vs. current characteristic curve plots or have attended course Electrical Design I.

Description.

(a) INTRODUCTION: This segment presents the Technical Manuals and United Facilities Guide Specifications (UFGS) applicable to exterior design. The development, structure and application of the NESC are also presented in this introductory session. The responsibilities of utility system operators are stressed in the discussion of rules covering the purpose, scope, application and intent of the code. A general discussion of electrical loss versus equipment costs will illustrate why different voltage levels should be used for different applications.

(b) GROUNDING: This portion addresses the fundamentals of grounding: to include earth grounding, protective equipment operation, the flow of current to the electrode and its transfer to the earth, and electrode effectiveness. The grounding rules portion covers: the grounding conductor's point of connection, grounding conductor properties, the means of connection, grounding electrodes, methods of connection, and ground resistance. The allowed connections between grounding conductors and electrodes serving low-voltage, secondary circuits and those serving high-voltage, distribution lines and equipment are discussed.

(c) ELECTRIC SUPPLY STATIONS: This segment presents equipment arrangements in substations including enclosing equipment and selecting equipment. The requirements for protective grounding, the guarding of live parts, and providing working space around live equipment are also emphasized.

(d) DESIGN, CONSTRUCTION, AND MAINTENANCE OF OVERHEAD ELECTRIC SUPPLY LINES: This portion

addresses the design and construction of equipment, grounding, clearances, strength and loading. NESC fundamental concepts and requirements are explained and discussed in detail. Students discuss design/construction information.

(e) DESIGN, CONSTRUCTION, AND MAINTENANCE OF UNDERGROUND DISTRIBUTION SUPPLY LINES: Emphasis is placed on conduit design/construction, supply cable requirements, direct buried cables, risers and terminations, equipment concerns, and tunnels.

(f) POWER SYSTEM PROTECTION AND COORDINATION: This segment identifies the nature of short circuits and short-circuit protection philosophy. Protective device coordination will be discussed using sample problems.

(g) FACILITY DESIGN: This session develops a detailed design of a facility including connections to the power station, overhead/underground wiring system, transformers, service equipment, meters, grounding, and protection systems.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0850, and 0855. Those in 0801 series or equivalent electrical professions who have an electrical background may also attend. Nominees should be electrical or electronic engineers or have electrical engineering responsibilities with a basic knowledge of the design and/or construction and maintenance of substations, switchyards, and overhead and underground power.

ELECTRICAL QUALITY VERIFICATION

42 Length: 36 Hours 35ELC01A

CEUs: 3.0 PDHs: 30 LUs: 30

Tuition: $1357 Class Type: Classroom

Purpose.

This course provides the participant with (a) requirements and techniques of electrical quality assurance to comply with contract requirements; (b) increased knowledge of materials, equipment, installation, and quality assurance techniques; and (c) training in interpreting plans and specifications and the National Electrical Code (NEC).

Description.

Through lectures and directed conference sessions, this course presents methods of quality assurance for interior and exterior distribution, motors, controls, lighting, special alarm systems, grounding and hazardous locations, and other electrical installations. It also places emphasis on enforcement of contract requirements, compliance with electrical safety, the electrical code, and the contractor's obligation for quality control under the Corps' quality management program.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0801, 0802, 0809, 0810, 0830, or 0850; (b) Grade: GS-05 or above, and equivalent. Students should have a current or projected assignment as an electrical or general quality assurance representative. Engineers are exempt from these eligibility requirements.

ELECTRONIC SECURITY SYSTEMS DESIGN

360 Length: 36 Hours 55ESS01A
CEUs: 3.2 PDHs: 32

Tuition: $1255 Class Type: Classroom

Purpose.

This course is directed toward a variety of professional disciplines that typically make up a security design team, including: physical security specialists, anti-terrorism and force protection officers, engineers, technicians, planners, and project managers. Each student is given the basic knowledge and skills necessary to contribute to an ESS design effort.

Description.

Students are provided a solid foundation in all aspects of ESS technology and design. Instructors with extensive ESS qualifications and experience explain the basic theory, operation, and application of all ESS components--including intrusion detection systems (IDS), electronic entry control devices, video cameras (CCTV),and illumination sources. Requirements and techniques for effective system integration using a robust communications, commmand, and control (C3) infrastructure are emphasized. After completing the course, students should be proficient at conducting an ESS site survey, developing an ESS concept design, and performing quality assurance (QA) inspections and performance verification testing during the ESS installation phase. Throughout the course students are encouraged to actively participate by asking questions, analyzing case sudies, and solving practical design problems.

Prerequisites.

Grade: GS-07 (or Military E-5) or higher involved with using, planning, designing, or managing electronic security systems.

ENGINEERING AND DESIGN QUALITY MANAGEMENT

208 Length: 20 Hours 35EQM01A
CEUs: 1.7 PDHs: 17 LUs: 17

Tuition: $1611 Class Type: Classroom

Purpose.

Improve the quality of projects, products and services, and enhance customer satisfaction by training team members in the policies, principles, processes, and tools of Engineering and Design Quality Management (E&D QM). Emphasize the role of Engineering in the USACE Business Process.

Description.

The student will be able to effectively apply E&D QM policies, principles, processes, and tools in the planning and design of projects. Emphasis is given to project planning, criteria development, designer selection, project design and review, construction, and operations and maintenance phases. The Civil Works, Military Programs, Support For Others, and Environmental project delivery processes are presented from the perspective of improving technical quality, timeliness and cost effectiveness. The course covers the design of projects by private sector architect-engineer firms and in-house technical personnel. Classroom presentations are supplemented by active classroom discussions and group exercises.

Prerequisites.

Grade: GS-07 and above; Series: 0800 and 0340; Corps team members involved with the project delivery process. Customers and employees of other agencies having an interest in Corps E&D QM processes are encouraged to participate.

ENVIRONMENTAL IMPACT ASSESSMENT

169 Length: 36 Hours 33EIA01A
LUs: 31

Tuition: $1558 Class Type: Classroom

Purpose.

This course provides students with skills to develop and evaluate information needed to facilitate the preparation of an environmental assessment or an Environmental Impact Statement for work commonly undertaken by the Army Corps of Engineers, such as planning studies, the operation and management actions of Federal projects and the consideration of environmental effects as it relates to permit application procedures administered by the Corps of Engineers.

Description.

This course provides training on the process of environmental impact assessment and how the information developed through this process is used to inform decision making as it pertains to work carried out by the US Army Corps of Engineers. The goal of the environmental impact assessment process is to develop and analyze sufficient information needed to demonstrate compliance with the National Environmental Policy Act (NEPA) and other Federal environmental laws such as the Clean Water Act, Clean Air Act and Endangered Species Act, and applicable Executive Orders such as E.O. 12898 on Environmental Justice. The class will emphasize how the impact analysis process facilitates the preparation of an environmental assessment and environmental impact statement.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0020, 0100, 0400, 0800, and 1300 or by demonstration of special needs related to job responsibilities; (b) Grade: GS-07 or above.

ENVIRONMENTAL LAWS & REGULATIONS

170 Length: 36 Hours 33ELR01A
LUs: 31

Tuition: $1166 Class Type: Classroom

Purpose.

After completing the course, students will be able to (a) list major federal statutes designed to protect the environment*; (b) summarize the major provisions of each federal environmental law and relationship to activities of the Corps of Engineers; (c) find the federal and state environmental statutes and regulations pertinent to a specific Corps activity, given access to a reference library; (d) identify and state legal requirements for environmental protection related to specified Corps activity, given access to suitable reference materials.

Description.

This is a general survey course designed for non-attorneys or for attorneys with limited background in environmental law. Topics include federal laws and regulations for environmental protection; pollution standards and variances; congressional and judicial developments; economic and technical difficulties in meeting standards; relation of the Corps of Engineers to state and federal agencies in meeting standards and enforcing laws; methods of monitoring pollution; legal penalties; litigation techniques; the Rivers and Harbors Act of 1899 regulatory provisions; the National Environmental Policy Act (NEPA); Executive Order 11514; the NEPA regulations of the Council on Environmental Quality; the Federal Clean Water Act; the Federal Clean Air Act; the Resource Conservation and Recovery Act; the Toxic Substances Control Act; the Endangered Species Act; the Fish and Wildlife Coordination Act; the Historic Preservation Act; the Noise Control Act; the Federal Environmental Pesticide Control Act; the Coastal Zone Management Act; regulations of the Environmental Protection Agency; and state laws and regulations.

*This course is not intended for personnel primarily involved with hazardous and toxic waste projects and does not include detailed coverage of the Resource Conservation and Recovery Act (RCRA), the Comprehensive, Environmental Response, Compensation and Liability Act of 1980 (CERCLA), or the Superfund Amendments and Reauthorization Act (SARA) of 1986.

This course is ISEERB (Interservice Environmental Education Review Board) approved. It has been reviewed by subject matter experts from DOD Components and found to be suitable to more than one agency.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0020, 0100, 0400, 0800, and 0900; (b) Grade:

GS-07 or above. Nominees should have the abilities stated in the Environmental Impact Assessment course.

Environmental Considerations in Planning

408 Length: 36 Hours 35ECP01A

Tuition: $1713 Class Type: Classroom

Purpose.

This class surveys environmental topics needed for new planners to pursue civil works planning studies. Participants learn to recognize the basis for and key components of NEPA documents consistent with applicable environmental laws, regulations and procedures necessary to conduct civil works planning studies. Students will also receive basic information regarding the Corps ecosystem restoration authorities and guidance on partnership development. Course includes field trip and experiential exercises to demonstrate and apply course learnings.

Description.

The class consists of a series of modules summarizing the many laws, regulations, and planning processes governing environmental aspects of the Corps of Engineers civil works planning process. Modules include an overview of the process and its relationship to compliance under the National Environmental Policy Act, and the contents and procedural requirements for the preparation of Environmental Impact Statements. Regulatory discussions address the: Endangered Species Act, Fish and Wildlife Coordination Act, National Historic Preservation Act, Clean Water Act, Clean Air Act, Coastal Zone Management Act, Magnuson-Stevens Fishery Management Act, and the Wild and Scenic Rivers Act. Other topics include mitigation, cost effectiveness analysis, environmental sustainability, and guidance on ecosystem restoration under the continuing authorities and general investigation programs. Ecosystem and other impact assessment methods are reviewed, with exercises focused on the selection of assessment procedures for wetland evaluations.

Prerequisites.

Nominees should be newly assigned to the Planning and Project or Program Management Components of the civil works planning programs with planning experience of less than 3 years or in fields having a nexus with a need for an understanding of environmental considerations in the planning process. Grade level: GS-5 through GS-11. Preference will be given to students who have completed the PCC1 Civil Works Orientation course and the PCC2 Planning Process and Principles Course or equivalent.

ENVIRONMENTAL REGULATIONS PRACTICAL APPLICATION

398 Length: 36 Hours 33MEC01A
CEUs: 2.2 PDHs: 22

Tuition: $1949 Class Type: Classroom

Purpose.

This course is designed to further the student's understanding and ability to apply the technical requirements of various major federal environmental regulations. This course consists of a review of the technical application of selected environmental requirements pertinent to compliance issues. It will not consist of an exhaustive, detailed study of environmental statutes and regulations.

Description.

This course is comprised of discussions and practical exercises pertaining to the technical application of various environmental regulations such as RCRA waste classification and generator standards, used oil management, NPDES wastewater and stormwater requirements, SPCC plans, PCB management, Clean Air Act regulations, USTs, SWDA requirements, Spill reporting, Pesticide management, Hazardous materials transportation, and EPCRA requirements. The course also includes a brief introductory session on environmental management systems addressed in EO 13148. This course focuses on the practical application of these regulations during day-to-day compliance activities at DoD installations, Corps construction projects and Civil Works Projects and Facilities.

Prerequisites.

Nominees must have worked at least one year on environmental compliance projects, environmental projects, military construction projects, or civil works environmental compliance projects or have attended an environmental laws and regulations course within the past three years. Target audience includes engineers, scientists (chemists, industrial hygienists, geologists, etc.), Construction personnel, environmental compliance officers, ECAS and ERGO coordinators, environmental protection specialists, and operations personnel responsible for the technical application of various environmental compliance requirements.

ENVIRONMENTAL REMEDIATION TECHNOLOGIES

395 Length: 32 Hours 35GHS01A
CEUs: 2.8 PDHs: 28

Tuition: $1825 Class Type: Classroom

Purpose.
This course provides the student with a practical understanding of various containment, ex-situ, and in-situ technologies. The information is intended for use by geologists,engineers, chemists, and other professionals involved in project planning, technology selection, design,operation, and optimization of remediation technologies for in-house projects or oversight of contractor efforts on environmental restoration sites.

Description.
After completion of this course, the student should have an understanding of the current site characterization strategies and remediation technologies being used on USACE projects. The class trip to a hazardous waste site provides an opportunity to see technolgies that have been implemented. The student will also be introduced to available guidance from the USACE, EPA, Air Force, ITRC, ASTM, and other sources.

Prerequisites.
Nominees should be in occupational series 1300 or 0800 or working as an Environmental Protection Specialist or Project/Technical Manager on remediation projects. Nominees must be in grades GS-7 or higher. Courses in soils, hydrogeology, and/or chemistry would be helpful, but are not necessary. Students should bring clothing suitable for a field trip on one of the days.

ESTIMATING FOR CONSTRUCTION MODIFICATIONS

180 Length: 36 Hours 41ECM01A
CEUs: 3.4 PDHs: 34 LUs: 34

Tuition: $1558 Class Type: Classroom

Purpose.
This course provides intermediate level instructions and computer-based tools to assist in improving the participant's ability to prepare estimates for construction contract modifications within USACE policies and procedures.

Description.
Through computer-based tools, lectures, hands-on exercises and case study sessions, this course covers the various elements of a cost estimate (e.g., labor, material, equipment, job office overhead, home office overhead, bond and profit costs) and how to effectively and efficiently develop an estimate for construction modifications.

Also covered in the course are the estimating procedures for time extensions, delays, suspensions, impacts to both the changed and unchanged work, acceleration, extended home office overhead costs (Eichleay) and the benefit of the well prepared estimate in negotiations of a final modification settlement.

Prerequisites.
Nominees may be from (a) any civilian occupational series or military specialty; (b) Grade: GS-07 or above and comparable military with a current or projected involvement in the preparation, review, or use of construction cost estimates for contract modifications. Students must be proficient in the use of a personal computer. Prior knowledge of Microsoft Excel is required. This course is highly desirable for USACE construction managers and cost engineers.

Recommended Prerequisite Training: Student should have completed the Cost Estimating Basics (#181), or possess a firm understanding of basic estimating skills and principles.

Precourse assignment: After completion of the on-line “770, DoD Cost Estimating Policy Overview," the student will print out a certificate. This certificate must be submitted to the instructors on the first day of class.

FINANCE AND ACCOUNTING

12 Length: 32 Hours 42FAE01A
CEUs: 3.3

Tuition: $ 979 Class Type: Classroom

Purpose.
To enhance the attendee's knowledge and understanding of USACE finance and accounting policy and managerial accounting principles in USACE.

Description.
The concepts of finance and accounting policies and procedures in the Corps of Engineers are presented. Emphasis is placed on professional accounting standards and requirements, managerial accounting functions, and compliance with the Chief Financial Officers' Act.

Prerequisites.
Nominees must be assigned in CP-11 in one of the following Occupational Series: 0510 Accountant; 0501 Financial Analyst; 0505 Financial Manager; 0511 Auditor; 0560 Budget Analyst. Participants must be at GS-07 grade level or above. Students must be Corps of Engineers employees, DA interns assigned to USACE Resource Management, or foreign nationals working in USACE Resource Management Offices.

FIRE PROTECTION ENGINEERING (BASIC)

6 Length: 36 Hours 55FPE01A
CEUs: 3.4 LUs: 34

Tuition: $1540 Class Type: Classroom

Purpose.
This course teaches architects and engineers the necessary skills and knowledge required to implement the fundamental considerations of fire protection in building design and construction. After completing the course, the student should be able to review basic fire protection analyses and drawings more efficiently.

Description.
The course covers basic fire protection for facilities. The course includes instruction on fire-rated construction, building and life safety codes, exit requirements, special hazard protection, and general requirements of fire suppression systems, fire alarm and detection systems, and water supplies.

Prerequisites.
Nominees must meet the following criteria: (a) Occupational Series: Selected 0800, (b) Grade: GS-07 or above, (c) students should have a current or projected assignment in a safety office, in an engineer design section, in a construction office, or as a project manager with duties which require a technical knowledge of fire protection engineering principles.

FIRE SUPPRESSION SYSTEMS DESIGN

33 Length: 36 Hours 55FES01A

Tuition: $2559 Class Type: Classroom

Purpose.

This course teaches the basic knowledge and skills necessary for the design, calculation, and review of automatic fire suppression systems. The Corps of Engineers requires personnel involved in fire suppression system design to be familiar with all required fire suppression systems.

Description.

The course covers fixed fire protection systems and design of fire suppression systems. After completing this course, the student should be able to design/review most types of automatic fire suppression systems. The course will emphasize fire sprinkler design.

Prerequisites.

Nominees must meet the following criteria: (a) Occupational Series: Selected 0800, (b) Grade: GS-07 or above; (c) students must be involved in design/construction of fire extinguishing systems as part of their duties or require this knowledge in their work.

FLOATING PLANT SAFETY

81 Length: 28 Hours 58FPD01A

Tuition: $1090 Class Type: Classroom

Purpose.

This course provides personnel with current safety and health information with which they will be able to perform required safety and health inspections of the Corps of Engineers and contractor owned floating plant and dredging equipment and/ or operations. The intent of this training is to familiarize students with pertinent safety and health requirements, including the Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1), US Coast Guard requirements, applicable Codes of Federal Regulations, and other industry standards pertaining to floating plant and dredging equipment and operations.

Description.

This course is designed for Government personnel that have responsibility for purchasing, maintaining, inspecting, or operating floating plant, dredging equipment and/or operations subject to the requirements of EM385-1-1. Some of the specific areas to be covered in this course, through open discussion, lecture, video tapes, on-site visit, and practical exercises, include the following topics: (a) overview of applicable safety standards; (b) types of floating plant/dredges; (c) in-depth review of Section 19 of EM-385-1-1; (d) reviewing contractor safety submittals; (e) contractual safety requirements and/or specifications; (f) electrical safety on floating plant; (g) fire prevention and required on-board equipment; (h) rigging and hoisting equipment; (i) confined space and environmental requirements; (j) how to perform safety inspections and record findings; (k) on-board inspections of floating plant (practical exercise); (l) safety program management; and (m) contingency/emergency operations.

Prerequisites.

Nominees should include dredging inspectors, quality assurance representatives, project and resident engineers, safety specialists, managers and/or engineers, vessel operators and crew, maintenance personnel, and personnel in other career fields that have an interest in floating plant and dredging safety. Students should have a basic understanding of floating plant and dredging equipment and/or operations. Students should bring clothing appropriate for a field trip aboard an operating vessel, normally located on open deck areas. Safety and/or athletic shoes are acceptable for secure footing on open deck areas. The Corps will provide PFD's, hard hats, and hearing protection. A picture ID is required. Laptop computers or other devices to aid in learning may be used.

FLOOD FREQUENCY ANALYSIS

123 Length: 36 Hours 35FFA01A

Class Type: Classroom

Purpose.

This course provides a basic understanding for the correct application of the Interagency Committee on Water Data guidelines on computation of flood flow frequencies. The computer software HEC-SSP is used throughout the course.

Description.

This course enables the participant to make technically sound and efficient discharge-frequency estimates. The course focuses on the theoretical basis for frequency analysis, application of techniques contained in the "Guidelines for Determining Flood Flow Frequency," Bulletin 17B, and application of the computer program HEC-SSP. The course is intended for engineers, hydrologists, and others involved in developing discharge-frequency estimates at gaged and ungaged locations.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800, 1300, and 1500; (b) Grade: GS-07 or above. Course nominees should be engineers who perform professional work in the fields of hydrology and hydraulics. Nominees should have one or more years of experience in these areas. It is suggested that course participants be in positions where, in the next year or two, they will be involved in developing frequency curves, performing regional analysis, or determining generalized skew coefficients. Course nominees must have completed a college-level statistics course in order to succeed in this class.

FORMAL SOURCE SELECTION

183 Length: 28 Hours 41FSS01A

CEUs: 2.3

Tuition: $1877 Class Type: Classroom

Purpose.

This course provides basic skills to ensure acquisition teams are thoroughly trained in the regulatory and prescribed procedures mandated for proper execution of the formal source selection process. This process covers the evaluation, documentation and selection of contract awards by individuals other than the Contracting Officer. Through instruction and group exercises, students will gain the technical expertise needed to implement the required evaluation and selection procedures.

Description.

This course covers (1) Pre-solicitation: Development of Evaluation Criteria using market research information, Source Selection Plans; and Selection and Appointment of the Source Selection Organization; (2) Solicitation: Issuance of Request for Proposal, Proposal Evaluations, Preparation of Source Selection Documents, Briefings, and Decisions Rationale; (3) Documentation of Best Value Trade Offs – The Cross Walk; (4) Procurement Integrity – Protecting the Process, Proposals and Government's Best Interest, (5) Contract Award and (6) Other Points to Consider.

Prerequisites.

The following types of employees will benefit from this training: (1) Contracting 1102 series (GS 9-15 equivalents), Engineer 800 series (GS 9-15 equivalents), and Contingency Contracting Officers who are participating or expect to participate as an acquisition team member/participant in the source selection process, (2) Subject Matter Experts requested to participate as members or advisors, i.e., Counsel, Resource Management, Cost Price Personnel, (3) Technical/functional/ external customer evaluator representatives of requirements received for formal source selection evaluation, and (4) All procurement and functional second year interns who have obtained DAWIA Level II Certification.

NOTE: This course is not open to Contractors.

FUNDAMENTALS OF WETLANDS ECOLOGY

272 Length: 36 Hours 33WET01A
CEUs: 2.3 PDHs: 23

Tuition: $1758 Class Type: Classroom

Purpose.

The restoration of fish and wildlife habitat and other wetland functions is a high priority project purpose in the civil works program. Wetlands typically comprise a major portion of the fish and wildlife habitat restoration projects currently being planned by Corps districts. However, additional wetland functions such as improvement of water quality are becoming increasingly recognized for their importance in many Corps' programs. Corps personnel who have no, or only limited, experience or education with wetland ecosystems need to know the fundamental concepts of wetlands science and management. This course provides an introduction and overview of basic wetland ecological concepts and principles in the context of planning and operating civil works environmental and mitigation projects.

Description.

Students are provided with state-of-the-art basic knowledge of wetland flora and fauna, hydrology, soils, and ecology. The course emphasizes wetlands functions and values in an ecosystem perspective. Both saltwater and freshwater wetlands will be addressed in the course. The relationship of wetlands to adjacent terrestrial and deep water habitats, along with wetlands succession and dynamics, are discussed. This course provides the base working level fundamentals in the wetlands ecology area and may also serve to update students in current developments in wetlands science. While the focus of this course is not on wetlands delineation or regulatory (Section 404) issues, regulatory personnel would benefit from the broader overview of wetlands ecology.

This course provides instruction in the following topics: (a) wetland hydrology; (b) wetland vegetation; (c) major faunal populations associated with wetlands; (d) wetland plant and animal communities, ecosystem relationships, and dynamic processes; (e) hydric soils; (f) wetland classification systems, including the relationship of such wetland classifications to ecosystems classifications and parameters; (g) principles of wetlands ecology and dynamics; (h) current research in wetlands; (i) evaluation of wetland functions; (j) overview of wetland development, restoration, and constructed wetlands; and (k) open discussion and problem solving.

Prerequisites.

Nominees must be: Occupational Series: 0025, 0028, 0110, 0400, 0800, 1300; and Grade: GS-07 and above.

GENERAL CONSTRUCTION-QV

54 Length: 37 Hours 35GCQ01A
CEUs: 3.3 PDHs: 33 LUs: 33

Tuition: $1348 Class Type: Classroom

Purpose.

This course provides the participant with the basic technical knowledge required to verify all elements of building construction, based on guide specifications, and to identify the quality assurance representative's role as it relates to construction quality management.

Description.

Through lectures, conferences, and case study sessions, the course covers the subjects of concrete and masonry, safety, exterior and interior electrical systems and components, heating, air-conditioning, plumbing, ventilation, interior and exterior finishes, structural steel and welding, mechanical insulation, sheet metal work, site utilities, soils and compaction, and roofing. An account of the purpose, meaning, and acceptance of contract quality control is included in the session on procedures for monitoring the construction quality management program. The course is directed toward proper and effective quality assurance verification of building construction. This course would be very helpful for field installation personnel who perform operation and maintenance repair on building systems and personnel who have real property inspection duties.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0801, 0802, 0808, 0809, 0810, 0830, and 0850; (b) Grade: GS-05 or above or equivalent. Students should have a current or projected assignment as a general quality assurance representative, construction representative, technician, or engineer, with quality assurance responsibilities. The fact that this course is oriented to building construction should be weighed when nominating a civil works candidate. Candidates must not have attended this or similar course within the past 5 years.

GEOSPATIAL IMAGERY AND REMOTE SENSING

196 Length: 36 Hours 35RSF01A

Tuition: $1940 Class Type: Classroom

Purpose.

Instruction is designed to introduce the students to the concepts of applied remote sensing using satellite and airborne imagery. This course combines informative lectures with hands-on lab exercises that provide an understanding of remote sensing and image processing as they are used for USACE Civil Works applications. Topics include: remote sensing applications for navigation, flood damage detection, environmental missions, wetlands and waterways, regulation and permitting, real estate, recreation, survey and mapping, emergency response, and research and development.

Description.

This course provides a background of the principles of remote sensing; an overview of sensor types; processing of multispectral, hyperspectral, radar, LIDAR, and digital elevation data; obtaining image data via the USACE data acquisition protocol; spectral signatures and libraries, integrating imagery with GIS and GPS data; map projection and geo-rectification; and information extraction through image classification.

Prerequisites.

The course is intended for Civil Works personnel involved with survey and mapping, navigation, real estate, environmental, hydrology, regulation and permitting, and emergency response. Hands-on computer participation is required for this course. The course is intended for both professional and technical level classifications. It is open to selected occupational series: 0400, 0800, and 1300; and Grades: GS-07 through 12.

GIS INTERMEDIATE

167 Length: 24 Hours 54GII01A

Tuition: $1046 Class Type: Classroom

Purpose.

This course provides students who already have basic GIS knowledge with more advanced GIS concepts and issues. The class uses a single data set to reinforce class instruction during a series of hands-on laboratory exercises.

Description.

This instruction provides knowledge of advanced GIS concepts. Specific issues addressed:
(a) Database Design. Best ways to create databases for solving specific problems and avoiding the need to later redesign so as to rectify deficiencies;
(b) Advanced Analytical Methods. Processing methods beyond basic boolean overlay and map algebra will be considered for environmental, water control, and land management applications;
(c) Error. Error types, calculation, and issues related to propagation of error during analysis.
(d) Presentation of Results. Preparation and presentation using key elements of effective GIS maps.

Prerequisites.

Students shall have previous instruction or job-related experience in the use of GIS.
Nominees should be assigned (a) Occupational Series: 0020-0029, 0100-0199, 0400-0499, 0800-0899, 1170, and 1300-1399; (b) Grade: GS-07 or above.

GIS INTRODUCTION

205 Length: 36 Hours 54GIS01A
CEUs: 2.2 PDHs: 22

Tuition: $1095 Class Type: Classroom

Purpose.

This course provides introductory instruction on the use of GIS software/hardware and various data sources to analyze Corps project operations and support decision making.

Description.

Instruction should introduce students to the concept of GIS as an integrator of geospatial data and as an analysis tool emphasizing emergency management, natural resources and environmental applications. Topics include:

(a) concept and operation of GIS, data entry, storage, display, and output;
(b) geospatial data structures and their advantages;
(c) compatibility issues;
(d) analysis, modeling, QA/QC;
(e) selection of a GIS;
(f) importation of imagery CAD files; and
(g) related USACE and Federal policies and standards.

Prerequisites.

Nominees should be assigned (a) as engineers, planners, biologists, foresters, or surveyors who use digital data to map or analyze projects; (b) Occupational Series: 0020-0029, 0100-0199, 0400-0499, 0800-0899, 1170, and 1300-1399; (c) Grade: GS-07 or above; (d) those whose job responsibilities include the analysis of spatial data and the use of digital data to map or manage Corps projects will find this course useful or (e) supervisors or others from any occupational series who are considering or are interested in the possible use of GIS in their business process.

GPS FOR GIS APPLICATIONS

187 Length: 36 Hours 35GOV01A
CEUs: 2.8 PDHs: 28

Tuition: $1914 Class Type: Classroom

Purpose.

This course provides participants with a knowledge of the basic techniques for integrating field GPS spatial data into GIS databases. Functional elements supported by this course include: surveying, engineering, construction, navigation, master planning, and facility management.

Description.

This course covers basic GPS/GIS concepts using the Spatial Data Standards principles and applications; related cost factors; GIS database development; absolute and differential modes; survey applications and procedures; and GPS data collection, reduction, accuracy, and analysis using commercial data bases and GIS software.

Prerequisites.

The course is intended for military and civil functional elements involved with facility management, surveying, construction, navigation, mapping, real estate, FM, GIS, etc. Hands-on computer experience required for this course. The course is intended for both professional and technical level classifications. It is open to all grades/series with GPS/GIS responsibilities.

GPS Surveying and Advanced Processing

203 Length: 36 Hours 35GPS01A
CEUs: 2.9 PDHs: 29

Tuition: $1869 Class Type: Classroom

Purpose.

This course provides training for surveyors, technicians, engineers, and others who need to have the knowledge and understanding of the practical and technical aspects of surveying and data collection with GPS and DGPS techniques. The course is designed to provide students with the skill set and information on how to plan, collect, and process GPS measurements for high accuracy surveying with the use of EM 1110-1-1003, "NAVSTAR Global Positioning System Surveying."

Description.

This course addresses the planning, data acquisition, data processing and adjustments, and data analysis components of high accuracy surveying with GPS. Topics covered in this course include: GPS and DGPS Positioning; Coordinate Systems and Datums; Selecting appropriate GPS method(s) for a project; GPS field data collection; Use of NGS On-Line Positioning User Service (OPUS) Projects for data processing; GPS data processing and network adjustments; Assessing the quality of processed GPS data; Real-Time Kinematic GPS data collection and processing; and loading data into the USACE project control database (U-SMART). Students will perform hands-on high accuracy GPS data collection, processing, and network adjustment during this course.

Prerequisites.

Nominees should: (a) be selected occupational series 0800 (Engineers), 1300 (Surveyors and Technicians), geographers; (b) have hands-on computer experience.

HTRW CONSTRUCTION INSPECTION

141 Length: 24 Hours 56HCI01A

Tuition: $1833 Class Type: Classroom

Purpose.

This course is for working level and management personnel having responsibilities in the USACE Superfund, DERP, and other Hazardous, Toxic, and Radioactive Waste (HTRW) programs. It provides a comprehensive overview of responsibilities and acceptable work practices for Quality Assurance Representatives (QAR) and supervisors on HTRW construction sites. The course provides information to allow the QAR to effectively perform his job in determining if contract work performed, testing, etc., complies with relevant federal, state, and local standards and with the contract documents. This course focuses on QAR activities beginning with Biddability, Constructibility, Operability (BCOE) reviews; through mobilization and preconstruction; construction activities; final cleanup/demobilization; and operation and maintenance (O&M). Areas of chemistry, health and safety, and environmental regulations are covered in summary level-the course emphasis is on the Quality Management Process as it relates to current environmental remediation technologies.

Description.

Through lectures, lessons learned, and case studies, this course provides instruction in the following areas: (a) overview of environmental laws and regulations; (b) field monitoring activities c) overview of removal, containment, and treatment system technologies, including surface water control, extraction and treatment of groundwater, excavation/on-site treatment of soil, collection and disposal of wastes, and geosynthetics applications; (d) sampling and testing procedures, interpretation of test results; and (e) health and safety in field activities including work practices to minimize risks for both on-site and off-site personnel and site-specific safety and health plans. A site visit is tentatively planned, subject to availability and proximity of sites to the classroom site.

Prerequisites.

This course is for working level and management personnel with a current or projected assignment in the USACE HTRW program.

HVAC CONTROL SYSTEMS: DESIGN-QUALITY VERIFICATION

340 Length: 36 Hours 35HVC01A
CEUs: 3.1 PDHs: 31

Tuition: $1655 Class Type: Classroom

Purpose.

This course is intended for HVAC control system designers and Quality Verification (QV) construction staff responsible for the design, specification, and construction of direct digital control (DDC) systems for HVAC and other building-level controls systems. The focus is on LonWorks and BACnet. UFGS-25 10 10, UFGS 23 08 10, and the UFGS-23 09 xx series of specifications and will be discussed. The course emphasis is on open-standard multi-vendor communications protocols and technologies in support of base-wide monitoring and control functions.

Description.

This course provides the HVAC control system designer with the knowledge necessary to develop a project design and specification for building-level direct digital controls capable of being interfaced with a base-wide utility monitoring and control system (UMCS). Subjects include:

(1) Applied control theory
(2) Control hardware, loops, systems, and drawings
(3) Calculations, sizing, selections, and set-points
(4) Introduction to Open systems including terminology, architectures and Open system goals, benefits and challenges
(5) Introduction to LonWorks, BACnet, and Niagara Framework, including “crash courses” in the protocols and technology
(6) Utility Monitoring and Control System (UMCS) Requirements and Specifications:
UFGS 25 10 10, Utility Monitoring and Control System (UMCS) Front End and Integration
UFGS 25 08 10, Utility Monitoring and Control System Testing
(7) Building Control System requirements and UFGS-23 09 xx series of specifications
UFGS 23 09 00, Instrumentation and Control for HVAC
UFGS 23 09 23.01, LonWorks Direct Digital Control for HVAC and Other Building Control Systems
UFGS 23 09 23.02, BACnet Direct Digital Control for HVAC and Other Building Control Systems UFGS 23 09 13, Instrumentation and Control Devices for HVAC
UFGS 23 09 93, Sequences of Operations for HVAC Controls
(Note that many of these specifications aren’t scheduled for release until FY15)
(8) Points schedule drawing requirements
(9) UMCS supervisory functions and operator interface requirements (graphical display, alarms, scheduling, trending)
(10) Project implementation
(11) Project quality verification and inspection
(12) HVAC controls commissioning
(13) Multi-vendor product support and availability
(14) Base-wide UMCS/DDC planning

Prerequisites.

Basic understanding of HVAC system types and functions.

HVAC DESIGN: BASIC

391 Length: 36 Hours 35BHV01A
CEUs: 3.3 PDHs: 33

Tuition: $1709 Class Type: Classroom

Purpose.

This course provides instruction on the fundamentals of HVAC design including appropriate Corps of Engineers criteria.

Description.

This course presents topics on (a) heating and cooling load calculations; (b) psychrometrics; (c) duct design; (d) hydronic system design; (e) equipment selection; (f) HVAC system sizing and layout; (g)HVAC system design and construction criteria sources; (h) building insulation and U-value determination; (i) energy conservation criteria including ASHRAE 90.1 conformance; (j) noise and vibration considerations, and (k) indoor air quality.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0800 through 0855; (b) Grade: no limitations; (c) current or projected assignment as an HVAC design engineer or technician with limited or no design experience. The course provides an overview of HVAC design topics for individuals responsible for design, construction, or operation of HVAC systems.

HVAC SYSTEMS COMMISSIONING

327 Length: 36 Hours 35MSC01A
CEUs: 3.0 PDHs: 30

Tuition: $1980 Class Type: Classroom

Purpose.

This course provides practical technical information to fulfill construction quality verification duties for commissioning of mechanical systems. The course identifies procedures for startup, sequence of operation, and testing that pertain to mechanical equipment and repetitive deficiencies in system performance.

Description.

Through lecture, visual aids, conferences, and testing, this course presents the following mechanical HVAC subjects: commissioning of mechanical systems, cooling systems, heating systems, air side systems, and control systems. A 2-day lab experience is included where students observe proper performance testing of HVAC Systems.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0801, 0802, 0809, 0810, 0830, and 0850; (b) Grade: GS-05 through GS-12, or equivalent; (c) a current or projected position as an engineer, engineering technician, construction representative, or resident engineer with mechanical quality assurance (directly or supervised) responsibilities. Nominees should have completed the Mechanical QV PROSPECT Course, #074, or have experience in mechanical quality assurance equivalent to the basics presented therein.

HVAC TESTING and BALANCING QUALITY VERIFICATION

68 Length: 36 Hours 35TAB01A
CEUs: 3.0 PDHs: 30

Tuition: $1934 Class Type: Classroom

Purpose.

This course provides quality assurance personnel in the field with an understanding of HVAC systems functions and the testing, adjusting, and balancing relationships of the complete system.

Description.

HEATING, VENTILATING AND AIR CONDITIONING TEST AND BALANCING QUALITY VERIFICATION (HVAC TA&B-QV) The course teaches the necessary skills and knowledge to evaluate system installation and system testing, adjusting, and balancing. The course includes a 2-day lab exercise that demonstrates technical material necessary for field technicians and field engineers to perform quality verification.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0801, 0802, 0809, 0810, 0830, and 0850; (b) Grade: GS-07, WG-09, or above, or equivalent. Five years of quality assurance experience as a mechanical technician or general quality assurance representative is recommended. Studetns should bring pocket calculator.

HW MANIFEST/DOT CERTIFICATION

223 Length: 36 Hours 56HWM01A
CEUs: 3.4

Tuition: $1914 Class Type: Classroom

Purpose.

This 36-hour course provides initial training regarding regulatory requirements of the Hazardous Materials Transportation Act (HMTA) and the Resource Conservation and Recovery Act (RCRA) as it applies to the generation, transportation, and disposal of hazmat, focusing upon hazardous waste. It enables employers to certify that as required by 49 CFR 172 Subpart H, that their employees have been trained and tested on general awareness and function specific elements described below. In addition, this is an ISEERB approved and DoD approved course as per DoD 4500.9-ER. It has been reviewed by subject matter experts from DOD components and found to be suitable for more than one agency. (Note: Certain RCRA and safety related training elements required by 49 CFR 172 Subpart H and 40 CFR 265.16 are typically site-specific and must be performed on the job.)

Description.

Training topics cover the identification and classification of hazardous wastes for purposes of preparing a hazardous waste manifest and fulfilling the DOT requirements for shipping hazardous wastes. Specifically, training topics include RCRA waste classification, land disposal restrictions and notifications, generator requirements, manifesting requirements, identification of a DOT Reportable Quantity, use of the Hazardous Materials Table, DOT requirements for determining a shipping name, properly packaging, labeling, marking and placarding, and DOT emergency response requirements, and general security awareness training. In addition, the course addresses special EPA and DOT requirements for shipping asbestos and PCBs.

Prerequisites.

There is no prerequisite for this course, but this course can satisfy the prerequisite for PROSPECT course #429. This course is primarily targeted at persons in the following series: 0800, 0820, 0809, 0810, 0819, 0028, 0029, 0025, 0026, 0401, 1350, 1301, 0893, 0830, 1306, and 1320 (All series involved with environmental programs, including all engineers, chemist, industrial hygienists, health physicists, biologists, geologists, hydrogeologists, program managers, planners, etc.) as well as all Installation environmental staff, Civil Works Environmental Compliance Coordinators and Civil works personnel required to sign hazmat shipping documents and/or hazardous waste manifests. The training is designed for persons with any of the following job responsibilities: identification of proper shipping names for hazardous wastes in accordance with DOT regulations; selection of appropriate packaging, marking, labels and placards in accordance with DOT regulations; RCRA waste identification and classification; completion or review of hazardous waste manifests and/or land disposal restriction notifications; preparation of shipping documents for used oil, asbestos and PCBs; shipping of analytical samples; loading or unloading of hazardous wastes; and transportation of hazardous materials in general.

HW MANIFEST/DOT RECERTIFICATION

429 Length: 20 Hours 56HWR01A

Tuition: $ 890 Class Type: Classroom

Purpose.

This 16/20-hour course provides recurrent training regarding regulatory requirements of the Hazardous Materials Transportation Act (HMTA) and the Resource Conservation and Recovery Act (RCRA) as it applies to the generation, transportation, and disposal of hazmat, focusing upon hazardous waste. It enables employers to certify, as required by 49 CFR 172 Subpart H, that their employees have been trained and tested in general awareness and function-specific elements described below. In addition, this is an ISEERB approved and DoD approved course as per DoD 4500.9-R. It has been reviewed by subject matter experts from DoD components and found to be suitable for more than one agency. (Note: Certain RCRA and safety related training elements required by 49 CFR 172 Subpart H and 40 CFR 265.16 are typically site-specific and must be performed on the job.)

Description.

Training topics cover the identification and classification of hazardous wastes for purposes of preparing a hazardous waste manifest and fulfilling the DOT requirements for shipping hazardous wastes. Specifically, training topics include RCRA waste classification; land disposal restrictions and notification; manifesting requirements; identification of a DOT Reportable Quantity; use of the Hazardous Materials Table; and DOT requirements for determining a shipping name, proper packaging, labeling, marking, placarding, DOT emergency response requirements, and general security awareness. In addition, the course addresses special EPA and DOT requirements for shipping asbestos and PCBs. This course is a composite of a 16-hour base course combined with a supplemental 4 hours pertaining to shipping radioactive waste. Students not involved with shipping radioactive waste and those that have not had initial training regarding radioactive waste will be dismissed at the end of Day 2 of the course. Students in need of radioactive waste refresher training will continue course participation for an additional four hours on Day 3.

Prerequisites.

This is a refresher course. Students must have previously completed either PROSPECT course #223 or another initial training as specified under 49 CFR 172, Subpart H. This course is primarily targeted at persons in the following series: 0800, 0820, 0809, 0810, 0819, 0028, 0029, 0025, 0026, 0401, 1350, 1301, 0893, 0830, 1306, and 1320. (All series involved with environmental programs including engineers, chemists, industrial hygienists, health physicists, biologists, geologists, hydrogeologists, program managers, planners, etc.) as well as all Installation environmental staff, Civil Works Environmental Compliance Coordinators, and Civil Works personnel required to sign hazmat shipping documents and/or hazardous waste manifests. The training is designed for persons with any of the following job responsibilities: identification of proper shipping names for hazardous and/or radioactive waste in accordance with DOT regulations; selection of appropriate packaging, markings, labels and placards in accordance with DOT regulations; RCRA waste identification and classification; completion or review of hazardous waste manifests and/or land disposal restriction notifications; preparation of shipping documents for radioactive waste, used oil, asbestos and PCBs; shipping of analytical samples; loading or unloading of radioactive or hazardous wastes; and transportation of hazardous materials in general.

HYDRAULIC STEEL STRUCTURES - OVERVIEW

343 Length: 36 Hours 33HSS01A
CEUs: 3.2 PDHs: 32

Tuition: $2163 Class Type: Classroom

Purpose.

This course is designed to provide training on the inspection, evaluation, and repair of hydraulic steel structures, that includes the identification of critical members and connections. Nondestructive testing techniques that may be used during periodic inspections or detailed structural inspections are discussed. Guidance is provided on material testing to determine the chemistry, strength, ductility, hardness, and toughness of the base and weld metal. Analyses methods that can be used to determine structure safety, safe inspection intervals, and expected remaining life of the structure with given operational demands are presented.

Description.

This course is an overview of the USACE requirements for design, inspection, and evaluation of hydraulic steel structures(HSS). It is designed to provide guidance in the best practices for maintenance, repair, or replacement of HSS. Nondestructive testing techniques that may be used during periodic inspections or detailed structural inspections are discussed. Guidance is provided on material testing to determine the chemistry, strength, ductility, hardness, and toughness of the base and weld metal. Analyses methods that can be used to determine structure safety, safe inspection intervals, and expected remaining life of the structure with given operational demands are presented.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800; (b) Grade: GS-07 or above and WG as appropriate; and (c) This course is designed for all personnel involved in the design, fabrication, inspection, and repair of USACE hydraulic steel structures.

HYDRAULICS AND HYDROLOGY FOR DAM SAFETY STUDIES

320 Length: 36 Hours 33HHD01A

Tuition: $2003 Class Type: Classroom

Purpose.

Topics presented will include: Development of Probable Maximum Precipitation (PMP); Using GIS to Develop a Hydrologic Model; Hydrologic Modeling for PMP/PMF Events; Developing Dam Breach Parameters; Dam Breaching Analysis using HEC-HMS and HEC-RAS; Unsteady Flow Modeling with HEC-RAS; and Using HEC-GeoRAS and RAS Mapper for Inundation Mapping. Each participant will have the opportunity to prepare model input and analyze model output during course workshops.

Description.

Through a series of lectures and hands-on workshops, the students will learn about development of extreme storm events and hydrologic and hydraulic analysis methods using HEC-HMS and HEC-RAS software to simulate inflow design floods to assess spillway adequacy, and to evaluate dam-break consequences. Other topics will include severe storm magnitude and sequence analysis, hydrologic simulation of inflow to dam and downstream tributaries, spillway sizing and operation, hydraulic calculations of flow through dam outlets; estimating dam breach parameters; dam breaching analysis; hydraulic routing of dam break flood waves; how to solve model stability problems when performing a dam break analysis; and inundation mapping.

Prerequisites.

Nominees must be assigned (a) Occupational series: Selected 0800 and 1300 (b) Grade: GS-07 or above (c) Prior courses: Basic HEC-HMS (#178) and HEC-RAS (#114) or equivalent knowledge; and (d) Familiarity working in a Windows-based computer system environment. Basic HEC-HMS and HEC-RAS input will not be covered. Prior experience with unsteady flow routing is recommended.

HYDROGRAPHIC SURVEY TECHNIQUES

56 Length: 40 Hours 35HST01A
CEUs: 3.0 PDHs: 30

Tuition: $2092 Class Type: Classroom

Purpose.

This course provides participants with the knowledge and technology required in performing hydrographic surveys in support of USACE navigation, dredging, surveying, coastal engineering, inland waterways and related marine construction activities. The course is designed to provide engineers, engineer technicians, field survey technicians, survey vessel operators, and A-E contract administration personnel with a technical familiarization of the criteria, standards, and specifications in EM 1110-2-1003, "Hydrographic Surveying", and applying this manual in performing in-house and contracted hydrographic surveys.

Description.

This course provides instruction on the process and technology used to conduct hydrographic surveys. The instructional program emphasizes the processes required to most effectively perform hydrographic surveys. The major subject areas covered include: hydrography, survey datums, depth and position determination, horizontal and vertical error estimation and analysis, tidal theory, computer hardware and software used for automated hydrographic surveys, fluff measurement, volume computations, multi-beam swath and multitransducer sweep systems, GPS positioning, LIDAR, and project planning. Some horizontal and vertical measurement concepts and techniques will be demonstrated in the field.

Prerequisites.

Nominees should be assigned (a) Occupational Series: 0800 (engineers, engineer technicians), 0817 and 1300 (field survey technicians), and 0095 and 1100 (A-E contract administration personnel); (b) Grade: GS-05 or above. Waivers will be considered.

HYDROLOGIC ANALYSIS FOR ECOSYSTEM RESTORATION

161 Length: 36 Hours 33RAW01A

Tuition: $2025 Class Type: Classroom

Purpose.

The primary objectives of the course are to provide participants with an understanding of the role of hydrologic engineering in ecosystem restoration studies and to provide experience in the application of several software tools that can be used to perform the hydrologic analyses common in restoration planning, evaluation and design.

Description.

Hydrologic and hydraulic processes generally control the creation, restoration, maintenance, size, and function of rivers and aquatic and terrestrial floodplain ecosystems. They not only affect the quantity and quality of water available but also influence soil conditions, nutrient availability, salinity, and the flora and fauna that develop along rivers and in wetlands. In riverine ecosystems the quantity of water available, its seasonal timing and duration, river alignment and exposure are some of the principal considerations influencing habitat and wildlife. This course will focus on hydrologic and hydraulic processes and in analyses that apply to ecosystem restoration. The course agenda includes a series of increasingly difficult topics and workshops, beginning with principles of hydrology, ecology, and statistics and advancing to time series analysis, hydrologic alteration, ecosystem flow definition, ecosystem functions modeling, river hydraulics, and sedimentation. Over a third of the week will be dedicated to software demonstrations and workshops where course participants gain experience using a number of different software tools.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 800 and 400 series, 028, 819, 184, 101, 401, and 1301; (b) Grade GS-09 and above. Nominees should be water control managers, hydrologists, civil engineers, environmental specialists, biologists, ecologists, economists, sociologists, or study managers.

HYDROLOGIC ENGINEERING APPLICATIONS FOR GIS

219 Length: 36 Hours 35GIS01A

Class Type: Classroom

Purpose.

This course provides the basic skills to utilize a Geographic Information System (GIS) to develop data and display results for hydrologic and hydraulic engineering analysis.

Description.

This course provides information in lectures and workshops on: (a) GIS concepts and their application in H&H analysis; (b) acquisition of GIS data sets; (c) the National Geospatial Data Clearinghouse, and Corps of Engineers policies on geospatial data and systems; (d) use of GIS data sets and ArcGIS with the HEC-HMS for hydrologic analysis and HEC-RAS for river hydraulics; (e) combining H&H results with GIS data sets for flood analysis and planning; and (f) case studies of GIS application in H&H analysis, feasibility studies, and water control.

Prerequisites.

Nominees must be assigned (a) Occupational Series: selected 0028, 0029, 0800, and 1300; (b) Grade: GS-07 or above. Some prior experience or GIS training (such as PROSPECT GIS Introduction) is recommended. ArcGIS application experience would be desirable. Student should be in a position to apply GIS methods in the near future.

HYDROLOGIC MODELING WITH HEC-HMS

178 Length: 36 Hours 35HAF01A

Class Type: Classroom

Purpose.

This course provides basic instruction in the use of the Corps' Hydrologic Modeling System (HEC-HMS) for flood damage reduction. Workshops are used to provide hands-on reinforcement of scientific and engineering principals presented in lectures. Students will be prepared to work on typical flood damage reduction studies after completing the course. These same skills are also used as a starting point for studies in ecosystem restoration, forecasting, and navigation.

Description.

The course covers basic hydrologic engineering techniques for rainfall-runoff analysis in support of flood damage reduction studies. Topics include: basin average rainfall estimation, infiltration determination, unit hydrographs, streamflow routing, and methods for modeling runoff throughout a watershed composed of multiple subbasins and river reaches. Parameter estimation using optimization and reservoir outflow modeling are also included. Workshops provide hands-on reinforcement for these areas while following from start to finish a sample reservoir study typical of many flood damage reduction projects. Teaching of scientific and engineering principles of hydrologic studies is integrated with learning to use HEC-HMS as a tool.

Prerequisites.

Prerequisites: Nominees should have completed a college-level hydrology course. Nominees must be assigned (a) Occupational Series: 0400, 0800, and 1300; (b) Grade: GS-07 or above.

Instrumentation and Performance Monitoring of Dams and Levees

26 Length: 24 Hours 54DAS04A

Tuition: $2127 Class Type: Classroom

Purpose.

This course is to provide dam and levee safety professionals formal training in the requirements and best practices of dam and levee instrumentation and performance monitoring programs with emphasis on the importance of timely data collection, evaluation, and reporting. Through instruction, discussion, workshops, and hands-on exercises, students will gain the technical expertise needed to develop an appropriate instrumentation and monitoring program based on potential failure modes analysis.

Description.

The course will cover all the aspects of the instrumentation and monitoring of dams and levees through lectures, case histories, group discussions, workshops, field visit, and practical exercises.
The course will include: program development and considerations, visual monitoring discussions, common instrumentation and their applications, installation considerations, data collection frequencies, data management, threshold establishment, automated data acquisition systems and software, data processing and evaluation, and reporting requirements. Hands-on field exercises will include example instruments and manual readings of instruments in the field as well as data processing and plotting. Hands-on group activities will include “developing instrumentation monitoring program considerations” exercises, as well as data interpretation and evaluation exercises.

Prerequisites.

Nominee must be assigned to (a) Occupational Series: Selected 0800 and 1350. (b) GS-07 or above. Nominees must have current or projected responsibilities in instrumentation program development, data collection, processing and plotting, or data evaluation. Nominees are recommended to already have taken the general “Dam Safety” or “Levee Safety” PROSPECT course or have 3 years of work experience with dams or levees. Attendees should bring proper attire for field visit, e.g., rain gear, comfortable shoes (no open toed shoes)

INTERPRETIVE SERVICES

72 Length: 36 Hours 53INT01A
CEUs: 1.9

Tuition: $1736 Class Type: Classroom

Purpose.

This course is intended for those employees in natural resources management career fields and others who have interpretation or related job responsibilities. The course is designed to develop the skills of Interpretive Services and Outreach Program managers in the Corps to show how to develop, evaluate, and contract interpretive media, and to demonstrate the use of regulations that can enhance the Interpretive Services and Outreach Program.

Description.

After completing the course, the student should be able to develop and maintain an effective interpretive services program. Topics covered include (a) definitions of interpretation and outreach; (b) objectives of Corps interpretive efforts; (c) role of the manager in interpretation; (d) target groups and media selection; (e) use of volunteers; (f) use of cooperating associations; (g) visitor center exhibit and wayside contracts; and (h) interpretive planning and evaluation.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 023, 025, 026, 028 and 1001 as well as all the 400 series; (b) Grade: GS-05 or above; (c) employees in job series other than those listed above who have interpretation as part of their job responsibilities. It is recommended, but not required, that nominees have completed Certified Interpretive Guide training by the National Association for Interpretation or equivalent training.

INTERPRETIVE SERVICES FOR MGRS SUPV & TEAM LDERS

70 Length: 36 Hours 53ISM01A

Tuition: $1958 Class Type: Classroom

Purpose.

This course is primarily intended for employees in natural resource management career fields and others who have interpretation, public outreach, or related job responsibilities at a management, supervision or team leadership level. The overarching objective of this class is to use interpretation as a tool to support project management and other missions of the Corps and make the other tasks performed by Corps employees more efficient. Partnerships, environmental compliance, natural resource management, recreation, visitor and employee safety programs may all become more effective through interpretation.

Description.

After completing the course, the student should be able to develop, manage, supervise, and lead an effective interpretive services program.

Topics to be covered in the course include:

a. Interpretive planning, incorporating interpretation in the project management process (Operational Management Plans, Project Management Plans, etc.

b. Partnering, Cooperative Associations, volunteers, etc.

c. Developing and evaluating interpretive programs, products, and facilities

d. Training interpretive personnel

e. Contracting interpretive products and services, business management

f. Developing exhibits and other interpretive media, interpretive writing

g. Use of technology

h. Planning special events

i. Dealing with barriers to access and communication

Prerequisites.

a. Occupational series 023, 025, 028, any 0400 series, (YB, YC, YD) levels 1-3), 023, 2210 at the team leader, supervisor, or manager level.

b. Completion of the Corps of Engineers Interpretive Services PROSPECT Course (#072), or the National Association for Interpretation Certified Interpretive Guide Course, or the National Park Service Interpretive Development Program or equivalent to any of above.

c. Or Bachelor's degree or higher in interpretation or two years of experience as a field interpreter.

Levee Safety Fundamentals

30 Length: 24 Hours 54DAS02A

Tuition: $ 921 Class Type: Classroom

Purpose.

This course trains USACE staff to include managers, engineers, geologists, technicians, economists, public affairs and office of counsel personnel in engineering, construction and operations divisions on aspects of the Corps of Engineers Levee Safety Program. The course is also open to non-USACE participants interested or involved with the USACE Levee Safety Program.

The course intent is to present an overview of the Levee Safety Program to include history, levee system facts and functions, risk informed framework and risk assessments. The course will focus on Levee Safety Program elements that achieve the USACE "life safety being paramount" mission. Levee Safety Program elements covered throughout the course include inspections, leveed area inundation scenarios, screenings and portfolio management, roles and responsibilities, risk reduction actions, stakeholders and partners, shared responsibilities and solutions, emergency planning and response, and risk communication.

Description.

Lectures, case histories, field visits and structured classroom exercises will be employed to familiarize participants with all aspects of the levee safety program. The course is structured around a basic conceptual representation of levee safety as comprised of the levee system and associated leveed area. A levee system is inclusive of earthen embankments or floodwalls, and all appurtenant structures which are interconnected and necessary to ensure exclusion of floodwater from a defined area, referred to as the leveed area. The course will cover concepts that are considered during risk assessments for levee systems, such as:

hazard-frequency and magnitude of flood loading; performance – embankment/walls and other structures behavior under exposure and loading; characteristics of leveed area including persons and property; vulnerability – potential for life loss, economic and environmental impacts; and consequences when infrastructure performs poorly. Presentations, video modules, case histories, and class exercises, including a field inspection, are used to effectively present the approach to the successful monitoring and evaluation of Corps of Engineers levees.

Prerequisites.

Nominee must be assigned:

(a) Occupational Series: Selected 0100, 0400, 0800, 0900, 1000, 1300, 1500

(b) Grade: GS and WG, as appropriate, GS05 or above

This course is intended for all personnel, including non-Federal employees, interested in or involved in

identifying levee safety risk, and developing risk reduction actions and their associated implementation. No prior knowledge of this topic is required to attend this class.

LiDAR and Aerial Imagery Exploitation

296 Length: 36 Hours 35SV301A
CEUs: 2.9 PDHs: 29

Tuition: $1776 Class Type: Classroom

Purpose.

This course provides engineers, cartographers, surveyors, planners, project managers and engineering technicians with an overview of the latest techniques used in acquiring and processing high-resolution terrain data derived from LiDAR and aerial imagery. These data are used for planning, designing and construction of civil works and military and environmental projects. Emphasis is placed on technology, acquisition, management and exploitation of LiDAR and aerial imagery data sets. Basic photogrammetric and LiDAR principles are reviewed and discussed. Also discussed are A-E contracting for LiDAR and aerial photography services--this includes related cost estimating, contract administration, and quality control/quality assurance. The course provides several demonstrations as well as significant hands-on experience with equipment and in the computer laboratory.

Description.

This course will discuss the principles of LiDAR and aerial imagery, explore the current state of technology, and discuss various applications where LiDAR and aerial imagery is used, with real-world project and data examples. Data acquisition and processing will be discussed, including planning and conduct their own surveys and the necessary post-processing to create the required data products to obtain a better understanding of LiDAR and aerial imagery data acquisition and manipulation. Furthermore, detailed information will be explored related to contracting requirements and data management and dissemination.

Prerequisites.

Nominees must be assigned Occupational Series: 0800, 1100, 1300. This course involves hands-on application of PC-based software using standard software computational/translation packages. Therefore, nominees must have a general knowledge of PC operation.

LUBRICATION OF MECHANICAL EQUIPMENT

412 Length: 30 Hours 35LME01A

Tuition: $1833 Class Type: Classroom

Purpose.

This course is designed primarily for USACE personnel who have hydropower, navigation lock & dam, and spillway maintenance responsibilities; such as supervisors, mechanic crew foremen, engineers, powerhouse mechanics, and technicians. It provides a comprehensive understanding of lubrication issues at hydropower facilities, navigation locks, and spillways. It may also be of benefit to design engineers who need a broader knowledge of lubricant characteristics and performance.

Description.

Through lectures, visual aids, and case study sessions, this course covers the following subjects: (a) friction, wear and lubrication fundamentals; (b) lubricant formulation; (c) lubrication additives and their function; (d) essential characteristics of lubricants; (e) lubricant sampling, testing, and interpretation of test data; (f) greaseless bearings and their application; (g) compatibility of lubricating oils; (h) oil purification; (i) oil filtration and contamination control; (j) lubricating greases - classification, formulation and application; (k) compatibility of greases; (l) hydraulic fluids; (m) turbine oils; (n) gear boxes and open gear lubrication; (o) environmentally acceptable lubricants; (p) wire rope and chain lubrication; (q) incorporation of EOP's and sustainability into mechanical lubrication and (r) open forum discussion on best practices and lessons learned . The course includes a tour of a USACE powerhouse and a navigation lock and dam.

Prerequisites.

Nominees must be assigned in GS or WG Occupational Series as engineers, supervisors, mechanic crew foremen, mechanics, and technicians at USACE facilities with responsibility for operations and maintenance. Exceptions will be considered for design engineers, and personnel involved with design, planning and management in hydropower and navigation lock and dam related organizations.

MAINTENANCE AND REHABILITATION OF PAVEMENTS

50 Length: 36 Hours 35FPC01A
CEUs: 2.9 PDHs: 29

Tuition: $1549 Class Type: Classroom

Purpose.

This course teaches methods and techniques for maintenance and rehabilitation of flexible, rigid, and unsurfaced pavements.

Description.

This course focuses on practical and effective maintenance and repair methods and techniques. The course is composed of lectures, videos, handout materials, and field demonstrations. Maintenance and rehabilitation topics of both flexible and rigid pavements covered include repair techniques, material properties and mix design, surface maintenance options, joint and crack sealants, recycling, production, placement, compaction, and case studies. Additionally, a background in lab tests and field identification of soils and bases materials, maintenance and repair of drainage structures, dust control, and gravel roads will be provided.

Prerequisites.

Nominees must be assigned to an activity with responsibility for maintenance, repair, and improvements of installation facilities (e.g., Army facilities engineer, Air Force base civil engineer) or Corps of Engineers field operations and maintenance activities. This course is designed for maintenance personnel and interested technical staff.

Management of Hydropower - O & M

376 Length: 36 Hours 35MHO01A
CEUs: 3.1 PDHs: 31

Tuition: $2105 Class Type: Classroom

Purpose.

Through the use of subject matter experts in a lecture format, this course covers the management of Corps of Engineers hydroelectric generating stations. It includes the descriptions of powerhouse equipment deisign and construction for structural, mechanical, and electrical systems. It considers environmental requirements, power system accounting, maintenance management, power system operation, safety consideration, material flow, benchmarking, and control systems. Prospective students should be managers or prospective managers of Corps of Engineers hydroelectric assets

Description.

This course is designed primarily for civil works managers, supervisors, engineers, and technicians who have hydropower operations and maintenance responsibilities. It provides a comprehensive understanding of the management of the hydropower facilities. It may also be of benefit to planners, design engineers, hydrologists, and Reservoir Control Center staff who need an understanding of hydropower O&M from the field level perspective.

Prerequisites.

MASONRY STRUCTURES DESIGN

317 Length: 36 Hours 35MSD01A

Tuition: $1482 Class Type: Classroom

Purpose.

This course familiarizes the structural engineer with design and construction practices including criteria, procedures, and specifications for masonry structures. The course instructs DoD engineering personnel in the techniques of masonry design and construction utilizing IBC, ASCE, TMS publications and applicable UFC's. A large portion of Army buildings include masonry as a building unit. Proper design and construction is necessary to eliminate construction and maintenance problems and to be cost effective.

Description.

Topics include (a) masonry materials, properties, and testing; (b) design loads; (c) strength design of reinforced masonry; (d) lateral load considerations and shear wall design; (e) column/plaster design; (f) masonry lintels; (g) bond beams; (h) masonry specifications; (i) masonry details; (j) workshop design problems; and (k) quality assurance. After taking this course the structural engineer should be able to design a cost effective building that incorporates the latest masonry technologies to produce a building with the required structural integrity.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800; Grade: GS-07 or above or equivalent. Nominees should be engineers with masonry design or construction responsibilities. Course is open to Air Force and Navy personnel.

Master Planning Advanced Techniques

952 Length: 24 Hours 49ARP01A

CEUs: 3.0 PDHs: 30 LUs: 30 CMs: 30

Tuition: $1936 Class Type: Classroom

Purpose.

This course provides planners the collaborative planning skills needed to conduct/lead complex master planning efforts such as sustainable planning, area development planning, and form-base coding. In order to comply with Public Law (National Defense Authorization Acts of 2013 and 2014) along with DoD UFC 2-100-02, Master Planning DOD planners need to understand how to prepare an Area Development Plan. This class will be teach the new techniques offered in the upcoming new UFC on area development planning. This class provides the details on how to implement the various principles set forth in DoD base planning. It also provides an overview of comprehensive planning techniques needed to integrate various planning considerations that must be comprehensively considered in the development of Army as well as other DoD and Federal installations/communities. The class instruction is appropriate for planners in cities and towns and meets AICP certification for continuing education.

Description.

Through an intensive hands-on training, students will learn how to complete an Area Development Plan, a critical requirement as per new DOD MP policies UFC 2-100-02 installation master Planning. Students will use planning charrette techniques to develop an Area Development Plan for a real world planning problem at an installation. Students will learn how to define a form-based code for installation development and implement the code requirements. Through the exercise, students will be faced with various planning considerations and will be required to holistically integrate these issues into a comprehensive solution that meets mission requirements and provides for a quality urban design solution that is sustainable and compatible to the installation's vision for real property development. Students will reference several planning text books and use these applications to learn how to apply these planning principles.

Prerequisites.

Attendees should be engaged in DoD installation/federal master planning and management activities. Participants will be required to have a fundamental knowledge of master planning. Students will be required to use a PC and should be able to insert pictures and graphics and prepare a report. Further, the students will be required to participate in a field exercise where they will apply real world applications to planning principles presented. Students will be required to walk during the exercise and should bring appropriate clothing. This course is open to the general public.

Master Planning Energy and Sustainability

258 Length: 28 Hours 46MES01A
CEUs: 2.3 PDHs: 23 LUs: 23 CMs: 23

Tuition: $1700 Class Type: Classroom

Purpose.

This course provides planners understanding of the planning principles of sustainability and energy efficiency, provides instruction on how to apply them in the planning and development of installations and provides instruction on how to create a suite of metrics to assure principle compliance. With new updated DoD Directive for installation energy and water plans to be completed by 2019, this course will teach how to comply. Recent Executive Orders on energy efficiency and sustainability, the Army commitment to ASHRAE 189-2 compliance, new Public Laws on Master Planning (NDAA 2013 and 2014) as well as the New DoD Master Planning UFC and updated Master Planning policies require that energy efficiency and sustainability be integrated into all planning and development of DoD properties. This course focuses on the planning aspects of sustainability and energy and does not go into detailed engineering and design. The planning factors set the standards from which all projects (including energy projects) are developed in accordance with the master plan.

Description.

This course provides a unique learning environment involving lecture, studio-based applied instruction/design and field trips. These events enable the students to understand and identify what the various sustainability and energy efficiency planning practices are in order to meet recent Public Laws including the National Defense Authorization Acts of 2013 and 2014 and the DoD Master Planning Policy UFC 2-100-01, Installation Master Planning as well as other executive orders on energy efficiency and sustainability. Students will gain knowledge in how to implement the master planning processes and identify metrics to assure the principles are followed through programming, design and construction. Through an intensive hands-on workshop, students will use design studio techniques to apply these practices for a real world planning problem at an installation. Students will learn how to define a series of codes and metrics for sustainable, energy efficiency installation development and observe the practices in action through field trip activities. Students will reference several planning text books and use these applications to learn how to apply the planning principles.

Prerequisites.

Attendees should be engaged in master planning and management activities. Participants will be required to have a fundamental knowledge of master planning. Students will be required to use a PC, participate in group design exercise requiring basic drawing and illustrating

and be able to present their findings to the class. Also students will be required to perform basic energy and sustainability calculations. They should be prepared to have some sort of calculator capabilities with them. Further, the students will be required to participate in a field exercise where they will apply real world applications to the planning principles presented. This course is open to the general public.

Master Planning Guideline Implementation

319 Length: 16 Hours 46MPC01A

Tuition: $1113 Class Type: Classroom

Purpose.

To provide master planners, designers, and project managers a broad understanding of the concept of coding and its use in the planning and development of installation communities. The course provides an overview of what is a code and a thorough review of a form-based code. Students will learn how to develop a code, use the code, and enforce the code in managing community development. Designers will learn how to interpret the code in the design and programming of projects.

Description.

The new master planning UFC requires use of planning codes. These are critical requirements that designers must follow. This class enables planners, designers, and project managers to be able to develop a form-based code, create a suite of planning standards, and develop a regulatory plan. Students will learn how to process site approvals using the form-based code, create regulatory protocols, and understand the integration to the overall master planning process. Designers will learn how to design with this criteria in place.

Prerequisites.

Students who are involved in planning should attend this class. Also, designers and programmers who must meet planning code restrictions should attend. Students will be required to participate in group exercises. Students are required to turn off cell phones during class training. A minimum requirement for passing is full class attendance so students are strongly encouraged not to leave class early.

Master Planning Practices

241 Length: 28 Hours 46MOO01A

CEUs: 2.2 LUs: 22 CMs: 22

Tuition: $1758 Class Type: Classroom

Purpose.

This course provides students a review of master planning practices used to implement installation master planning. This course provides follow up training to illustrate how planning principles are translated into day-to-day practices. These practices include managing a planning program, learning how to contract for Planning services and balancing the efforts with in-house capabilities, and evaluating work and ensuring stakeholder involvement.

Description.

Students will learn the steps of the RPMP process, identify the RPMP components and understand the difference between the short and long term planning horizon and the concept of capacity planning. The student will be able to formulate customer requirements to include understanding who the customer is, analyzing existing needs/usage, identify the future projected users/population and accompanying programmatic needs, identify all applicable criteria to formulate facility allowance and learn the process of interviewing the customer and documenting their needs. The student will understand what is Force Structure and will learn what components of the RPMP should be included in the Vision Plan. This will encompass how to create a guiding vision and how to list goals and objectives that are user identified through collaborative, consensus-building exercises. The student will learn the difference between a mission statement and an RPMP vision and be able to describe a framework. Students will be able to define an IDG to describe what the CIS is and understand how the CIS links long-term planning to plan implementation.

The student will be able to define the LRC and list the key parts of the process for developing the LRC Area Development Plans. Students will understand the concept of planning at an ADP level and will learn the components of an area development plan.

Field Survey Planning Law: Students will understand the legal aspects of planning and how the history of legal precedence affects current planning practices.

Standard Design and Army Standards: Students will understand the purpose of and differences between Army Standards and the Standard Design concept. Students will understand the appropriate applicability of the waiver process.

Professional Development: Students will recognize that planning is a profession that requires continuing

education and training. Students will learn the potential career path and training options as a planner. They will understand the AICP certification process.

Space Planning: Students will understand how spatial requirements are developed for customers and how the ASPCM can be used to help accommodate these requirements. Students will learn the regulatory basis for these requirements including category codes and the TAB and how to apply these considerations. In addition, students will learn the difference between unit level and installation level planning.

Planning Tools: The student will obtain understanding of the workings of the Real Property Planning Board to include understanding who makes up the board, what the board does, when they do it and what is the master planner's role in this process.

Installation Development Plan: Students will learn what an installation development plan is, when it should be prepared and who should approve it.

Installation Real Property Master Plan Digest: Students will learn the role of the Digest in the planning process, who prepares the contents and who approves it.

Charrettes: Students will learn who should participate, when they should be conducted and what the outcome should be.

RPMP Digest Examples: Students will be able to evaluate the components of a RPMP Digest.

The students will learn how to use various acquisition strategies to obtain planning services. This includes working with Standard Performance Work Statements, developing cost estimates, evaluating work, and scoping out the planning effort.

Prerequisites.

This class is closely synchronized with course #75 (MP Principles). This class focuses on day-to-day practices needed to implement the principles discussed in course #75. Students that work in the planning community from the Army (active and reserve) as well as other DoD services and agencies, consultants and the general public would benefit from this class. A field trip will be included in the class so students should be prepared to walk 1-2 miles. Further, students should be warned that cell phones are required to be turned off during the class lectures and exercises. To receive a certificate of completion, students are required to attend the full class so leaving early is strongly discouraged.

Master Planning Principles

75 Length: 32 Hours 46PMP01A

CEUs: 3.0 PDHs: 30 LUs: 30 CMs: 30

Tuition: $1535 Class Type: Classroom

Purpose.

This course is an introduction to MASTER PLANNING Principles for planners, project managers, engineers, historic preservation experts, architects and Real Property Specialists at Army and DOD installations, and Corps of Engineers districts as well as planners from other DoD and Federal agencies and the general public and consulting community. The goal of the course is to make planners more effective by providing them an overview of the fundamentals of the master planning process that is used by not only the Army but also other DoD Federal agencies and local cities and towns. For non-planners, this course provides an overview of the fundamental planning principles of master planning. General planning principles covered in this course apply to the U.S. Army Reserves and other military services, the Civil Works Community, other Government agencies, and the civilian planning community. Participants should be aware that this course is focused on PLANNING (not programming DD 1391 preparation) and the design and construction of facilities. Since planning defines what is to be programmed, it is essential that programmers understand how the planning process is formulated, its integration to NEPA, its consideration of sustainability and energy factors, and how the process guides all development.

Description.

Through lectures, case studies, group interaction, field trips and practical exercises, this course will (a) explain an overview of fundamental sustainable, energy efficient, and master planning principles cited in Army and DoD Master Planning policies; (b) present the planning process/methodology in general and explain how it is applied to installation master planning; (c) emphasize that master planning is a professional capability requiring close collaboration and facilitation with stakeholders, and (d) present an overview of sustainable development concepts. This class provides the fundamentals of the practice of planning and gives the participates the foundational understanding needed to engage in effective master planning of installations and federal properties.

Prerequisites.

Nominees must be assigned to GS-05 or above and associated with installation master planning and management support functions at DoD installation communities, MACOMs, MSCs, USAR, RSCs, USACE divisions/districts, and/or a supporting contractor or equivalent experience from other DoD and Federal Agencies. Work in other areas such as historical preservation, environmental management, and project

management would serve as suitable prerequisites. This course is open to the general public. Participants should be aware that the class will require walking involving field trips. Students should bring appropriate walking shoes and/or clothing.

Master Planning Program Execution

326 Length: 24 Hours 46RMS01A
CEUs: 1.9 LUs: 19 CMs: 19

Tuition: $1224 Class Type: Classroom

Purpose.

Master Planning Program Execution provides a unique opportunity to learn methods to execute the master plan. This includes the process of preparing an Area Development Plan Execution Plan, developing a Future Development plan as well as using Army planning tools to conduct planning studies, requirements analyses, stationing impacts, etc. Through application and instruction, students will gain further understanding in the use of these tools.

Description.

Students will gain a thorough understanding of various master planning execution techniques needed to implement the master plan while learning how to comply with recent new Public Laws on installation planning and DoD guidance. Students will learn how to implement recommendations of the plan to include preparation of the Area Development Execution Plan and associated Investment Strategies. Students will learn how to determine real property requirements and the impact to the installation's Real Property Master Plan. This includes an overview of how the Army stations units, how to develop Real Property requirements, and how to assess the impacts of this stationing plan.

Prerequisites.

This class is not a programming class or a computer class on how to use RPLANS and ASIP. It covers how to use these tools as well as Area Development execution plans and other planning tools to form a succinct definition of real property requirements, stationing scenarios, and gap analysis by using the Real Property Master Plan. Further, students should know, this class does not include instruction on how to prepare a DD form 1391. This course is open to the general public.

Master Planning Sustainability & Resiliency

163 Length: 24 Hours 35HS201A
CEUs: 3.0 PDHs: 20 LUs: 20 CMs: 20

Tuition: $1736 Class Type: Classroom

Purpose.

This course connects the key elements of sustainable planning with resiliency factors. It is appropriate for planners, project managers, engineers, historic preservation experts, architects and real property specialists at Army and DOD installations, Corps of Engineers Divisions and Districts as well as those from other DoD and Federal agencies and the general public and consulting community. The goal of the course is to make planners more effective by providing them with an understanding of the role of master planning in achieving sustainability and resiliency goals, including net zero planning. Students will learn how to use the USACE developed Net Zero Planner tool to achieve resilient solutions in conjunction with master planning. For non-planners, this course provides linkages to achieve sustainable, resilient installations.

Description.

Through lectures, case studies, group interaction, field trips and practical exercises, this course will (a) provide an overview of sustainable, energy efficient, resilient master planning principles as cited in Army and DoD Master Planning policies; (b) present the planning process/net-zero methodology and explain how it is applied to installation master planning; (c) emphasize that master planning is a professional capability requiring close collaboration and facilitation with stakeholders, and (d) present an overview of sustainable development and resiliency concepts. The class provides the knowledge and modeling techniques necessary to produce a Sustainability Component Plan as a complement to a master plan. This class provides the participants with the knowledge and skills needed to engage in effective sustainable, resilient master planning for installations and other federal properties.

Prerequisites.

Nominees must be assigned to GS-05 or above and associated with installation master planning and management support functions at DoD installation communities, MACOMs, MSCs, USAR, RSCs, USACE divisions/districts, and/or a supporting contractor or equivalent experience from other DoD and Federal agencies. While the course builds on knowledge from Course # 258 (Master Planning Energy & Sustainability), it is not necessary to have completed this course. Work in other areas such as environmental management, landscape architecture, historic preservation, and project management are suitable prerequisites. This course is open to the general public.

Master Planning Sustainable Historic Structures

392 Length: 24 Hours 35HIS01A
CEUs: 2.0 PDHs: 20 LUs: 20 CMs: 20

Tuition: $1215 Class Type: Classroom

Purpose.

This course focuses on the planning and development of installations as it pertains to the sustainable reuse of historic structures. As per Public Laws (National Defense Authorization Acts of 2013 and 2014) and DoD Master Planning UFC 2-100-02, planning considerations for Sustainable Structures are required. The course instructs planners, historic preservation experts, and others on how to implement the planning strategy of historical preservation as documented in the master planning UFC 2-100-01 Master Planning. The course also provides instruction in identifying unique characteristics, legal requirements, procedures, technical knowledge, and skills necessary to administer, maintain, and repair and repurpose historic properties in conjunction with the master planning policies of the Army and DoD.

Description.

This course covers the sustainability and reuse strategies for Historic Structures as it pertains to planning and an overview of guidance to include laws, regulations, the Secretary of the Interior's standards, criteria, and guidance. It also covers the identification and documentation of Historic Fabric. THe class goes into innovative methods where re-use of historic structures can offer Federal properties, tremendous ways to meet energy and water savings, while creating new opportunities for footprint reduction. Students will be engaged in both lecture, carefully crafted hands-on exercises and engagement through field visit to documented succeses in historic presevation sustainable reuse.

Prerequisites.

Nominees should be assigned (a) Occupational Series: 0020, 0023, 0025, 0028, 0170, 0193, 0301, 0341, 0342, 0343, 0401, 0408, 0800, 1005, 1008, 1170, 1171, 1173, 1176, 1300, 1301, 1640, 1910, 1960, or other series with cultural resource responsibilities; (b) Grade: GS-07, or above. . Each session will attempt to approximate a mix between installation and USACE personnel. Typical USACE functions appropriate to this course include master planning, engineering, project management, construction, contracting, and real estate. Typical installation functions include engineering plans and services, family housing, operations and maintenance, engineering resource management, and environment.

Master Planning Visualization Techniques

948 Length: 28 Hours 46RPV01A
CEUs: 2.2 LUs: 22 CMs: 22

Tuition: $1753 Class Type: Classroom

Purpose.

To provide master planners training in planning visualization techniques. The course objectives will be implemented through the use of Google Sketch-up and Adobe Photoshop as tools to assist in military installation planning. The training applies to the planning and development of local cities and towns as well. With the update to DoD and Army planning policies, visualization skills are essential in building great area development plans.

Description.

The challenge of installation planning requires planners to understand the broad context of community planning, the concept of scale, the massing of facilities, landscaping, Architectural compatibility and Force Protection/Critical Infrastructure Assurance aspects. This is more important now, in order to comply with Public Laws (National Defense Authorization Acts of 2013 and 2014) and the New DoD Master Planning UFC 2-100-02. Further, with the emphasis of neighborhood planning in LEED and sustainability principles, it is essential to visualize the entire urban space that is being created. This 28-hour course provides Planners a fundamental overview of the use of planning visualization tools Google Sketch-up and Google Earth as “easy to use” tools to help plan our installations as well as local communities. Students will have hands-on instruction on the use of the software and even produce several basic Area Development proposals using both Google Sketch-up and Photoshop. Further, students will leave with a knowledge in the fundamentals of Google Sketch-up and Adobe Photoshop as tools in the planning and development of communities.

Prerequisites.

There are no prerequisite requirements to participate in this course. This course is open to the general public.

MECHANICAL-QUALITY VERIFICATION

74 Length: 36 Hours 35MCQ01A
CEUs: 3.2 PDHs: 32

Tuition: $1024 Class Type: Classroom

Purpose.

This course provides the participant with information, procedures, and problem area solutions that must be known to effectively perform mechanical quality assurance duties. The course specifically addresses preparatory, initial, and follow-up inspection techniques concerning the equipment, material, and testing requirements for mechanical systems common to most building construction.

Description.

Through lecture, visual aids, conferences, and case study sessions, this course covers such subjects as (a) plumbing, (b) heating, (c) refrigeration, (d) air-conditioning, (e) fire protection, (f) HVAC controls, (g) outside utilities, (h) insulation, and (i) underground storage tanks. It emphasizes the government QA representative's role in construction quality management.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0801, 0802, 0809, 0810, 0830, and 0850; (b) Grade: GS-05 through GS-12, or equivalent. Nominees should have a current or projected assignment as an engineer, engineering technician, or construction representative, GS-12 and below, with mechanical quality assurance representative responsibilities. Nominees must not have attended this course or a similar course within the past 5 years.

Medical MILCON/SRM Program Execution

227 Length: 36 Hours 46MMP01A
CEUs: 3.1 PDHs: 31 PDUs: 31

Tuition: $2136 Class Type: Classroom

Purpose.

This course is taught in conjunction with the American Society for Healthcare Engineering (ASHE) and is designed to teach the standard practices for design, construction, operations and maintenance of healthcare facilities. It provides project managers, resident engineers, design managers, construction managers, and QA personnel with procedures, tools, techniques and healthcare knowledge to effectively manage Medical Military Construction (MILCON) and Sustainment, Restoration and Modernization (SRM) projects. This course also provides members of the project delivery team, including budget support and contracting personnel, an overview of the Defense Health Affairs (DHA) medical program project execution processes and procedures.

Description.

This course provides an overview of the rules and practices that govern the construction of medical healthcare facilities from programming through construction and occupancy. Construction of medical facility types is governed by a strict set of codes and requirements as established by The Joint Commission (TJC). This course will increase participants' understanding of code and compliance issues relevant to working in a health care environment. Topics covered in this course include: healthcare industry fundamentals, planning, design and construction process, patient safety, project management principles, and the medical funding stream. Presentations, case studies, or group exercises may be used to encourage meaningful discussions and provide hands-on experience. After completion of this course, each student should be able to support Medical and SRM project execution as a member of Medical or SRM Project Delivery Teams. Upon successful completion of this course, each student will receive the American Society for Healthcare Engineering (ASHE) Healthcare Construction Certificate and be registered at the ASHE website.

This course provides Continuing Education Units to all students and professional Development Units to students who possess the Project Management Professional (PMP) certification.

Prerequisites.

Nominees must be GS 7-9-11 employees who provide Quality Assurance/Construction Quality Management (QA/CQM) construction surveillance of medical or laboratory facilities; GS 11-14 project managers, program managers, construction managers, resident and area

engineers; design engineers who design or review medical construction plans and specifications. Students who register for this course will be required to complete ASHE web-based preparatory training prior to arrival at course site.

MICRO-COMPUTER AIDED COST ESTIMATING SYSTEM II ADVANCED

312 Length: 36 Hours 54MGA01A
CEUs: 2.8 PDHs: 28 LUs: 28

Tuition: $1504 Class Type: Classroom

Purpose.

This course provides cost engineering professionals with advanced instructions on accessing and utilizing the components of the MII software program not provided in the MII Basic course. The course presents detailed information on: (a) Military Programs, Civil Works, Environmental and modeling; (b) Crew Productivity Analysis for Civil Works; (c) Military Program, Civil Works and Environmental Work Breakdown Structures; (d) Management of MII Libraries, assemblies and tables, and (e) Other Advanced Cost Engineering Tools.

Description.

The course provides instruction on the use of modeling and quantity linking for the development of budget estimates, as well as detail cost estimates. This modeling approach and other estimating techniques are used to develop ENG Form 3086 estimates in the proper electronic format. Parameter worksheets, quantity linking, and assemblies are also applied to crew productivity analysis for the development of Civil Works (CW) estimates. The course explores estimate structures development and reporting to accommodate the CW Code of Accounts and the Military Programs, and the Environmental Work Breakdown Structures (WBS). Students will work with database functions to create site-specific unit prices, modify equipment costs for project specific circumstance, and adjust crew for overtime and shift differential.

Prerequisites.

(1) Students must be assigned (a) Occupational Series: Selected 0800, 0802, 0810, 0830, and 0850; (b) Grade: GS-09 and above; (2) This course is open only to DoD personnel. Other participants must obtain CECW-CE approval and may be permitted to attend only on a last priority basis; (3) Students should have a decent working knowledge of (a) MII and should have taken the MII Basic and Cost Estimating Basics PROSPECT courses prior to this training, (b) Excel, particularly the use of ranges and if/then statements, (c) cost engineering, its rules and regulations, and (d) computer operations using the current Microsoft Windows operating environment.

MICRO-COMPUTER AIDED COST ESTIMATING SYSTEM II BASIC

305 Length: 32 Hours 54MCA01A
CEUs: 3.1 LUs: 31

Tuition: $1375 Class Type: Classroom

Purpose.

This course provides cost engineering professionals with instruction in the preparation and execution of computerized cost estimates using the latest MII cost estimating software program. The course also supplements computerized estimating with ready-reference material intended to improve the participant's knowledge of Corps of Engineers policies and procedures for preparing government estimates for Military, Civil Works and Environmental construction projects.

Description.

Through lectures, demonstrations, and hands-on computer usage, this course covers the basic computerized aspects of estimating using the latest version of MCACES (MII), the latest CostBook (UPB) and other supporting libraries (i.e., equipment, assemblies, labor, etc.) The student is required to complete quantity takeoffs and prepare detailed cost estimates, which may require work to be done after regular class hours. A pretest and posttest will be given.

Prerequisites.

(1) Students must be assigned (a) Occupational Series: Selected 0800, 0802, 0810, 0830, and 0850; (b) Grade: GS-07 and above; (2) The course is open only to DoD personnel. Other participants must obtain CECW-CE approval and may be permitted to attend only on a last priority basis; (3) Students should have at least a basic working knowledge of (a) cost estimating (it is highly encouraged for students to have taken Cost Estimating Basics PROSPECT course prior to this training) and (b) computer operations using the current Microsoft Windows operating environment; (4) Previous exposure to MCACES (MII) software programs is helpful; (5) Students should bring a calculator with them.

NATIONAL ELECTRICAL CODE

78 Length: 36 Hours 35NEC01A
CEUs: 3.0 PDHs: 30

Tuition: $1135 Class Type: Classroom

Purpose.

PROSPECT course 078 was originally developed more than 30 years ago to meet the need within USACE to provide training for electrical professionals (includes engineers and technicians) to properly apply the requirements of the National Electrical Code in the design, construction, and maintenance of all USACE projects involving the use of electricity. The fields of electrical design, construction, and maintenance are very broad. Course 078 was developed to specifically address the electrical design and construction issues encountered on the wide variety of USACE projects, which include Military facilities, Civil Work structures and HTRW projects.

Description.

This course covers the application and interpretation of code requirements for the design, construction, and maintenance of interior electrical systems through directed informal discussion sessions, case studies and homework. Topics include, but are not limited to, interior distribution, grounding and bonding, motor and transformer circuits, calculations, ground - fault circuit interrupters, classified (hazardous) areas, special conditions, communication circuits, and use of tables.

Prerequisites.

Nominees should be assigned (a) Occupational Series: 0801, 0802, 0809, 0810, 0830, 0850, or 0855; (b) Grade: GS-09 or equivalent wage grade and above. Nominees should be electrical engineers of any grade level or engineering technicians or construction representatives GS-09 or above. Nominees should be familiar with the principles of interior electrical installations or currently be assigned responsibilities for design, construction, or maintenance of interior electrical installations at Corps or other government facilities. Nominees are required to bring a calculator to the course in order to perform example calculations.

NATIVE AMERICAN PERSPECTIVES AND CORPS MISSIONS

950 Length: 36 Hours 33NAE01A

Tuition: $1736 Class Type: Classroom

Purpose.

This course identifies sustainable environmental principles through immersion in a culture different than one's own and exposes students to practices that have enabled Native Americans to thrive for thousands of years. Concepts and principles examined provide project and program managers with an expanded range of alternatives to consider when planning and implementing Corps activities.

Description.

The course is founded on the USACE Environmental Operating Principles: achieve sustainability, recognize interdependence, seek balance, accept responsibility, mitigate impacts, build and share knowledge, and positively seek ideas to find solutions.

Elements and concepts that students are exposed to in this training will influence planning, decision-making and implementation of USACE projects and programs. Leadership and team-building skills are an added benefit. Students build skills through interactions with Tribal members, hands-on activities, and cooperative efforts in a remote setting. The remote setting enables students to "think outside the box," away from the office and routine daily tasks. Students gain a fresh perspective on interdependencies among natural resources and human activities, and on the enormous importance of maintaining the web of sustainability.

Lessons learned aid in all aspects and phases of environmentally beneficial water resource programs and projects, installations, and overseas operations. Students are challenged to apply lessons learned to Corps mission areas.

Prerequisites.

This course is vital for individuals engaged in environmental decision-making at all levels and in all areas - leaders, planners, project managers, operations staff, real estate and regulatory specialists, public affairs, office of counsel, environmental engineers, scientists, park rangers, civil engineers, and others engaged in water resource programs/projects. Employees from the GS-7 to SES level and military classifications O3 to O6, as well as other federal and state agencies, have benefited from the course already.

NEGOTIATING CONSTRUCTION CONTRACT MODIFICATIONS

368 Length: 36 Hours 41NCC01A
CEUs: 2.5 PDHs: 25 LUs: 25

Tuition: $1246 Class Type: Classroom

Purpose.

This course provides instruction that will improve the participant's effectiveness in negotiating construction contract modifications. The course provides a thorough review of the requirements and processes to effectively analyze and negotiate contractor proposals. This course provides practical exercises that assist the participant in applying sound judgment to arrive at an equitable adjustment. The course is recommended for individuals who are involved in processing and negotiating construction contract modifications on firm, fixed-price contracts.

Description.

The course entails lectures, videos, discussions, case studies, and daily vignette/exercise sessions, which present an in-depth overview of requirements and processes uses to become effective negotiators. Topics include relevant regulations, pricing types, technical pricing analyses, pricing objectives, the independent government estimate, cost or pricing data (truth-in-negotiations), field and home office overhead, contingencies, impact, profit, bond, insurance and negotiation preparation, strategy and techniques to achieve a fair and reasonable settlement. This course emphasizes student involvement with daily negotiation exercises in teams.
One TLO (Terminal Learning Objective) and sixteen ELOs (Enabling Learning Objectives) will be published.

Prerequisites.

Nominees should be assigned to Occupational Series 0340, 0800, 0810, 1102, and 0905 GS-05 or above or equivalent NSPS; (b) Grades: Military: 0-3 and above; Civilian: GS-07 or above; (c) Experience: recommended for personnel with 1-3 years of experience or target assignment to jobs in construction, contracting, contract administration; (d) Responsibilities: attendees should have or anticipate having responsibility for processing, negotiating, or reviewing construction contract modifications; (e) Knowledge/skills: attendees should possess a general knowledge of the post-award construction contracting process. Previous completion of the Construction Contract Administration course (No. 366) is recommended.

Nonstructural Measures for Flood Risk

345 Length: 36 Hours 35FWP01A

Class Type: Classroom

Purpose.

This course will provide participants with the overall ability to realize opportunities with nonstructural measures, to formulate nonstructural measures, and to implement nonstructural measures.

Description.

This course will touch on the Corps flood risk management mission and the relationship of these missions to the Actions for Change, the Civil Works Strategic Plan, the Environmental Operating Principles, watershed/systems planning, in order for the participant to fully understand the significant role of nonstructural measures. This course will make the student very familiar with the basic nonstructural measures such as elevation, dry flood proofing, wet flood proofing, small berms, levees and walls, relocation, acquisition, and flood warning. The importance and relevance of the National Flood Insurance Program to flood risk management will be explained. Laws, policies, statutes,executive orders, etc., will be covered that relate directly to nonstructural measure formulation and implementation. The host of opportunities that exist with implementing nonstructural measures will be explored in terms of accomplishing long term flood risk management. The student will be shown how to conduct nonstructural benefit analysis and how to formulate nonstructural alternatives. A field trip will be included to actually see nonstructural measures that have been implemented. The course offers opportunities to professional staff in such areas as flood plain management, hydraulics and hydrology, and civil works planning to become knowledgeable in this area. Its focus is on realizing the need for and the opportunities with nonstructural measures as well as the mothodologies and procedures for performing reconnaissance and feasibility phase investigations for plan formulation, evaluation and implementation of nonstructural measures.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0000-0100, 0800, and 1300; (b) Grade: GS-7 or above.

O&M CONTRACTS

119 Length: 24 Hours 41OMC01A
CEUs: 2.6 PDHs: 26

Tuition: $ 705 Class Type: Classroom

Purpose.

This course provides basic instruction on preparing and administering a broad range of service, supply, and small contracts and purchase orders used at civil works projects. Coursework applicable to: Operations project managers, natural resource managers, park rangers, maintenance supervisors and staff, operational support personnel, also Army and civilian CORs for service contracts.

Description.

Service Contracting procedures being used on Army and civil works projects for operation and maintenance are addressed through lecture, discussion, and exercises. Special emphasis is given to those steps which are key to developing and administering successful contracting programs. As a basic first exposure to O&M contracting, the student will develop a sound understanding of techniques and responsibilities. Specific subjects addressed in the course are: contracting procedures, safety considerations, contract clauses/payments, COR duties and responsibilities, technical contract requirements, formulation of a solicitation, and quality assurance.

Individuals needing instruction in formal Construction Contracts should take the Construction Contract Administration course (#366).

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0023, 0025, 0300, 0400, 0800, 1100 and 4749; (b) Grade: GS-05, WG-05, and above. Students should have current or projected assignments involving project contracting procedures.

O&M CONTRACTS ADVANCED

318 Length: 28 Hours 41OMA01A
CEUs: 1.8 PDHs: 18

Tuition: $1558 Class Type: Classroom

Purpose.

This course provides Operations/project personnel with additional skills for developing and administering service, maintenance, and construction contracts.

Description.

Through lectures, field exercises, and directed discussion sessions, this course covers contract types, administrative considerations, legal implications, and handling adverse circumstances of O&M contracts. This course provides project contract administration personnel with advanced understanding in project operations where significant reliance on O&M contracting is required.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0023, 0025, 0300, 0400, 0800 and 1100; (b) Grade: GS-07 or above or equivalent WG grade and series. Students should be assigned project office contracting responsibilities, or district office personnel involved in contract administration supervision. Students must have completed the Administration of Operation and Maintenance Contracts basic course (No. 119). Students should attend sessions outside their home Division in order to receive the full benefit of the class field trip. It is recommended that students DO NOT request a class location in their home district. Those that do are subject to re-assignment.

OPERATIONS PROJECT MANAGEMENT

245 Length: 36 Hours 46OMW01A

Tuition: $1304 Class Type: Classroom

Purpose.

This course is targeted toward US Army Corps of Engineers employees who aspire to become Operations Project Managers (OPMs). It is taught by existing or former OPMs and national business program managers from a practical management perspective. It is intended to foster a uniform understanding of current programmatic changes, issues, and initiatives in both individual business line areas and general management practices.

Description.

This course is designed to provide students with insight into functioning as an OPM in the areas of the project management business process, budget preparation and execution, communities of practice, human resource management procedures, specific leadership skills, and union/management relations. It also covers individual business lines such as hydropower, flood damage reduction, recreation, navigation, environmental stewardship, and others from both an OPM's and a national perspective. An entire day of this course takes place in the USACE HQ office, exposing students to national senior leaders and program experts.

Prerequisites.

Nominees must be: (a) US Army Corps of Engineers employees: (b) Grade GS-11 or above; and (c) be directly involved in or experienced in the operation and maintenance of USACE operational projects. First consideration will be given to high potential aspiring OPMs who have been so identified by their command.

Paint Coatings and Quality Verification (QV)

84 Length: 36 Hours 35PNT01A

CEUs: 3.1 PDHs: 31 LUs: 31

Tuition: $2563 Class Type: Classroom

Purpose.

This course is designed to develop students' quality verification, analytical, and problem solving skills to identify, prevent, correct, and resolve prevalent problems in the application of paints and coatings. Students will learn the basic concepts of paint composition, coating selection, safety, environmental & sustainability considerations, and construction quality management necessary to administer the painting requirements of project plans and specifications.

Description.

Through lectures, hands-on demonstrations, analysis of case studies, and laboratory sessions, this course covers such subjects as: paint fundamentals; characteristics and selection of coatings; surface preparation and painting of metals, concrete and masonry surfaces, wood, wallboard, and other miscellaneous surfaces and material types; paint defects; paint approval; testing instruments; painting specifications; and safety, environmental, and sustainability considerations. Construction Quality Management, Maintenance Painting, and changes in guidance and regulations affecting painting are emphasized. Recent changes to the UFGS 09 90 00 and 09 97 02 are emphasized to include the use of the Master Painter's Institute (MPI) specifications and its application to the design-build process and other available online resources.

Prerequisites.

(a) Grade: All (b) Occupational Series: 0800, 1300, 4000, 5318, 5426. Other disciplines will be accepted provided nominee's present or anticipated duties require knowledge of coating systems involved in design, construction or facility maintenance. This includes architects and engineers with design, specification and review responsibilities. This course is open to those individuals from DPWs, BCEs, NAVFAC and other government agencies who are responsible for quality assurance and verification, specifying paint requirements for maintenance or new construction and those serving on constructability review teams.

Partnerships in Natural Resource Management (NRM)

328 Length: 32 Hours 35PNR01A

Tuition: $1655 Class Type: Classroom

Purpose.

This course is designed to develop an understanding of the capabilities of the Corps of Engineers NRM Partnership Authorities and to promote consistency in Partnership policy application, explore alternative management techniques, funding sources and practical applications. Lecturers and instructors include HQUSACE staff, HQ Partnership Advisory Committee Members, and guest speakers.

Description.

Topics to be covered in class will be: a) USACE's NRM PArtnership Authorities as described in ER-1130-2-500, b) Partnerships and their applications, c) Benefits of the Handshake Partnersip Program and development of applications for Handshake Funds, d) Partnership ethics, e) Cooperating Associations and Cooperative Agreements, f) Contributions, g) Volunteers, h) Lessons Learned and documentation of partnerships in OMBIL. (THIS COURSE FOCUSES ON THE RECREATION AND ENVIRONMENTAL STEWARDSHIP BUSINESS LINE PARTNERSHIPS)

Prerequisites.

(a) Attendance is open to all 0025, 0023, and 0400 series Natural Resource Management personnel, Managers, and Specialists who deal with partners and volunteers on a daily basis. Attendance is also encouraged for Office of Counsel, Real Estate, and Resource Managment staff. No prior knowledge of this topic is required to attend this class.
(b) Grade: GS-05 and above.

PAVEMENT EVALUATION AND DESIGN

115 Length: 36 Hours 75PER01A
CEUs: 3.0 PDHs: 30

Tuition: $1380 Class Type: Classroom

Purpose.

This course teaches method and techniques for the evaluation and design of flexible, rigid, and unsurfaced pavements.

Description.

Through lectures, laboratory tours, field exercises, and discussions, this course covers the general concepts in pavement evaluation and design, selection of pavement system, design procedures, and computer applications. Specific topics include identification of surface deficiencies, PAVER, pavement management systems, field tests of soil, bases, and asphalt layers, rigid, flexible, and unsurfaced pavement design, overlay design, surface and subsurface drainage, and an overview of PCASE. Students are encouraged, but not required, to bring a laptop so that the PAVER/PCASE software can be installed and used during the course.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800 series; (b) Grade: GS-09 or above. Student should have a current or projected assignment as a design or construction engineer or be a senior technician responsible for pavement evaluation, maintenance, rehabilitation, or construction.

PCC4 ECONOMIC ANALYSIS

270 Length: 16 Hours 35EAW01A

Tuition: $ 0 Class Type: DL

Purpose.

This course provides an overview of the requirements and procedures for conducting economic analysis of Corps of Engineers water resources planning projects. Some form of economic analysis is mandatory for all Civil Works projects, whether they involve flood risk management, navigation, dredging, water supply, environmental restoration, mitigation, major rehabilitation, O&M, or multiple project purposes. While the course focuses on the technical elements of Corps economics, large blocks of time are allotted for policy and procedure, as they intertwined.

Description.

Economic policies, methods and tools will be presented for each project purpose through a series of seminars, lectures, hands-on exercises, and case studies. Other concepts covered by this course include: the NED account as defined by the P&G; incorporating Risk & Uncertainty into evaluation by project purpose; types of evaluation techniques (cost-benefit analysis, optimization analysis, cost effectiveness/incremental cost analysis); types of data required; analytical models routinely used by planners and economists; the role of economic analysis in environmental restoration, mitigation, watershed planning; cost sharing; and the renewed emphasis on the Regional Economic Development (RED), Other Social Effects
(OSE) accounts. Many of the presenters will be made up of experts well-versed in Corps economcs as well as policy. In addition, the proximity to HQUSACE and IWR provides a perfect venue for the class.

Prerequisites.

This course is strongly recommended for economists; however, planners and project managers are encouraged to attend. It is one of several Core Curriculum Courses making up the Corps' Planning Excellence Program.

PCC5 H&H for Planners

409 Length: 32 Hours 35HHC01A

Class Type: Classroom

Purpose.

This course provides less experienced district and division planners with a basic overview of the Corps of Engineers basic hydraulic and hydrologic concepts in accordance with current policies and procedures. It is developed for those who are relatively new to civil works planning; or, individauls who require an overall understanding of the policies and procedures involved in hydraulic and hydrologic process.

Description.

Formerly the Planner Core Curriculum Class entitled "Hydrologic and Hydraulic Considerations in Planning." This course provides basic information in layman's terms on hydraulics, hydrology, geomorphology, sediment transport, and associated models. Many hands-on demonstrations are utilized to reinforce these concepts. The concepts are then specifically applied to the Corps water resources mission areas of flood damage reduction, coastal damage reduction, navigation, ecosystem restoration, etc. In addition, the course provides a discussion of the development of Project Management Plans and scope versus consequences and includes a field trip and a major class exercise. The target audience for this class is new planners with no formal education in hydraulics and hydrology. While engineers may take this class, it should be recognized that basic principles will be discussed.

Prerequisites.

Nominees should be beginning/newly assigned to the Civil Works Planning and/or Project or Program Management areas of the civil works planning programs. Typically, with less than 3-years of related hydraulic and hydrologic experience; or, in fields having a nexus with and relevant need for an understanding of the hydraulic and hydrologic processes and their relationships to civil works project development. Nominees should be currently involved in the planning of civil works water resources development projects. Prior completion of the "Planner Orientation" and "Planning Process" courses from the Planning Core Curriculum; or, the "PCC1 Civil Works Orientation" and "PCC2 Planning Principles and Procedures" PROSPECT courses is highly recommended. Grades: GS 5-11.

Plan Formulation and Evaluation Capstone (Planning Core Curriculum Course3)

406 Length: 36 Hours 35PFM01A

Tuition: $1624 Class Type: Classroom

Purpose.

This course enhances the student's planning knowledge, critical thinking ability, communication skills, and capability to use planning tools and techniques to successfully lead a study to a quality decision document. Through case studies and participatory activities, the course provides the opportunity for planners with some training and experience to apply the critical thinking and decision making skills necessary to be a successful planner.

Description.

Upon completion of the course, the student will be able to apply the techniques and skills needed to lead a study through the six-step planning process. Students will be able to communicate risks and uncertainties associated with the study at each of the Feasibility Study Milestones. The six-step planning process and the importance of collaboration within the interdisciplinary project delivery team will be reinforced in this course. Specific attention is given to risk-informed decision making, the work products to support those decisions, levels of detail necessary for each planning milestone, adequate documentation in a clear manner and vertical team integration. The course follows the framework of the Feasibility Study Milestones with an emphasis on plan formulation strategies, the NEPA process, risk and uncertainty, level of detail, and communication. Presentations and exercises use case studies to apply the tools used during formulation, evaluation and comparison steps of the planning process. The course will be delivered as on-site training with a field trip incorporated to reinforce course content using current real world examples. This course is the Planning Core Curriculum Course 3.

Prerequisites.

Participants should be currently involved in the planning of civil works water resources development projects. Nominees should be involved in or closely support the planning phase of civil works project development and may include plan formulators, economists, environmental specialists, cultural resource specialists, engineers, physical scientits, project managers, program managers, and real estate specialists. Applicable Occupational Series include, but are not limited to the following: Selected 0020, 0100, 0300, 0400, 0800, 0900, 1100, and 1300 series or others such as public affairs officers, real estate, or counsel that support the development process

Prior completion of the PROSPECT Courses, "Civil Works Project Development Process" and "Planning Essentials", are required. "Planning Principles and Procedures" (PCC2) is an acceptable substitute for Planning Essentials. Civil Works Orientation is an acceptable substitite for Civil Works Project Development Process. Priority will be given to GS5-GS12 students with more than 2 years of current planning experience.

Planning Essentials (Planning Core Curriculum Course 2)

77 Length: 40 Hours 35PPP01A

Tuition: $1350 Class Type: DL

Purpose.

This course enhances the student's knowledge and awareness of the planning process by providing training on the USACE Six-Step Planning Process and how to integrate engineering analysis, public involvement, and environmental and economic considerations into that process during the development and evaluation of alternative plans for the USACE water resources development missions.

Description.

Upon completion of the course, the student will understand the planning process and planning activities and their value in framing and addressing water resources problems. The student will become familiar with the six step plan formulation process and the integrated roles of multiple disciplines critical to this process. Specific attention is given to risk-informed decision making, and the work products and processes to support those decisions such as level of detail and vertical team integration. Additionally, the course will cover the fundamental technical efforts of planning formulation: economic analyses; analyses to determine the social effects of alternatives such as public safety and residual risk; NEPA/Environmental compliance; public involvement; communication; hydrology and hydraulic considerations; and other engineering analyses important to making investment decisions regarding water resources projects. Course content and assignments will illustrate the planning process and how to apply procedures, guidance and policy. This course is the Planning Core Curriculum Course 2.

This is an online course which is delivered over eight weeks through distance learning involving blended synchronous (live webinars) and asynchronous (self-paced) lessons. Most of these lessons are delivered on-demand in the BlackBoard web platform and consist of self-paced, narrated presentations and videos. These lessons are reinforced with a variety of assignments including some required reading, discussion board posts, and written assignments. Some lessons are presented using live interactive webinars. The syllabus for the class spreads the content out over eight weeks with weekly due dates for any required assignments, scheduled times for live webinars, and recommended dates for the completion of on-demand lessons. Students are expected to be available during the eight weeks of the course to adhere to the syllabus, however, some flexibility with the completion of assignments and lessons may be afforded in special circumstances. Students will be graded on the completion of lessons and assignments, attendance to the live webinars and based on the results of a final exam administered the last week of the course.

Prerequisites.

Participants should be currently involved in the planning of civil works water resources development projects. Nominees should be involved in or closely support the planning phase of civil works project development and may include plan formulators, economists, environmental specialists, cultural resource specialists, engineers, physical scientists, project managers, program managers, and real estate specialists. Applicable Occupational Series include, but are not limited to the following: Selected 0020, 0100, 0300, 0400, 0800, 0900, 1100, and 1300 series or others such as public affairs officers, real estate, or counsel that support the development process. Prior completion of the PROSPECT Course, "USACE Civil Works Project Development Process" is required. Prior to beginning this course, students are required to read the "Planning Primer" (IWR Report 97-R-15). Priority will be given to GS5-GS12 students with less than 3 years of current planning experience.

PROJECT MANAGEMENT - MIL PROG

88 Length: 36 Hours 46PMM01A
CEUs: 3.1 PDHs: 31 LUs: 31 PDUs: 31

Tuition: $1473 Class Type: Classroom

Purpose.

This intermediate level course provides the project manager in a programs/project management division with procedures, tools, and techniques necessary to effectively manage military construction (MILCON) projects from design authorization through construction completion. Additionally, this course provides the other technical members of the project delivery team (including supporting budget, scheduling, contracting, and legal specialists) an overview of the military construction process and procedures.

Description.

Through lectures, directed discussions, and case studies, this course covers the entire spectrum of project management of military programs using the Army MILCON (MCA)process as the model. It includes the MILCON budget cycle, regulations and philosophy, planning and programming, the design process, A-E and in-house design management, A-E selection and negotiations, project advertising and award, and project management responsibilities during the construction phase. Course focus is on Military Construction (MILCON) process, application of Project Management Business Process (PMBP), and Project Management (PM) principles. Other programs are covered in general and by analogy. It also addresses project management business process (PMBP) requirements contained in ER 5-1-11, U.S. Army Corps of Engineers Business Process.

Prerequisites.

Nominees must be Grade: GS-09 or above. First priority will be given to personnel currently assigned as a military programs project manager. Second priority will be given to those personnel currently assigned to a military project delivery team.

Project Management IN USACE

355 Length: 32 Hours 46PJM01A
CEUs: 2.4 PDHs: 24 LUs: 24 PDUs: 24

Tuition: $1041 Class Type: Classroom

Purpose.

This course is designed primarily for those individuals who are, or will be, a project manager in any program area. Project delivery team (PDT) members from functions other than project management may benefit through improved understanding of the project manager's and their own roles and an overview of the project management process.

Description.

The course provides the basic concepts and philosophy of project management and the USACE project management business process (PMBP); it introduces the phases of a project, discusses roles and responsibilities of the PDT, and provides tools for project management. The course seeks, through presentations, discussions, illustrations, team exercises and case studies to provide current guidance in using project management techniques and the PMBP. General project management skills, tools, and techniques are reinforced by the use of civil works and military programs case studies. Instruction covers the development of a project management plan (PMP), project scope, work breakdown structures, and project schedules; techniques for cost estimating, risk assessment/contingency management and performance measurement; assessing earned value; resourcing projects, and the civil works and military programs budget cycles.

Team dynamics and individual and team strengths are also discussed and illustrated throughout the course. Completing an individual on-line assessment is a course prerequisite.

This course is designed to teach you key elements of doing project management at USACE. It is intended to be a basic course that may be supplemented by other courses that specifically address in detail such elements as network analysis and scheduling, earned value; or in-depth mission specifics, such as Civil Works or Military Programs. This course does not teach you how to use P2.

This course includes instruction teaching and reinforcing the following competencies found in the National Technical Competency Study: a) Project Manager USACE Level 1 Certification, and b) Project Management, USACE.

Prerequisites.

Nominees should be in Grade GS-11 or above. This course is appropriate for newly assigned project managers or those who anticipate being assigned as a

project manager with a minimum of 2 years' experience working with project teams. Additionally, this course may be taken by technical members of the project delivery team (PDT) to include budget, scheduling, contracting, and legal personnel requiring an overview of the project management process and procedures.

Completion of the Gallup StrengthsFinder Assessment is a mandatory course prerequisite. The online access code and website are to be requested by the students prior to attending their scheduled PM355 class.

Pocket calculators are needed for earned value and case study work.

PROJECT MANAGEMENT PROFESSIONAL(PMP PREP)

402 Length: 36 Hours 46PMP01A
CEUs: 3.5

Tuition: $1669 Class Type: Classroom

Purpose.
This course will provide experienced USACE program and project managers a needed common language and baseline understanding of global standard project management practices, procedures, tools, and techniques in managing the execution of complex projects with a variety of customers and contractors.

Description.
At a minimum, learn, identify, understand (in detail) the ten project management knowledge areas (integration, scope, time, cost, quality, human resource, communications, risk, stakeholder management and procurement), the five project management process groups (initiation, planning, executing, monitoring & controlling, and closing), global project management terminology, project management tools and techniques, test-taking strategies, and professional ethics. Also, the course will outline the steps and requirements to apply for the PMP certification exam and support provided by the USACE Program and Project Management Community of Practice.

Prerequisites.
Attendees (a) must have a minimum of 3 years of full-time project management experience (with a bachelor's degree or higher) OR 5 years of full-time project management experience (b) should bring a list of projects that they manage(d) as the project manager (c) should register for a free PMI account at PMI Registration (d) should review PMI video, Maintaining Your PMI Credential: Introduction only (2:17 minutes), and should add their intent to take the PMP exam to their Individual Development Plan.

PROJECT TEAMBUILDING

383 Length: 32 Hours 15PTL01A
CEUs: 2.8 PDUs: 28

Tuition: $1513 Class Type: Classroom

Purpose.
This course is designed to prepare project managers on how to deal more effectively within teams. The project managers come from primarily an engineering and sciences background, with team focus often on the planning, design and construction of project features. Project managers often have the difficult and demanding tasks of managing organizational, stakeholder and people relationships and the problems that can ensue.

Description.
This course profiles the successful project manager and discusses project leadership in a matrix environment within a government organization, stressing proactive personal leadership and networking as well as using personal and organizational currency in order to influence without authority.

The course covers:
(1) Leadership styles,
(2) Building and leading high-performing project teams; recognizing and understanding team dynamics; inspiring team success,
(3) Understanding communication styles and developing and practicing communication skills,
(4) Understanding and developing critical personal and interpersonal skills. A few topics covered under this objective are; receiving feedback in their leadership decision making style, enhancing skills in conflict management and practicing conflict resolution methods, managing relationships with customers, peers and bosses;
(5) Developing self-knowledge and emotional intelligence; understanding individual differences and personality types,
(6) Learning to develop networks to gain influence over important decisions.

Objectives are taught by lectures combined with case studies, small group exercises and other interactive methods to provide maximum exchange of ideas and information.

Prerequisites.
Students should be project managers with 2 or more years experience in project management in grades of GS-12 and GS-13. PDT members who lead technical teams are also accepted into the course.

PUBLIC INVOLVEMENT - COMMUNICATION

91 Length: 36 Hours 53PIC01A
CEUs: 3.1 PDUs: 10

Tuition: $1446 Class Type: Classroom

Purpose.

This course is for staff whose responsibilities require communicating with the public about agency activities. The purpose of the course is to present the rationale for public involvement in Corps of Engineers activities and to present basic communications and group process techniques to enable Corps employees to more effectively interact with the public.

Description.

The course utilizes team workshops, lectures, and case studies to present and demonstrate the utility of a wide-range of formats, techniques, and methods for public involvement. Topics covered in this course are: the public's role in decision-making; applying public involvement in Corps of Engineers activities; defining agency value systems; distinguishing policy (political) from technical decisions; designing a public involvement program; facilitation and small group leadership skills; listening and sending skills; designing public meetings and workshops; the role of values in public involvement; and dealing with conflict.

Prerequisites.

Nominees should be assigned (a) Occupational Series: selected 0100, 0020, 0021, 0023, 0025, 0026, 0300, 0400, 0800, 1000 and 1300; (b) Grade: Suggest Target Audience be GS 9-14. (water resources planners, study managers, project managers, rangers, park managers etc) - anyone potentially involved with public involvement during the planning, design, construction or operation of a project.

Public Involvement and Team Building in Planning

407 Length: 36 Hours 35CPL01A

Tuition: $1344 Class Type: Classroom

Purpose.

Corps of Engineers planners typically work in multi-disciplinary teams, often involving project sponsors, other federal and state agencies, and occasionally stakeholder groups or private individuals. These teams, in turn often consult with a broader public, identifying and addressing public concerns as the agencies proceed through the planning process. This environment requires skills for successfully designing and conducting processes that effectively draw together the different partners and stakeholders throughout the planning process, resulting in decisions that enjoy broad public support.

Description.

This course will concentrate on the methods, techniques, and skills that assist Corps Civil Works Planning teams with developing a high-functioning team and maintaining effective communication with sponsors, stakeholders and interested parties throughout the life of the study. Participants will learn ways to raise awareness of ongoing studies and efforts, integrate stakeholder values and concerns into the formulation and evaluation of projects, manage conflicts and disputes, and develop strategies to align participation activities with the Corps Six-Step Planning Process. By the end of this course the student will be able to develop an effective public involvement strategy, effectively lead and participate in teams, design and facilitate an interactive public meeting or workshop, and respond to media requests effectively. The course was formerly known as PCC7.

Prerequisites.

Nominees should be Civil Works planners, project managers, engineers, real estate specialists or other diesciplines assigned to a planning study team. Students should have basic working knowledge of the Corps Six-Step Planning Process and Civil Works Process. Prior completion of Civil Works Project Development Process and Planing Essentials or equivalent courses is highly recommended.

Public Law 84-99

158 Length: 32 Hours 35FCC01A

Class Type: Classroom

Purpose.

This course provides a comprehensive overview of the U.S. Army Corps of Engineers (USACE) Emergency Management Program. The course includes studies of the policy and guidance associated with the USACE emergency management authority, Public Law 84-99 (PL 84-99).

Description.

Through lectures, case studies, discussions and exercises, the student receives training in the following areas: USACE emergency responsibilities involving all-hazard natural disaster preparedness, Advance Measures; emergency operations (flood operations and Post Flood Response); rehabilitation of flood damage reduction projects damaged by floods or storms; protection or repair of federally authorized shore protection works damaged by coastal storm; and provision of emergency water supplies needed as a result of drought or contaminated sources.

Prerequisites.

District and MSC emergency managers must approve nominations. In general, nominees should be: (a) emergency management personnel; (b) functional or technical staff who are currently assigned to/or working in positions with responsibilities related to emergency management, flood damage reduction projects, inspections and maintenance, rehabilitation of damaged flood risk reduction projects and emergency response operations. Attendance by other personnel will be determined based on space available in the course. All emergency management personnel should have this course within the first year of their assignment to the emergency management organization and every three years thereafter as a refresher. Program Manager for PL 84-99 will have final approval authority over all nominations, based on the recommendation(s) of district and division emergency managers/regional contingency operations managers. As many skills and competencies are involved in planning and conducting emergency operations, there is no specific job series requirement to attend this course. ADD: All 089 personnel (new career field) are included in these requirements.

Public Law 84-99 Advanced

159 Length: 24 Hours 159

Class Type: Classroom

Purpose.

This course provides mid-level to experienced Emergency Management personnel with in-depth and advanced concepts and policy application considerations to enhance their leadership and management skills, abilities, and knowledge associated with the USACE emergency management authority, Public Law 84-99.

Description.

Through lectures, case studies, discussions, and exercises, the student will receive advanced/in-depth training in complicated aspects of PL 84-99 authority, to include HIRA (Hazard Identification and Risk Analysis), Project Information Report management, the Levee Safety-EM levee inspection process, leadership, communications, and operational planning.

Prerequisites.

PL 84-99 Basic PROSPECT Course, permission of the course proponent.

Radioactive Waste Transport

441 Length: 24 Hours 56RWT01A

Tuition: $2340 Class Type: Classroom

Purpose.

This workshop provides initial training regarding the regulatory requirements of the Hazardous Materials Transportation Act (HMTA) as it applies to the offsite transportation of Class 7 and Class 9 Radioactive Wastes for recycling, treatment and/or disposal. It enables employers to certify as required in 49 CFR 172 Subpart H, that their employees have been trained and tested in general awareness and function-specific elements as described below. (Note: Certain safety related training elements required by 49 CFR 172 Subpart H are site-specific and must be performed on the job.)

Description.

This workshop is designed to instruct the student on the Department of Transportation (DOT) requirements pertaining specifically to radioactive wastes, in particular, remediation wastes from radioactive sites such as FUSRAP sites, EPA Superfund sites, and military installations. This workshop is focused on the DOT regulations associated with Class 7 and Class 9 radionuclides which include ongoing DOT/NRC rulemaking for harmonization with international transportation regulations. Course contents include, but are not limited to, determining if the material meets a Class 7 or Class 9 hazard class, DOT subtyping (Excepted, Type A, Type B, HRCQ, LSA, SCO, etc), determining the proper shipping names, markings, labeling and packaging, determining the correct shipping paper requirements, and security awareness tranining. There is minor discussion om the Nuclear Regulatory Commission (NRC) regulations as they relate to transportation. (Note: A scientific calculator must be brought to class. A worksheet on scientific notation and International System of Units (SI) conversions for radiological units of measure will be sent before the class to be completed prior to arriving for workshop.)

Prerequisites.

This course is primarily targeted at persons in the following series: 0820, 0809, 0810, 0819, 0028, 0029, 0025, 0026, 0401, 1350, 1301, 0893, 0830, 1306, and 1320 (all series involved with environmental programs, including all engineers, chemists, industrial hygienists, health physicists, biologists, geologists, hydrogeologists, program managers, planners, etc.) The training is designated for persons who may be overseeing, arranging, or managing the offsite transportation of Class 7 or Class 9 radioactive wastes, or shipments of analytical samples from radioactively contaminated sites to laboratories. In addition, students are advised that an extremely helpful course would be the Hazardous Waste Manifesting/DOT Certification PROSPECT course #223. This is not a required prerequisite. Students should be advised that Course #223 must be taken if certification is required for hazardous materials or wastes other than Class 7 (e.g. mixed wastes, friable asbestos.)

REAL ESTATE DISPOSALS 202

76 Length: 24 Hours 49RM201A

Tuition: $ 600 Class Type: Classroom

Purpose.

The real estate disposal mission of the Department of the Army has no counterpart private sector. The laws, regulations, and policies pertaining thereto are primarily peculiar to the Federal Government. This course provides an advanced overview of the Disposal portion of the management and disposal mission, policies, procedures and regulations for Army and Corps of Engineers projects, with emphasis on complex actions.

Description.

The course includes lectures, class discussions, problem solving, and testing. Topics for presentation address (a) authorities, documents, and procedures for various types of disposals, (b) environmental land use controls and documentation, (c) negotiation skills. After completion of this course, the student should have advanced to real estate disposal actions, although additional study and experience will be required

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0905, 1170, and 1171; (b) Grade: GS-11 and above; (c) personnel primarily assigned to real estate disposal functions within the Corps of Engineers. Individuals must have completed RE Management and Disposal 101, Course No. 007, 49RED01A, or have equivalent experience. Individuals outside prerequisite occupational series and grade will be considered on a space available basis. Nominees should have an advanced understanding of The Army and the Corps of Engineers organizational structure and have read the appropriate Engineer regulations.

REAL ESTATE MGT AND DISPOSAL 101

7 Length: 24 Hours 49RED01A

Tuition: $ 790 Class Type: Classroom

Purpose.

The real estate management and disposal mission of the Department of the Army has no counterpart in the private sector. The laws, regulations, and policies pertaining thereto are primarily peculiar to the Federal Government. This course provides a basic overview of the Outgrant and Disposal policies, procedures and regulations for Army and Corps of Engineers projects, with emphasis on routine actions that use standard formats, such as licenses and building disposal.

Description.

The course includes lectures, class discussions, problem solving, and testing. Topics for presentation address (a) authorities, documents, and procedures for placing property in excess status or to approve disposal; for GSA disposal, agency disposal, or special authority disposal, (b) disposal document preparation, (c) authorities, documents, and procedures for making property available for use by others, (d) routine outgrant document preparation, (i) outgrant management and administration, (j) environmental considerations, and (k) negotiation skills. After completion of this course, the student should have a foundation upon which to begin work on routine actions and, with additional study and experience, advance to more advanced real estate management and disposal actions.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0905, 1101, 1170, and 1171; (b) Grade: GS-05 through GS-11; (c) personnel primarily assigned to real estate functions within the Corps of Engineers. Individuals outside prerequisite occupational series and grade and those actively engaged in real estate activities (such as natural resource specialist, outdoor recreation planners, park managers, project managers, master planners, and installation DPW staff) will be considered on a space available basis. Nominees should have a general understanding of the Corps of Engineers organizational structure and have read the Real Estate Handbook, ER405-1-12, Chapters 8 and 11.

REAL ESTATE MGT AND OUTGRANTS 201

73 Length: 24 Hours 49RMD01A

Tuition: $ 685 Class Type: Classroom

Purpose.

The real estate management of the Department of the Army real property has no counterpart in the private sector. The laws, regulations, and policies pertaining thereto are primarily peculiar to the Federal Government. This course provides an advanced overview of the Management portion of the management and disposal mission, policies, procedures and regulations for Army and Corps of Engineers, with emphasis on complex actions and outgrants.

Description.

The course includes lectures, class discussions, problem solving, and testing. Topics for presentation address (a) authorities, documents, and procedures for complex outgrants, (b) management of title, encroachments and boundary disputes, (c) environmental land use controls, compliance and documentation, (d) authorities, documents, and procedures for making property available for use by others, (e) complex outgrant document preparation, (f) outgrant management and administration, and (g) negotiation skills. After completion of this course, the student should have advanced to more advanced real estate management, although additional study and experience will be required.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0905, 1170, and 1171; (b) Grade: GS-11 and above; (c) personnel primarily assigned to real estate management and outgrant functions within the Corps of Engineers. Individuals must have completed RE Management and Disposal 101, Course No. 007, 49RED01A, or have equivalent experience. Individuals outside prerequisite occupational series and grade will be considered on a space available basis. Nominees should have an advanced understanding of The Army and the Corps of Engineers organizational structure and have read the appropriate Engineer regulations.

REAL ESTATE ACQUISITION 101

79 Length: 24 Hours 49REA01A
CEUs: 3.0

Tuition: $ 625 Class Type: Classroom

Purpose.

The real estate acquisition mission of the Department of The Army has no counterpart in the private sector. The laws, regulations, and policies pertaining thereto are peculiar to acquisition of real estate by the Federal Government or in conjunction with Federal projects. This course provides a basic overview of the land acquisition policies, procedures and regulations for Army and Corps of Engineers projects.

Description.

The course includes lectures, class discussions, problem solving, and testing. Topics for presentation address (a) project planning, documents, and authorities, (b) elementary mapping and legal descriptions, (c) title evidence, (d) just compensation, (e) condemnation, (f) general fundamentals of appraisals for land acquisition, (g) interest and estates in land, (h) local cooperation and cost-sharing, (i) environmental considerations, (j) negotiation skills, and (k) crediting for land provided by project sponsors. After completion of this course, the student should have a foundation upon which, with additional study and experience, a knowledge base in real estate acquisition can be built.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0318, 0905, 1101, 1170, and 1171; (b) Grade: GS-07 through GS-11; (c) personnel primarily assigned to real estate functions within the Corps of Engineers. Individuals outside prerequisite occupational series and grade and those actively engaged in real estate activities (such as planners and project managers) will be considered on a space available basis. Nominees should have a general understanding of the Corps of Engineers organizational structure and have read the Real Estate Handbook and other Army policy related to acquisitions.

REAL ESTATE ACQUISITION 201

121 Length: 24 Hours 49RA201A

Tuition: $ 580 Class Type: Classroom

Purpose.

The real estate acquisition mission of the Department of the Army has no counterpart in the private sector. The laws, regulations, and policies pertaining thereto are peculiar to acquisition of real estate by the Federal Government or in conjunction with Federal projects. This course provides an advanced overview of the land acquisition policies, procedures and regulations for Corps of Engineers Civil Works water resources projects.

Description.

The course includes lectures, class discussions, problem solving, and testing. Topics for presentation address (a) preparation of real estate plans, (b) just compensation, (c) estates in land, including non-standard estates, (d) environmental considerations, (e) Continuing Authority Program (CAP) issues, (f) crediting for land provided by project sponsors, (g) utility and public facility relocations and, (h) Project Partnership Agreements (PPA) principles.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0318, 0905, 1170, and 1171; (b) Grade: GS-11 and above; (c) personnel primarily assigned to real estate planning or acquisition functions for Corps of Engineers Civil Works projects. Individuals must have completed RE Acquisition 101, Course No. 079, 49REA01A, or have equivalent experience. Individuals outside prerequisite occupational series and grade and those actively engaged in real estate activities (such as planners and project managers) will be considered on a space available basis. Nominees should have an advanced understanding of the Corps of Engineers organizational structure and have read the Real Estate Handbook, ER 405-1-12, Chapters 12 and applicable Engineer Circulars.

REAL ESTATE PROJECT MGT & CONTROL(RE PM&C)

144 Length: 24 Hours 49RPC01A

Tuition: $ 790 Class Type: Classroom

Purpose.

The real estate planning and control (P&C) function of the Corps of Engineers, Real Estate elements comprises a myriad of duties and responsibilities. This course provides a basic overview of the planning and control policies, procedures and regulations for Corps of Engineers mission support. The course outlines how P&C interfaces with other elements of the Corps and addresses broad aspects of the fiscal, manpower, planning, and real estate management information systems within real estate, Corps of Engineers, and the Army.

Description.

The course includes lectures, class discussions, problem solving, and testing. Topics for presentation address (a) real estate planning, budgeting, and manpower, (b) real estate surveying, land descriptions, (c) real estate data validation and records management, (d) real estate accountability and Chief Financial Officer Act issues, (e) authorities, documents, and procedures, (f) real estate aspects of Life Cycle Project Management, and (g) use of automated Real Estate information systems and their interaction with other Army and Corps systems. After completion of this course, the student should have a foundation upon which to begin work on routine actions and, with additional study and experience, advance to more advanced real estate P&C actions.

Prerequisites.

Nominees must be assigned (a) Grade: GS-05 and above and (b) personnel primarily assigned to real estate functions within the Corps of Engineers. Individuals outside prerequisite grade and will be considered on a space available basis. Nominees should have a general understanding of the Corps of Engineers organizational structure and have read the Real Estate Handbook, ER 405-1-12 and appropriate Engineer Circulars.

REAL PROPERTY ASSET MANAGEMENT

286 Length: 32 Hours 49RPM01A
CEUs: 2.7

Tuition: $1335 Class Type: Classroom

Purpose.

This course is designed as an introduction and overview to Army Real Property Asset Management as well as a means of providing Army Real Property personnel up-to-date information on changes and issues relating to the responsibilities, regulations, policies, and procedures of Army Real Property Asset Management from a HQDA perspective. The objective of the course is to provide an overall understanding for the new Army real property person and also to enhance the knowledge of the experienced person who performs functions related to Army Real Property Management.

Description.

This course provides the most up-to-date information on the life cycle of real property and its management through lectures, case studies, group interaction and practical exercises. This course will provide the most current information on Army real property accountability to include requirements of the Chief Financial Officers Act for Real Property Accountability and Reporting, space utilization, acquisition, disposals, outgrants, natural and cultural resource requirements, environmental documentation, the McKinney Homeless Assistance Program, annexation, jurisdiction, encroachments, privatization, and automated management systems associated with Army real property management and accountability.

Prerequisites.

Nominees should include personnel both directly and indirectly associated with the management of Army real property, military and civil for all Army components.

REAL PROPERTY UTILIZATION

214 Length: 32 Hours 49SUM01A
LUs: 25

Tuition: $1335 Class Type: Classroom

Purpose.

This course is designed for space utilization, master planning, real property management, and facilities management personnel. The course was developed to provide these personnel with the basic tenets of real property and space utilization management within the U.S. Army. Information can be adapted and applied for use by other DOD Activities and Federal Agencies. This course has three focuses: (1) to train managers at all levels on how to determine organizational space authorizations and requirements, (2) to plan and conduct utilization surveys; and (3) to identify ways to increase efficiency.

Description.

This course includes lectures, discussions, a field trip, and exercises which teach students to plan and manage facility space and to make necessary adjustments. Utilization will be adjusted through authorizations and requirements analysis of organizations and facilities on the installation. The course also includes determining and improving space
utilization rates. Major topics include (a) life cycle of planning and use, (b) organizational authorizations and requirements, (c) planning and conducting a utilization survey, (d) utilization principles, and (e) qualitative elements of space planning. The principle underlying directive for this course is Army Regulation 405-70, Utilization of Real Property.

Prerequisites.

This course is open to all civilian and military personnel employed by the US Government. Contractor personnel may be accommodated with special permission. Nominees are normally assigned in Civilian Occupational Series: 0301, 0303, 0322, 1343, 0344, 0801, 0802, 1101, 1170, 1173; Grade: GS-05 or above. Military personnel equivalents should be used to determine eligibility.

REAL-TIME WATER MANAGEMENT WITH CWMS

155 Length: 36 Hours 35RTW01A

Tuition: $2189 Class Type: Classroom

Purpose.

The Corps Water Management System (CWMS) is the automated information system (AIS) supporting the Corps' water control operations mission. CWMS provides data collection, processing, decision support modeling, data dissemination, and graphics tools to allow each local office to effectively execute their water management mission in real-time. This course will provide water managers the training necessary to effectively use hydrologic and hydraulic modeling software in CWMS for real-time operations. The students will learn specialized features of CWMS, including calibration and execution of model programs in support of the daily decisions made in the course of Corps project operations.

Description.

Topics will include:

1) The use of CWMS hydrologic and hydraulic models (HEC-HMS, HEC-ResSim, HEC-RAS and FIA) through the Control and Visualization Interface (CAVI).
2) Calibration of model parameters in real-time.
3) How to model and evaluate possible hydro-meteorological and operational scenarios, in real-time, to improve reservoir operations.
4) Specialized CWMS concepts and tools, such as real-time data usage and scripting. This class does not address the installation of CWMS or the development of models.

Prerequisites.

Nominees must be assigned:
(a) Occupational Series: Selected 0400, 0800, and 1300
(b) Grade: GS-09 or above.
(c) Nominees should be water control managers, hydrologists, or hydraulic engineers.
(d) Nominees should have some experience and responsibility for real-time reservoir or flood control operations and with the H&H models mentioned above

REGULATORY I

100 Length: 32 Hours 35RG101A

Tuition: $ 725 Class Type: Classroom

Purpose.

This course provides a comprehensive background in the regulatory program and an understanding of current regulatory policies and procedures, including updates on new policies and guidance.

Description.

This course covers a broad range of topics that personnel in the regulatory program must be familiar with in order to do an effective job. Topics to be covered include (a) Background and Program Overview; (b) Permit Process; (c) Jurisdiction; (d) Reviewing and Assessing Applications; (e) 404(b)(1) Guidelines; (f) Compliance and Enforcement; (g) Site Inspection; (h) NEPA Compliance; (i) Special Policies and Procedures; (j) Construction Method; (k) Decision-Making Process/Public Policy Process; (l) Permit Documentation; (m) General Permits; and (n) Conflict Management/Public Involvement.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0200 and selected 0100, 0300, 0400, 0800, 1300, and selected others; (b) other: Nominees should work in the regulatory functions program. However other Corps employees required to support regulators could benefit from this course. Only regulators can be assigned priority 1.

REGULATORY IIA

322 Length: 32 Hours 35IIA01A

Tuition: $ 725 Class Type: Classroom

Purpose.

This course provides an in-depth discussion of the procedural issues related to the more complicated laws, regulations, and policies which Corps regulators are called upon to enforce.

Description.

The course covers scope of analysis, cumulative impacts, historic properties, tribal issues, and endangered species.

Prerequisites.

Nominees must have attended the Regulatory I training course. Only regulators can be assigned priority 1. Other Corps employees required to support regulators, as well as people in other agencies having regulatory responsibilities, could benefit from this course.

TARGET AUDIENCE. Supervisors, project managers, enforcement officers, journeyman level regulators with a minimum of 2 years experience in grade level GS-07 and above.

REGULATORY IIB

323 Length: 32 Hours 35IIB01A

Tuition: $ 770 Class Type: Classroom

Purpose.

This course provides in-depth discussion of the more complex decisions that must be made throughout a permit evaluation, leading to a reasonable and timely final permit decision.

Description.

The course covers excavation rule, jurisdictional determination, exemptions, solid waste, general permits, wetlands management, purpose, need, alternatives analysis, 404(b)(1) guidelines, public interest review,documentation appeals and mitigation

Prerequisites.

Nominees must have attended the Regulatory I training course. Only regulators can be assigned priority 1. Other Corps employees required to support regulators, as well as people in other agencies having regulatory responsibilities, could benefit from this course.

TARGET AUDIENCE. Supervisors, project managers, enforcement officers, journeyman level regulators with a minimum of 2 years experience in grade level GS-07 and above.

REGULATORY IIC

370 Length: 32 Hours 35IIC01A

Tuition: $ 770 Class Type: Classroom

Purpose.

This course provides in-depth discussion specific to permit evaluations associated with project proposals in coastal areas. It is designed to be complimentary to the Regulatory IIA and B curricula, not to replace them, providing regulators with the specific background necessary to effectively and efficiently evaluate projects proposing to impact coastal aquatic resources. Previously, this information was included in Regulatory IIA and IIB; however, as the Regulatory program increases in complexity, it is necessary to devote additional time to issues specifically related to the Coastal zone, including the Great Lakes.

Description.

The course will provide a comprehensive background related to coastal issues, focusing on coastal processes and activities, jurisdiction, essential fish habitat, coastal species/habitat protection and conservation, coordination with other Corps business lines, and cultural/tribal resources..

Prerequisites.

Nominees must have completed Reg I, and should have completed Reg IIA and Reg IIB. Target audience: Supervisors, Project Managers and seasoned regulators with a minimum of 3 years of experience.

REGULATORY III

325 Length: 32 Hours 35GR301A
CEUs: 2.9 PDHs: 29

Tuition: $ 730 Class Type: Classroom

Purpose.

This course prepares Regulatory Project Managers and Counsel for their role in enforcing the regulatory authorities provided by the Clean Water Act, Rivers and Harbors Act and the Marine Protection Research and Sanctuaries Act. It is also designed to prepare Regulatory Program Managers for assigning and managing enforcement actions. This includes both unauthorized and compliance actions. This course can also serve as an introduction to other federal agencies to the Corps Regulatory Program.

Description.

This course covers statutory authorities, violations, enforcement and compliance, conducting investigations, collecting evidence, civil litigation, developing enforceable conditions and mitigation plans, criminal enforcement, civil and administrative penalties, as well as administrative resolution strategies and interagency cooperation. This course uses real world cases and exercises to translate regulatory laws, regulations and policies into practice. It prepares Counsel and Regulator alike for dealing with violators and U.S. Attorneys to ensure compliance with regulatory requirements and policies.

Prerequisites.

All Corps Regulatory Project Managers,Program Managers, and Counsel, in grade level GS-07 through GM/GS-15 whose duties require them to evaluate and manage regulatory program actions.

REGULATORY IV

140 Length: 36 Hours 35RG401A

Tuition: $2123 Class Type: Classroom

Purpose.

Regulatory IV is an interagency course in wetland delineation based on the current Federal Wetland delineation manual. It provides the student with a basic understanding of the interaction of vegetation, soils, and hydrology in wetlands in sufficient detail to apply delineation methods on routine cases. Upon completion, successful graduates will possess the background necessary to identify wetlands and determine their boundaries for purposes of administering programs such as the Section 404 Regulatory Program. Successful completion is determined by attendance and participation in all lecture, field, and laboratory sessions.

Description.

Topics include (a) wetland characteristics (including soils, hydrology, and vegetation); (b) wetland delineation methods; and (c) field exercises in recognition of wetland boundaries.

Prerequisites.

Agency personnel of the Corps, EPA, NRCS and FWS who are involved in the delineation of wetlands will be assigned Priority 1. Other federal, state, local and tribal entities and their agency employees can benefit from the course on a priority 2 and 3 basis. Appropriate field clothes are required.

REGULATORY V

137 Length: 36 Hours 35RG501A

Tuition: $2114 Class Type: Classroom

Purpose.

Regulatory V is an interagency course designed for employees of federal agencies involved in assessing wetland functions in the field. The objective of the course will is to ensure students are as proficient as possible in applying regional subclass models and in evaluating their results. The course will focus on the application of models under different scenarios such as project impact assessment, alternative analysis, and mitigation design/monitoring associated with implementation of regulatory programs such as the Clean Water Act and the Food Securities Act. Successful completion of the course is determined by attendance and participation in all lecture, field, and laboratory sessions.

Description.

Topics include overview of the Hydrogeomorphic Approach; developing Assessment Models and Regional Guidebooks; verifying, validating, and testing Assessment Models and Regional Guidebooks. After completing the course, students should be able to understand functional assessments, how to develop and use them, and their importance to the regulatory program.

Prerequisites.

Agency personnel of the Corps, EPA, NRCS, FWS, and FHWA who are involved in the evaluation of impacts associated with regulated or unauthorized activities in wetlands will be assigned Priority 1. Other Corps and outside agency employees can benefit from this course on a priority 2 or 3 basis. Appropriate field clothes are required.

RELATIONSHIP MANAGEMENT

224 Length: 24 Hours 15CRM01A

Tuition: $ 912 Class Type: Classroom

Purpose.

What is Relationship Management (RM) and why it is important to USACE as a reimbursable government agency, Objectives and benefits of RM, Components of RM, Hard and soft skills of RM, The relevance of recruitment, hiring and retention and sustainment of technical competency to RM, Where you fit into RM, The RM process, Developing a strategic customer engagement plan, Developing a customer account plan, RM Implementation and Evaluation.

Description.

This course focuses on the what, where, when, why, and how of developing and managing relationships with USACE customers. Managing relationships is key to assuring we meet customers' needs and that we effectively partner with customers in developing innovative solutions to now and into the future. From this course, students discover the importance of Customer Relationship Development and Sustainment as a USACE Core Competency, gain an understanding of the concept of RM, learn the value of building long-term customer relationships, understand the corporate language for RM, learn how to develop customer-focused strategies specific to USACE missions, utilize RM tools and evaluate CRM effectiveness.

Prerequisites.

Generally those who are in direct contact with customers. Specifically that includes: USACE Outreach coordinators, Customer Account Managers, Project Managers and Program Managers. Sometimes this also includes key project delivery team members who have frequent contact with customers, stakeholders and project partners – in addition to those specifically mentioned. Students should be journeyperson level or above and have had experience working with customers.

RESERVOIR SYSTEMS ANALYSIS WITH HEC-RESERVIOR SIMULATION

98 Length: 36 Hours 35RSA01A

Tuition: $1998 Class Type: Classroom

Purpose.

This course provides participants with a capability to perform reservoir system studies using computer simulation to analyze reservoir system performance.

Description.

Reservoir simulation for flood control, water supply, hydropower and multipurpose operation is covered. The computer program, Reservoir System Simulation(HEC-ResSim) will be used for reservoir simulation problems. In addition to reservoir simulation by computer, the course covers topics related to developing flow data and systems demands, plus formulating and evaluating alternative reservoir system configurations and operation strategies.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800 and 1300; (b) Grade: GS-07 or above. A basic level of understanding is required in hydrology, hydraulics, and reservoir regulation. In addition, it is strongly recommended that course participants be in positions where they will be involved in reservoir system studies within the next year or two.

RIPARIAN ZONE ECOLOGY/RESTORATION/MGT

281 Length: 36 Hours 33REM01A

Tuition: $2225 Class Type: Classroom

Purpose.

This course addresses planning and management issues that pertain to riparian (streamside) ecosystems in a variety of ecological and geographical settings. Emphasis is placed on the ecology, restoration and stewardship of riparian habitats associated with Civil Works projects and activities. Students will receive instruction on the functions and ecological importance of riparian zones, conservation needs, potential impacts resulting from various land use practices, and restoration and management techniques that can be applied to maintain or improve riparian systems.

Description.

Through a series of lectures, practical exercises, and field activities, students will be introduced to the following topics: (a) riparian functions, values, and trends; (b) riparian ecology (vegetation, fauna; will include sessions on the importance of riparian zones to mammals (emphasis on bats), reptiles/amphibians, and neotropical migrant birds); (c) inventory and monitoring techniques; (d) impacts (hydrologic changes, vegetation modification, non-native invasive species, agricultural practices, bank erosion, non-point source pollution); (e) restoration methods (including monitoring and adaptive management); (f) fluvial geomorphology combined with a multitude of stream/riparian restoration case studies, and (g) management strategies (including development of appropriate designs for corridors and buffer strips). A day-long field trip will be taken to local rivers and a large dam removal site with associated restored riparian floodplains, to examine riparian habitats and demonstrate restoration monitoring and adaptive management techniques. Case studies will be presented on riparian issues at Civil Works projects and military installations. SUBJECTS AND LEARNING OBJECTIVES. Students will be able to characterize riparian habitats, understand the functions and values of these habitats, and make the most appropriate decisions regarding their restoration, use, conservation, and management from an ecosystem perspective. Applicable laws, regulations, and agency policies will be reviewed. Students will be able to identify specific techniques and procedures for inventorying, assessing, analyzing, and evaluating the status of riparian resources and associated impacts upon these resources.

Prerequisites.

Nominee assignments should be: (a) primarily technical personnel whose duties involve the identification, evaluation, analysis, protection or management of ecological resources. Project and Program Managers responsible for project and program management

activities, particularly those involving ecosystem restoration, would also benefit; (b) Occupational series: 0020's, 0150, 0185, 0190, 0198, 0400's, 0800's, 1023, 1350 to include physical scientists, environmental protection specialists, and hydrologists; and (c) Grade: GS-09 or above. Disciplines (other than the above) may be accepted provided nominee's present or anticipated duties involve the management, analysis, identification, protection, or evaluation of ecological/natural resources.

RISK ANALYSIS FOR FLOOD DAMAGE REDUCTION PROJECTS

209 Length: 36 Hours 33RBA01A
CEUs: 2.6 PDHs: 26

Tuition: $1922 Class Type: Classroom

Purpose.

This course presents risk concepts and assessment methods required by current Corps guidance for the planning of flood risk management projects, and is intended for persons who are presently or will soon be actively involved in the formulation and evaluation of flood risk management alternatives for planning studies. The course emphasizes policy issues, statistical analysis concepts, and the implementation of risk assessment and uncertainty methods for sizing and evaluating flood risk management projects. The course objective is to enable participants to readily adapt the methods to specific studies after successfully completion of the course.

Description.

The course presents current policy and technical procedures for conducting a planning study for the evaluation of alternatives for typical flood risk management projects such as levees, channels, and reservoirs. Included are lectures and case studies describing procedures for determining uncertainty in discharge-frequency, stage-discharge, and stage-damage relationships for various project site characteristics and how they are used for the risk assessment portion of a planning study. Procedures for conducting Monte Carlo simulations for evaluating project performance and size are described. Concepts and procedures are demonstrated and practiced in classroom workshops using current desktop software. Current Corps policy related to risk assessment in planning studies is also discussed. Project function focuses on typical features associated with riverine flood risk management projects. Requirements for levee certification are also presented. Examples and case studies illustrate potential problems and solutions.

Prerequisites.

Nominees for the course should have a minimum of two years experience in the hydrologic, hydraulic, economic, or plan formulation aspects of flood risk management projects. Managerial and supervisory personnel are encouraged to attend. Nominees must be assigned (a) Occupational Series: Selected 0000-0100, 0800, and 1300; (b) Grade: GS-09 or above.

RISK ANALYSIS-WRP&M

349 Length: 36 Hours 35RAW01A
CEUs: 3.1

Tuition: $1860 Class Type: Classroom

Purpose.

This course introduces concepts and tools of risk analysis into Corps of Engineers planning studies and extends these concepts to studies for structural rehabilitation and for management and operations of existing projects. Risk analysis is a decision-making framework that explicitly evaluates the level of risk if no action is taken and recognizes the monetary and non-monetary costs and benefits of reducing risks when making decisions. Risk analysis also deals with uncertainties in models, parameters, and assumptions and acknowledges them in decision making. Risk analysis comprises three tasks: risk assessment, risk management, and risk communication. Many risk assessment techniques are already in use by Corps analysts, but are not applied in systematic and uniform manner. New methods and analytical models have been developed, along with a body of information on risk perception and communication that will also be transferred to practice.

Risk analysis is an integral component of Corps of Engineers decision making in all business lines. It affects all technical analysis throughout each step of planning process. For example, risk perception and communication is an important element of the scoping process. Environmental analysis, hydrologic analysis, and benefit-cost analysis all require aspects of risk analysis. In addition, risk concepts and risk informed decision making are being extended to aid decisions in all phases of project life. Major aspects of risk analysis included in this course are (a) definitions and concepts, (b) probability and statistics; (c) models for risk analysis; (d) non-quantitative methods; (e) event trees and decision trees; (f) Monte carol simulation; (g) using scenarios; (h) benefit-cost uncertainty; (i) risk informed planning; and (j) case studies from various applications to civil works. The course includes extensive use of computer exercises as aids to learning including hands-on risk modeling and assessment tools.

Description.

After completing this course the student should be able to: 1. Discuss the major causes of uncertainty in the Corps' Civil Works Program; 2. List the elements of integrated risk management; 3. Describe the differences between uncertainty and variability; 4. Use scenarios to deal with uncertainties; 5. Apply one or more qualitative risk assessment techniques; 6. List the Corps' software tools that support risk-informed planning; 7. Build a simple probabilistic scenario analysis in a spreadsheet environment; 8. Apply the addition, multiplication, and complimentarily rules for probability in simple problems; 9. Use the binomial distribution for simple probability calculations; 10. List the most useful distributions used in quantitative risk assessment; 11. Develop a distribution given some data; 12. Describe the two steps of the Monte Carlo process; 13. Run a simulation that uses the Monte Carlo process; 14. Conduct basic sensitivity and importance analysis; 15. Understand the issues of communicating technical and non-technical risk information to decision makers and stakeholders.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0020, 0340, 0110, 0801, 1300; (b) Grade: GS-07 through GS-13. This course is designed for planners and engineers. However, other personnel (project managers, operations, regulatory, recreation, etc.) will find it useful in terms of broadly applicable principles, concepts, and analytical tools.

RISK COMMUNICATION AND PUBLC PARTICIPATION

104 Length: 24 Hours 53RCP01A

Tuition: $1335 Class Type: Classroom

Purpose.

The course is designed to teach participants to better communicate risk, understand and engage various publics, and learn to use the public participation planning process.

Description.

This is an interactive workshop that teaches participants strategic communication, risk communication and public participation principles and strategies relevant to any issue. Participants learn how to identify missions, goals and objectives; identify and prioritize various publics; develop risk communication messages; determine the most effective methods and tools for conveying these messages; and evaluate the success of risk communication and/or public participation efforts. Participants of the course learn: how to handle hostile individuals and audiences and respond to challenging questions and statements; how to avoid traps; how to select the right public participation techniques; and how to improve and apply nonverbal communication skills.

Prerequisites.

Target Audience is USACE employees who interact with the public on a regular basis including members of Project Delivery Teams, Project Managers, Planners, Operations and Natural Resource Management, Dam and Levee Safety, Emergency Management, Environmental and Regulatory personnel, and Public Affairs personnel.

SAFETY MANAGEMENT FOR SUPV AND LDRS

236 Length: 24 Hours 55COS01A

Tuition: $1068 Class Type: Classroom

Purpose.

This course is designed for Corps of Engineers team leaders, supervisors and/or managers who have responsibility for overseeing contract or in-house construction and operational activities. This 3-day course will provide managers and supervisors with current administrative safety requirements, safety management techniques, hazard assessment and accident reporting guidelines as well as a review of state-of-the-art safety technology and methodology as it relates to field work such as earth moving, roofing, mechanical installation, scaffolding and ladders, administrative safety requirements, etc. Through open discussions and group participation, this course will bring together OSHA, Corps of Engineers, and consensus safety standards that apply to typical Corps activities and heighten safety awareness of field managers and supervisors, guiding them in their responsibilities for leading and managing safety.

Description.

The basic references for this course are the Corps of Engineers' Safety and Health Requirements Manual, EM 385-1-1, and pertinent OSHA standards. This 3-day course will provide, through various formats, that information considered necessary and essential for project managers, area, resident, and project engineers, operations managers and/or supervisors and work team leaders in discharging their day-to-day safety and health responsibilities. This course also has direct application for other Corps of Engineers field personnel in related career fields, e.g., supervisory rangers, drill crew foremen, lockmasters, hired labor supervisors, survey crew leaders, etc. Some of the specific topics covered in this course will include: (a) overview of EM 385-1-1; (b) legal aspects of employee safety for supervisors; (c) administrative safety and health requirements; (d) review of contractor safety submittals; (e) OSHA and the Corps of Engineers; (f) preparation of Accident Prevention Plans; (g) medical surveillance plans; (h) workers compensation program/alternatives; (i) personnel protective equipment; (j) specific safety standards for field work; (k) accident investigation and reporting; (l) confined space requirements;(m) industrial hygiene programs; and (n) USACE accident reporting responsibilities.

Prerequisites.

Nominees must be assigned (a) at the operating level in Corps of Engineers construction and/or operational activities; (b) Grade GS-09 or above; and (c) current or projected assignment as manager, supervisor, foreman, team leader or equivalent.

SCHEDULING BASICS FOR PROJECTS

143 Length: 20 Hours 46SBP01A

CEUs: 1.7 PDHs: 17 PDUs: 17

Tuition: $ 979 Class Type: Classroom

Purpose.

The Corps of Engineers relies on project management principles to deliver meet the Nation's toughest challenges - scheduling techniques are key and essential to project management. The scheduling techniques that this course covers are useful for all projects. The course was primarily developed to introduce the concept of network scheduling to project managers, and it is so oriented in its examples. While this class does not provide a hands-on application of specific scheduling software, the course provides an introduction and understanding of basic network scheduling and manual and computer analysis in both original schedules and progress updates using typical P2 screens and information.

Description.

After completing the course, the student should be able (1) to prepare, review, analyze, and update network analysis systems, and (2) to make practical use of the information derived from the system. Through lectures and workshop sessions, the course covers schedule development and basic diagramming techniques; analysis of diagram for starting and finishing times; utilization of a network diagram for project control, determination of progress; effects of project delays; and changes in scope.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0340, 0800, 0905, and 1100; (b) Grade: GS-09 or above. Students should have a current or projected assignment requiring knowledge of network analysis as a management technique. Prior knowledge of a network system or P2 is not required. This course is intended to meet the project scheduling requirement for Corps of Engineers PM certification at all levels (formerly covered by the Project Scheduling (NAS) course). This course is highly desirable for Project Managers and local configuration managers (LCM). Others that will benefit are Corps division and district engineers; division, branch, and section heads of project management, construction, operations, and engineering divisions; area engineers; resident engineers; office engineers; other quality assurance representatives; project and/or technical managers; and trial attorneys.

SEDIMENT TRANSPORT ANALYSIS WITH HEC-RIVER ANALYSIS SYSTEM

122 Length: 36 Hours 35SDT01A

Tuition: $2011 Class Type: Classroom

Purpose.

This course introduces students to principles, software, and techniques used in numerical sediment transport modeling.

Description.

The course prepares engineers to perform moveable boundary sediment transport studies using the HEC-RAS. Topics include sediment characteristics, data requirements, transport equations, bed mixing algorithms, software features, calibration and model troubleshooting. Sediment transport modeling of reservoir filling, dam removal, channel aggradation, dredging, and restoration studies will be covered through instructor demonstrations and student workshops.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800 and 1300; (b) Grade: GS-09 or above. The student should have a working knowledge of open channel hydraulics, particularly step-backwater calculations. Familiarity with HEC-RAS input structure and format is also required. In addition, course participants must be in positions or anticipate being in positions where they will be involved in sediment studies within the next year or two. Students should have at least one (1) college level class in open channel hydraulics. A college level class in Sediment Transport is desirable.

SEEPAGE AND PIPING ANALYSIS

250 Length: 36 Hours 35SEP01A

Tuition: $2003 Class Type: Classroom

Purpose.

This course trains Corps of Engineers designers and field engineers for seepage analysis, control, field problems in dams, levees, retaining walls, and slopes. This course is for both novice and experienced engineers. The course uses criteria in EM 1110-2-1901 and TM 5-818-5, supplemented by field experience.

Description.

The course will cover the principles of seepage through soils, related problems with erosion and piping, and methods for preventing and mitigating these problems. Specific topics will include Darcy's law, permeability of soils, flow nets free surface problems, erosion and piping, filter criteria and remedial measures, and use of computer programs for design and analysis.

Prerequisites.

Nominees must be assigned: Occupational Series: Selected 0810 employed as geotechnical engineer - others can apply by requesting a waiver.

SEISMIC DESIGN BUILDINGS

27 Length: 36 Hours 35SDB01A

Tuition: $1869 Class Type: Classroom

Purpose.

This course is intended to provide structural engineers, who have a working knowledge of seismic design and analysis, with the updated criteria and guidance required to perform an analysis or design in accordance with current seismic criteria. The course material is based on IBC 2015 and the latest versions ASCE7-10 and UFC 3-310-04. The course will be targeted to the design of new buildings, the analysis and remediation of existing buildings, the design or analysis of non-building structures and the design or analysis of building components and their anchorages such as piping, HVAC equipment, electrical components, infill walls, etc.

Description.

Through lectures and testing, this course presents (a) introduction of seismic design; (b) seismic design criteria; (c) seismic design procedures; (d) design of structural elements (including illustrative examples): (1) diaphragms, (2) walls, (3) frames, (4) masonry, (5) mechanical, electrical, and architectural elements. Students will be able to design/review seismic design analyses and drawings more efficiently upon completing this course. The manuals to be used are UFC 3-310-4, "Seismic Design for Buildings", and latest versions of IBC and ASCE, and UFGS Specifications addressing certain aspects of seismic issues.

Prerequisites.

Nominees must be assigned and/or have all of the following: (a) Occupational Series: 0810 and 0830. Waivers must be submitted for other occupational series; (b) Grade: GS-07 or above or equivalent. Course is open to Air Force and Navy personnel.

SEISMIC STABILITY OF EARTHEN DAMS

247 Length: 36 Hours 35SSE01A

Tuition: $1927 Class Type: Classroom

Purpose.

This course provides Corps of Engineers personnel with the knowledge, skills, and abilities needed for assessing the seismic safety of the Corps dams and other earth structures with state-of-the-art analytical tools and procedures.

Description.

Through a series of lectures, case studies, and laboratory demonstrations, students will introduced to the following topics: (a) earthquake ground motions; (b) site characterization; (c) site response analysis; (d) liquefaction evaluation; (e) slope stability and deformation; and (f) remediation alternatives.

Prerequisites.

Nominees must be assigned: (a) Occupational series: 0810 and 1350; and (b) Grade GS-09 and above.

Services Contracting

89 Length: 24 Hours 41CPO01A
CEUs: 2.0

Tuition: $ 960 Class Type: Classroom

Purpose.

This course reinforces the required knowledge and skills for proper contract oversight, surveillance, compliance and post-award documentation by all members of the acquisition team with an emphasis on service contracts. The primary purpose of this course is to mitigate risk by clarifying roles, responsibilities and accountability during post-award management. While the contracting officer is ultimately responsible for contract oversight, this course stresses the requirement to have properly trained and certified Contract Specialists, ACOs, and CORs in accordance with applicable policies and regulations. Through instruction and group exercises, students will gain the technical expertise needed to ensure these requirements are met.

Description.

This course covers at a minimum: (1) planning for post-award/contract administration oversight, roles and responsibilities; (2) contracting authority and accountability for contracts/processes; (3)compliance, consistency, oversight documentation; (4) technical proficiency (skill gaps, training) by acquisition team members; (5) quality management, accuracy, timelines for oversight, checks and balances; (6) process/action verification, validation, approvals; (7) pricing, price reasonableness determinations; (8) modifications: documentation, negotiations, contract changes, authority; (9) current audits, inspections, corrective action plans; (10) inspection clauses, claims, remedies and resources; (11) checklists, reports, file management; (12) contractor reporting, participation, partnering; (13) contracting integrity, fraud, waste and abuse; (14) contract close out/post completion activities

Prerequisites.

All participants that perform contract oversight and surveillance: Contracting 1100 series; Engineer 800 series; Quality Assurance Representatives 1900 series; Project Management/Functional communities; Legal Advisors; all USACE employees who perform or will perform COR functions; Performance Assessment Personnel; subject matter experts serving as Technical or Performance Monitors.

NOTE: This course is not open to contractors.

SPECIFICATIONS FOR CONSTRUCTION CONTRACTS

185 Length: 32 Hours 35SWC01A
LUs: 34

Tuition: $1291 Class Type: Classroom

Purpose.

This course provides instruction for preparing effective specifications for construction projects. The course is designed for engineers, architects, and technicians involved in the preparation of project specifications. The course covers principles of specification writing, procedures and techniques for writing specifications, and relationships of specifications to other elements of the contract documents. This course is strongly recommended for all design and supervisory personnel involved in development of project specifications.

Description.

Major subject matter topics include (a) language of specifications/written communication; (b) organization and format of specifications; (c) sources of technical information; (d) procedures, techniques, and methods of specification development; (e) guide specifications and project developed specifications; (f) contract clauses and contract interpretation; (g) relationship of contract drawings to specifications; (h) automated specification methods; and (i) regulatory and ethical considerations.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0800; (b) Grade: GS-09 through GS-13. Students should have current or projected assignments related to project specifications.

STATISTICAL METHODS IN HYDROLOGY

58 Length: 36 Hours 35SMH01A

Tuition: $1869 Class Type: Classroom

Purpose.

This course is designed for participants to become knowledgeable in the application of statistical methods used in the analysis of flood damage reduction, environmental, and water supply systems. Methods include advanced theory of frequency analysis, distribution fitting and testing, monte carlo simulation, stochastic streamflow generation, univariate and multivariate regression analysis, and regional analysis.

Description.

Topics covered include (a) distribution fitting and testing; (b) mixed population frequency analysis; (c) regulated flood frequency analysis; (d) regional frequency analysis; (e) monte carlo simulation for risk analysis (f) application of univariate and multivariate regression methods for regional analysis; and (g) time-series analysis and stochastic streamflow generation.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800, 1300, and 1500; (b) Grade: GS-09 or above. Students must have had a college-level probability and statistics course to fully succeed.

STEADY FLOW WITH HEC-RIVER ANALYSIS SYSTEM

114 Length: 36 Hours 35BH201A

Tuition: $2092 Class Type: Classroom

Purpose.

The objective of the course is to enable the participants to perform water surface profile computations, for steady flow hydraulic analyses, using computer program HEC-RAS in a sound and effective manner.

Description.

This course teaches the concepts of open channel flow concepts, hydraulic model data requirements, HEC-RAS input requirements, laying out cross sections for 1D hydraulic modeling, application of bridge and culvert routines, calibration of a steady flow hydraulics model, floodway determination, an overview of Optional capabilities, and output analysis. The HEC-RAS software will be included in lectures and workshops. Participants have an opportunity to prepare input and analyze output during workshops.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800 and 1300; (b) Grade: GS-05 or above. Nominees must be engineers who perform professional work in the fields of hydraulics and hydrology. Nominees should have one or more years of experience in these areas. Students should have had at least one (1) college level class in open channel Hydraulics. It is required that course participants be in positions or anticipate being in positions in the next year or two where they will be involved in water surface profile calculations.

STREAMBANK EROSION AND PROTECTION

285 Length: 36 Hours 35SBP01A
CEUs: 3.3 PDHs: 33

Tuition: $1869 Class Type: Classroom

Purpose.

This course provides guidance to enable personnel involved in streambank erosion and protection projects to prepare for, organize, and conduct a field analysis of a streambank erosion problem; and design appropriate channel stabilization measures, including develop of alternatives and selection of the most appropriate designs.

Description.

This course provides project managers, planners, technicians, engineers, biologists, designers, regulators, and personnel involved in Section 14, 1135, and 206 projects the latest practical knowledge and design criteria for streambank protection and associated erosion control methods. Through a series of interactive lectures and field exercises the student will be introduced to the following subjects: fundamentals of fluvial geomorphology and river mechanics; streambed degradation protection measures; geotechnical consideration and design; environmental considerations when designing protection works; overview and design criteria of streambank protection measures (e.g., trench fill and windrow revetments, dikes, retards, longitudinal peaked stone toe, bendway weirs, and multiple biotechnical methods, among others); methods to analyze and select appropriate protection methods (or combination of methods); erosion control in dynamic environments; construction, monitoring, maintenance, and repair of streambank protection projects; and how to conduct reconnaissance of a streambank erosion problem. In conducting field exercises, students are taught how to plan for a stream reconnaissance, gather gage data and perform aerial photographic analyses, determine personal protection equipment and safety requirements, and how to gather and measure stream data. In this course, student teams are required to analyze, prepare, and present a streambank erosion problem, develop several alternative bank protection treatments, choose the most effective (or combination) treatment while taking into consideration the expected engineering performance, environmental ramifications, and cost effectiveness of the project.

Prerequisites.

Federal nominees must be assigned (a) Occupational Series: Selected 0000-0100, 0400, 0800, 1300, and (b) Grade GS-05 or above. SPECIAL INSTRUCTIONS: An important part of the class is a half-day field trip to investigate a local stream. Students will be required to climb streambanks and wade approximately one mile of stream over a period of 3 to 4 hours. ERDC-WES will provide needed field equipment. Students should bring appropriate field clothes, a windbreaker, and rain gear.

Strength and Stability of Constructed Slopes

262 Length: 36 Hours 35SCS01A
CEUs: 3.0 PDHs: 30

Tuition: $1477 Class Type: Classroom

Purpose.

This course is intended for engineers who want an introduction to the subject of Strength and Stability of Constructed Slopes, as well as for those who would like to review the subject for better understanding. It is not intended for individuals who have never had a basic course in soil mechanics. For many individuals the relevance of the material they studied in college often does not meet the practical applications to the problems encountered in designing and constructing stable slopes. This course summarizes the subject matter into the essential elements of shear strengths required in stability analysis of embankment dams, levees, and slopes in open cuts or natural ground. Students completing this course will be better able to select appropriate shear strength designs in various cases for which stability analyses need to be performed. This course complements and enhances the training in dam safety.

Description.

This course provides instruction in the stress-strain relationship of soils as they are affected by soil composition (basic soil material), state (initial), structure, and Loading condition. The following topics are addressed: (a) Shear strengths, concepts, failure envelopes, and failure criteria; (b) Shear strengths of cohesionless soils; (c) Shear strengths of cohesive soils; (d) slope stability theories and analysis procedures; (e) design conditions and design criteria; (f) computational methods, including slope stability charts, (g) special analysis procedures for sudden drawdown; and (h) methods and cases of Corps slope stability analysis.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800; and (b) Grade: GS-07 or above.

Sustainable Military Building Design and Construct

244 Length: 28 Hours 41SAL01A
CEUs: 3.2 PDHs: 32

Tuition: $1954 Class Type: Classroom

Purpose.
This course provides practical, hands-on training in this rapidly emerging and dynamic body of requirements that applies to all military construction. Trainees will gain understanding of these requirements and become familiar with the Leadership in Engineering and Environmental Design - New Construction (LEED-NC) project rating tool. This course will help develop a skill set of procedures trainees can employ to successfully implement sustainable design and LEED in projects from master planning and initial project planning through construction closeout and beyond.

Description.
This course covers the following topics:
Federal mandates, Army Sustainable Design and Development (SDD) Policy, Air Force Policy. In-depth training on UFC 1-200-02 High Performance and Sustainable Buildings (HPSB) Requirements. Low Impact Development (LID). Incorporating HPSB in planning charettes, project programming documents, contract documents and construction activities. Life-cycle cost analysis (LCCA), commissioning, energy analysis and strategies, sustainable technologies, water conservation, waste diversion and master planning. ASHRAE Standards 90.1 & 189.1, HPSB Compliance Record Card and Checklists, LEED and OCONUS rating systems.

Prerequisites.
Attendees should be assigned as USACE master planners, engineers, cost engineers, military project managers, or construction administration staff. It is also applicable to Army and Air Force Installation master planners, environmental managers, energy managers, transportation managers and engineering staff. Nominees should have basic familiarity with USACE military design and construction process.

Sustainment Restoration and Modernization (SRM) Management using BUILDER Sustainment Management System (SMS)

451 Length: 8 Hours 0

Tuition: $ 0 Class Type: DL

Purpose.
Provide knowledge and skills to Facility Managers and Master Planners to be able to use the BUILDER Sustainment Management System (SMS) to generate current and out-year Work Items to plan O&M projects for their facilities. BUILDER SMS is an enterprise application designed to help agencies know when, where, and how to invest in their facilities. In a 10 September 2013 policy memo from ODUSD ATL, DoD made the BUILDER SMS process and tool the DoD standard.

Working off the results of a standardized facility condition assessment (see course 450); BUILDER SMS forecasts asset condition levels, compares to enterprise-defined thresholds, and generates investment requirements. These requirements are used to perform work planning, develop long range maintenance plans, and package individual investment requirements to meet agency requirements. BUILDER SMS is a web-based program that allows multiple employees with appropriate permissions at different locations ability to access facility-related data and follow enterprise-wide policies for facility condition performance and investment practices.

Description.
This new Distributed Learning (DL) online/self-paced course teaches BUILDER SMS processes and procedures, demonstrates their use for reinforcement, and provides learners opportunity to apply skills in BUILDER SMS using scenario-driven data items. Major topics are: Fundamental BUILDER concepts, BUILDER Real Property Inventory (RPI) and organization, Facility Component Inventory, Best Practices for collecting inventory, Condition assessment approaches, condition and functionality differences, Reference books and organization setup, Work planning configuration and generation, and the Scenarios forecasting engine. Learners complete the course by taking a performance-based written test.

Prerequisites.
*Must be assigned current position at Federal, DoD component, Army, Air Force, Navy, Marine installations, Region, MACOM, USACE division and district, HQUSACE, HQ, IMA, or HQDA and in Job Series: 0800, General Engineer; 1640, Facility Management; 1170, Realty Specialist; 1176, Building Management; and 0200, Community Planning.
*This course requires moderate computer skills, facility management and public works knowledge, skills, and

abilities and work planning processes.
*Must have active access to BUILDER SRM program before attending.

Topographic Surveying Basics

295 Length: 36 Hours 35SV101A
CEUs: 3.0 PDHs: 30

Tuition: $1727 Class Type: Classroom

Purpose.
This course provides surveyors, planners, designers, and CADD/GIS developers with a fundamental knowledge of basic conventional field surveying procedures and with the computational techniques needed to support civil works, military construction, and environmental restoration projects. It also supports USACE hydrographic, topographic, and real estate surveying activities. This course covers all basic surveying procedures typically required to support Corps design, construction, operations, and maintenance activities and supplements surveying knowledge required for A-E quality assurance.

Description.
Specific topics covered in the course include surveying mathematical concepts; the rectangular coordinate system; angle and distance measurement; traverse surveys in support of engineering design and field construction stake out; traverse computations and balancing methods; field taping; trigonometric and differential leveling field procedures and note reduction; state plane coordinate systems; topographic surveying techniques; map accuracies; electronic total stations; land boundary surveys; and error analysis.

Prerequisites.
Nominees should be assigned (a) selected positions in occupational series 1300 (Surveyors), 0800 (Engineers), 1100 (A-E Contract Administrators), 0400 (park rangers), and planners, designers, construction inspectors, and CADD/GIS developers involved with civil works, construction, and environmental restoration projects who require a basic understanding of survey procedures and computational techniques. Waivers will be considered. (b) Grade: GS-03 or above; (c) A general working knowledge of high-school-level algebra and trigonometry. and (d) A general working knowledge of scientific calculators for computing trigonometric functions and for converting degree-minute-second angular measurements to decimal equivalents.

TRIAL ATTORNEY

179 Length: 36 Hours 37TLA01A

Class Type: Classroom

Purpose.
This course prepares and updates Corps trial attorneys on trial advocacy skills and practice before Boards of Contract Appeals.

Description.
The course is conducted utilizing representatives from the Chief Trial Attorney's office, the Armed Services Board of Contract Appeals, and experienced CE trial attorneys. Topics include preparing motions and pleadings, discovery, ethics, witness preparation, dispute resolution options, case management, conduct at trial, examining witnesses, briefing, and appeals. Also included are workshops on pre-hearing procedures, evidence, depositions, and trial.
After completing the course, a student will be competent to represent the government as respondent's counsel in a Type I or II contract appeal.

Prerequisites.
Nominees must be assigned (a) Occupational Series: 0905; (b) Grade: GS-11 or above.

UNSTEADY FLOW USING HEC-RIVER ANALYSIS SYSTEM

188 Length: 36 Hours 35UFA01A
CEUs: 3.2

Class Type: Classroom

Purpose.
This course focuses on the use of the computer program HEC-RAS for the analysis of one-dimensional gradually varied unsteady open channel flow. The role and application of this model in Corps' flood studies is presented in lectures, workshops and examples.

Description.
Primary coverage is on one-dimensional open channel hydraulics. This covers the theory, applicability, limitations, and data requirements of the HEC-RAS unsteady flow program. Additional topics include: modeling bridges and culverts, inline and lateral hydraulic structures, storage areas, model calibration, model stability and accuracy, trouble shooting, and advanced features for Unsteady Flow Modeling (flow (mixed flow regime, pump stations, dam and levee breaching). Case studies and computer workshops are used to illustrate model usage.

Prerequisites.
Nominees must be assigned (a) Occupational Series: Selected 0810 and 1300; (b) Grade: GS-07 or above. Nominees must have a good background in open channel hydraulics and familiarity with HEC-RAS. Basic HEC-RAS input and output data requirements will not be covered in this class. It will be assumed that you already know how to use the software for performing a steady flow analysis. Familiarity with the partial differential equations of fluid motion and numerical solution techniques is desirable. Participants should be in positions requiring analysis of complex hydraulic problems. Students should have at least one (1) college level class in open channel hydraulics.

USACE 30 HR CONSTRUCTION SAFETY

215 Length: 36 Hours 58COS01A

Tuition: $1460 Class Type: Classroom

Purpose.
This course is designed to provide the USACE equivalent of the OSHA 30-hour Construction Safety Certification for field personnel that have construction safety and health responsibilities. Course provides information relative to the Corps Safety and Health Requirements Manual, EM 385-1-1 and pertinent Occupational Safety and Health Administration (OSHA) construction standards.

Description.
This course will cover through lectures, discussions, practical exercises, and case studies, the major aspects of the Corps of Engineers construction safety and health program. Using extensive construction safety backgrounds, instructor staff will discuss and examine prudent application of EM 385-1-1 to construction field settings and problem areas. Safety topics covered during these sessions will include the following: (a) construction safety mgmt; (b) trenching and excavation; (c) rigging and mechanized equip; (d) fall protection; (e) scaffolding and access; (f) occupational health rqmnts; (g) confined space entry; (h) hand and power tools; (i) temporary electrical service; (j) control of hazardous energy; (k) activity hazard analyses; (l) contractor safety submittals; (m) welding and cutting; (n) QA/QC - safety relationship; (o) contractual safety rqmnts; and (p) Corps/OSHA relationships. Participants will gain an overall understanding of the various elements that comprise a successful construction safety program and be provided current state-of-art safety technology and methodology as it relates to the Corps of Engineers. Upon successful completion, students will receive a USACE 30-hour construction safety certification.

Prerequisites.
Attendance is open to all Department of Defense and other Federal agency employees who have a need for construction safety and health information or responsibility for enforcing contractual safety requirements. It is recommended that field construction personnel repeat attendance to this course on a three-five year cycle.

USACE 30-HR OPERATIONAL AND MAINTENANCE SAFETY

63 Length: 36 Hours 58INS01A

Tuition: $1713 Class Type: Classroom

Purpose.

This course is designed to provide hazard recognition for field personnel who perform USACE facility operation or maintenance or oversee contractors doing such work. The course provides information relative to the Corps Safety and Health Requirements Manual, EM 385-1-1 and pertinent Occupational Safety and Health Administration (OSHA) general industry standards.

Description.

The course will cover through lectures, discussions, practical exercises and case studies, the major aspects of the Corps of Engineers operations and maintenance safety and health program following the OSHA 30-hour general industry safety certification course template. Instruction and assignments will cover the areas listed below and enable the students to identify safety hazards and areas of noncompliance with Corps of Engineers and Occupational Safety and Health Administration (OSHA) requirements. Specific areas covered include (a) overview of OSHA (current OSHA requirements) and Corps of Engineers safety and health requirements; (b) scaffolding and access; (c) control of hazardous energy/arc flash prevention; (d) temporary electrical service; (e) heavy equipment; (f) personal protective equipment; (g) fire prevention; (h) confined spaces and entry; (i) motor vehicles; (j) safety submittals; (k) accident reporting and recording; and (l) accident prevention plans and hazard analyses.

Prerequisites.

Students should be from any occupation involved in performing, overseeing, or managing operation and/ or maintenance work at facilities, including maintenance units, shops, powerhouses, locks and dams, and other indutrial activities.

USACE Civil Works Project Development Process (Planning Core Curriculum Course 1)

86 Length: 8 Hours 35PWR01A

Tuition: $ 470 Class Type: DL

Purpose.

This Distributed Learning (DL) online course introduces students to the life-cycle of Civil Works projects and an understanding of the Corps of Engineers civil works program. It is designed for Corps employees who are relatively new to Civil Works or individuals who require an overall understanding of, and the procedural stages involved in, the development of civil works projects.

Description.

The DL course has 7 modules: Introduction and History, Pre-planning, Planning, Washington Level Review, Pre-construction Engineering and Design, Project Implementation and Construction, and Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRRR) phase.

Prerequisites.

Nominees must be involved in or closely support any/all phases of civil works project development, project planning, project design, project construction, project management, or programs management and must be assigned (a) Occupational Series: Selected 0020, 0100, 0300, 0400, 0800, 0900, 1100, and 1300 series or others such as public affairs officers, real estate, or counsel that support the development process; (b) Grade: GS-05 or above. This course is the first training class for new or entry level employees in the CW Planning function. Nominees can be registered and can take the course at any time during the year.

VALUE ENGINEERING

110 Length: 40 Hours 35VEW01A
CEUs: 4.0 PDHs: 40 LUs: 40

Tuition: $2127 Class Type: Classroom

Purpose.

This course provides the participant with the statutory and regulatory requirements; and policies and procedures necessary to enable the student to perform effectively as a value study team member or practitioner; to recognize potential areas for VM/VE studies; to identify the value of utilizing Value Management/Value Engineering; and learn how to use VM/VE to improve agency/organizational efficiency and effectiveness, regardless of profession.

Description.

Through lectures, conferences, and workshop sessions, this course provides the history of value management/value engineering, statutory and regulatory requirements for VE, its development in the Corps of Engineers, the need for value management/value engineering in Corps, the methodology employed, the VM/VE program, and program contractor participation. Nominees participate in class exercises and discussions. Approximately half of the course is devoted to workshops in which all participants are involved in actual value engineering studies of construction/other items selected by the offices involved. This course is designed primarily for training project managers, and construction/design engineers/technicians in the principles and application of value engineering; however, all levels of management benefit by participating in this course. This is a Certified Mod I course by SAVE International.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0340, 0800, 1300, and 1008 (b) Grade: GS-07 or above or equivalent; (c) managers with authority and responsibility for decision-making having a cost impact on Corps of Engineers projects. The course is also open to individuals who have a current or projected (within 1 year) assignment requiring knowledge of value engineering methodology (ie: VEO). The nominee must not have attended this course in the past 5 years. Nominees must be approved by the local Value Engineering Program Manaegr of the nominating MSC or the District Value Engineering Officer (VEO).

VISITOR ASSISTANCE MANAGEMENT & POLICY

324 Length: 28 Hours 35VAU01A
CEUs: 1.8

Tuition: $1264 Class Type: Classroom

Purpose.

This course provides an overview of the Corps of Engineers Visitor Assistance Program to promote consistency in Visitor Assistance policy application and explore alternative management techniques and practical applications. Ensuring continunity in the Visitor Assistance program being managed by Senior Management personnel at the Division, District, Area Office and Project level.

Description.

Topics covered in this course include the policy status and direction of the Visitor Assistance Program, Title 18, Title 36, Security/Law Enforcement issues, tactical communications, proper uniform wear, succession planning, community involvement, alternative management techniques, Visitor Assistance "Hot Topics"/What's New, and legal liabilities.

Prerequisites.

Employees who have attended the Visitor Assistance Management (Course #324)& Policy or NRM Visitor Assistance (Course #147) Courses within the past 5 years should not schedule this course. Attendees should be Visitor Assistance Program Managers, Operations Managers, Park Managers, Supervisory/Chief Rangers at the Division, District, Area and Project level who plan to provide oversight and manage the Visitor Assistance Program. Park Rangers/NRM Specialist, GS-9, may also attend, but they will be given a lower priority. It is recommended that Corps Security Specialists (GS-0080), Corps military personnel serving in a security capacity and Operational Project Managers attend the course to gain a better understanding of the Corps' Visitor Assistance Program.

VISITOR ASSISTANCE NRM

147 Length: 40 Hours 35VAN01A
CEUs: 3.6

Tuition: $2020 Class Type: Classroom

Purpose.

This course, in combination with other required training, satisfies the minimum requirements for Authorization of Citation Authority and is designed to develop an understanding of the formulation, purpose, and limitations of the Corps of Engineers Visitor Assistance Program and to prepare trainees to handle the special responsibilities required in performing their official duties. This training is supplemented by detailed Division/District instruction of citation authority implementation procedures. In order to obtain citation authority, the graduate must complete the required Basic Visitor Assistance Training Curriculum (ER/EP 1130-2-550. Chapter 6). Course provides basic Pepper Spray training to elgible employees. Citation authority will only be granted to qualifying individuals as stipulated in the prerequisites paragraph.

Description.

Topics covered in this course include: organization policy and mission, Title 36 and program development, Title 18, authority and jurisdiction, magistrate court, torts claims, ranger responsibilities and image, legal constraints, enforcement procedures, security, situational analysis, tactical communication, Pepper Spray training, and personal protection techniques.

Prerequisites.

Nominees MUST be assigned (a) Occupational Series: GS-0023, 0025, or special GS-400 series such as biologist, forester, etc.; (b) Grade: GS-04 or above, seasonal and temporary employees included (employees of lower grade who are or will be performing similar duties may attend at the discretion of their manager/training coordinator). Nominees must be currently serving or have an anticipated assignment as a Corps Park Ranger or be in a directly related job such as a forester, a wildlife and fisheries manager, biologist, or natural resources specialist. Trainees should have less than 4 years experience in the Visitor Assistance Program, as per ER 1130-2-550. Nominees must be approved by the Natural Resources Functional Manager at the District or Division level and approval granted to attend by the PROSPECT Visitor Assistance Lead Instructor. Individuals receiving citation authority to enforce CFR Title 36 must be employed under the USACE Natural Resources Management Program and MUST have principle duties including visitor assistance, recreation and natural resource management. The individual must need citation authority to perform official duties in the most efficient manner and must be certified by the District Commander as per ER 1130-2-550, Chapter 6. Individual must have the proper aptitude, temperament, personality, experience, and ability to exercise citation authority properly as determined by management.

WATER AND THE WATERSHED

164 Length: 36 Hours 33WAW01A
CEUs: 2.7

Tuition: $2043 Class Type: Classroom

Purpose.

This course provides participants with an understanding of the physical nature and role of water in the watershed, the history of Corps watershed policy and regulation, and the conceptual, technical, and institutional tools available for watershed planning and management.

Description.

This course aims to impart a broad understanding of the science, institutional policies, and available tools for watershed management and planning. The course covers the occurrence, movement, storage, and control of water (surface and ground water hydrology); the natural development of the landscape (geomorphology); the concept of the watershed as a bioregion and ecosystem; the development of the water resources for multiple purposes; the restoration of natural features in wetlands and Corps' restoration projects; and the social, cultural and institutional elements of watershed management. Historical and current regulations and policies affecting the Corps' approach to watershed planning and management are covered. Conceptual tools discussed include adaptive management and collaborative management with other stakeholders to resolve water conflicts. Technical tools include methods and models available to simulate hydrologic and ecological features and for study management. The course will discuss the many active local organizations and federal agencies with a stake in the water of the watershed and the role of the Corps in watershed initiatives and partnerships.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 800 and 400 series, 028, 819, 184, 101, 401, and 1301, (b) Grade GS-09 and above. Nominees should be water control managers, hydrologists, hydraulic or environmental engineers, biologists, economists, sociologists, ecologists, planners, or study managers.

WATER DATA MANAGEMENT WITH HEC-DSSVUE

152 Length: 36 Hours 54MDH01A

Tuition: $1918 Class Type: Classroom

Purpose.

This course provides Corps of Engineers' water resource professionals with detailed instruction on available computer software to develop, manage, analyze, and display engineering data in the HEC Data Storage System (HEC-DSS) and the new HEC-DSSVUE program. The procedures and programs provide a convenient system to support a variety of applications including hydrologic, water quality, and flood damage analysis. The system is designed for handling both historical and real-time data

Description.

Data management tools, provide a systematic means for organizing, storing, retrieving, manipulating, and sorting data for simulation and plan evaluation models. The HEC data storage systems allow for a convenient, orderly exchange of data among many application and analysis programs. This course focuses on the Data Storage System and the DSSVue graphical user interface. Applications with HEC programs to create data files, to manage and manipulate those data, to provide statistical analysis, and to develop graphical and tabular displays are included. Applications will be demonstrated with workshops and case studies. Major topics covered are (a) use of the HEC Data Storage System; (b) HEC-DSSVue graphical displays; (c) presenting data in a report form; (d) data entry; (e) statistical analysis and mathematical operations of data; (f) hydrologic applications; and g) user-developed scripts for data presentation.

Prerequisites.

Nominees should be assigned (a) Occupational Series: 0400, 0800, and 1300; (b) Grade: GS-07 or above. Nominees should be familiar with Windows.

WATER QUALITY MODELING WITH HEC-RIVER ANALYSIS SYSTEM

139 Length: 24 Hours 33WQH01A

Class Type: Classroom

Purpose.

Provide students with a comprehensive overview of techniques of approximating the movement of pollutants in rivers and streams using HEC-RAS.

Description.

This course is intended to prepare engineers to perform water temperature and water quality studies with HEC-RAS. Topics to be discussed include: surface runoff; hydrologic transport; conservative tracers with steady and unsteady flow hydraulic computations; water temperature modeling and the effects of riparian shading; dissolved oxygen and biochemical oxygen demand; and nutrient cycle modeling.

Prerequisites.

Nominees must be assigned (a) Occupational Series: Selected 0800 and 1300; (b) Grade: GS-09 or above. The student should have a working knowledge of open channel hydraulics and familiarity with HEC-RAS.

WATER RESOURCE ANALYSIS USING HEC-WATER SHED ANALYSIS TOOL

43 Length: 36 Hours 33WRH01A

Class Type: Classroom

Purpose.

This course introduces members of any project delivery team (PDT) to the Corps' new planning and collaboration software called the Watershed Analysis Tool or HEC-WAT. Students will not only learn the benefits and capabilities of the WAT, they will also learn how to use the WAT through a series of presentations and practical hands-on workshops.

The WAT helps engineers, economists, planners and environmental and consequence specialists work together to perform a study. It does so by streamlining and managing the implementation, editing, analysis and reporting of the software commonly used by the multi-disciplinary teams conducting these water resource studies. HEC-WAT has become an important tool for integrating the hydrologic, hydraulic, reservoir simulation and flow consequence evaluation in the Corps H&H communities. Also covered in this course will be the flood risk analysis (FRA) compute option of the HEC-WAT software. The compute option allows water resource studies to be performed in a watershed, systems-based context within a risk analysis and life-cycle context.

Description.

The primary objectives of this course are: to understand the advantages of a watershed and system-based approach to performing studies; identify the importance of establishing a common framework of physical data such as the stream alignment that all study teams can use; understand why and how to develop shared data used among the modeling specialties; illustrate the proper use of linking editors to interface the inputs and results of the models; establish practical guidelines for WAT execution; run the WAT; and interpret analysis results.

Prerequisites.

Nominees for the course should have experience in the hydrologic, hydraulic, economic, or plan formulation aspects of flood risk analysis. Managerial and supervisory personnel are encouraged to attend. Nominees must be assigned (a) Occupational Series: Selected 0000-0110, 0800, and 1300; (b) Grade: GS-09 or above. Nominees should have a basic understanding of concepts, terms, and analysis as presented in Hydrologic Engineering in Planning (057) and Risk Analysis for Flood Risk Management (209).

WELDING DESIGN

162 Length: 36 Hours 35WLD01A
CEUs: 1.6 PDHs: 16

Tuition: $1767 Class Type: Classroom

Purpose.

The course teaches the participant, with a limited knowledge of welding or no background in welding, to create and draft replacement designs, to redesign or reinforce welding designs, and to communicate this information to field personnel.

Description.

The course covers design considerations and proper communication of welding processes, joint designs, weldability of metals, design methods, weld size determinations, weld costs estimating, design formulas, failure analysis of past design problems, and economics of welding.

Prerequisites.

Nominees must be assigned and/or meet all of the following: (a) Occupational Series: Selected 0800 and 1600; (b) Grade: GS-07 or above or equivalent; (c) have current or projected assignments requiring welding design and inspection responsibilities.

WELDING--QUALITY VERIFICATION

116 Length: 36 Hours 35WLQ01A
CEUs: 2.9 PDHs: 29

Tuition: $1371 Class Type: Classroom

Purpose.

This course teaches the participant to interpret the various methods and techniques employed in weldments and assuring the quality of welds.

Description.

Through lectures, conferences, and practical exercise sessions, students are able to identify aspects of welding safety and precautions, welding symbols, processes and quality assurance problems, roof decking welding, codes, procedures, and operator qualification, filler metals, workmanship, visual inspection, dye penetrant, magnetic particles, radiographic and ultrasonic testing techniques and interpretation, and destructive testing. Quality assurance in welding is emphasized.

Prerequisites.

Nominees must be assigned and/or have all of the following: (a) Occupational Series: 0801, 0802, 0809, 0810, and selected 0800; (b) Grade: GS-05 and above; or equivalent (c) other: Students should have current or projected assignments with welding quality assurance responsibilities. It is recommended that they have previously completed the General Construction - Quality Verification course and must not have attended this or a similar course within the past 5 years.

WETLAND PLANT IDENTIFICATION (SOUTHEAST)

423 Length: 32 Hours 33WPI01A

Class Type: Classroom

Purpose.

Practical development of plant identification techniques, focusing on wetland threatened and endangered species of the Southeastern United States.

Description.

Wetland Plant Identification Workshop Southeastern USA provides the basic identification skills to both, laboratory and field-identify 100-200 wetland plants of concern from a planning, environmental resources, project management, regulatory and natural resource perspective. Meet two (2) leading wetland plant taxonomists in the USA who will be conducting the instruction. Students will have knowledge of and be able to identify Southeastern USA wetland threatened and endangered species and their supportive habitats/ecosystems. Participants will be able to develop and review mitigation plans focused at the plant species level and develop skill in associating the species with habitat changes. Both laboratory and field practical examinations will be conducted to validate obtained skills.

Prerequisites.

Planning, Program Management, Regulatory, Natural Resource Management, Environmental Resources, Navigation and Engineering Personnel GS-07 through GS-15.

WETLAND RIVER FUNC/ECOL

426 Length: 32 Hours 33WRF01A

Tuition: $1731 Class Type: Classroom

Purpose.

In the development of the CE Water Resources Development Act (WRDA) projects and other important CE activities, NEPA-driven mitigation measures have required increasingly rigid, complex and watershed-level functional assessments of adverse unavoidable project impacts. Historically, structural (acre for acre) mitigation has been a surrogate for functional (maintain wildlife, habitat, flood flow restoration, water quality, etc) mitigation. This approach is no longer adequate due to the rapid evolution of ecological science and the design of functional assessment methods based upon watershed geomorphology, hydrology, vegetation, landforms and associated habitats. The hydrogeomorphic functional assessment method (HGM) is a Federal Interagency tool developed to address this critical field need. This workshop focuses on small and large riverine systems in eastern and western USA and additionally provides project managers with an introduction to the "new river ecology" knowledge. An understanding of this ecological approach is essential in meeting restoration, enhancement and mitigation objectives. A special section of the workshop will cover restoration alternatives identification and assessment of deeply incised channels and floodplains of selected river systems. Pariticipants will meet and work in facilitated problem solving classroom and field sessions with noted experts in this field. Restoration concepts will be taught and they will be applied in on-site inspections and evaluations of actual restoration efforts.

Description.

Topics include: (1) Introduction to wetland river ecology, (2) HGM classification system, (3) HGM national and regional guidebooks, (4) Geomorphology of Mississippi River System, (5) River Ecology and HGM Assessment of Rivers in KY, TN, and MT, (6) Case studies restoration, (7) Lessons learned, (8) Mitigation Alternatives Identification/Assessment, (9) HGM and future WRDAs and other CE authorities (10) Calculating Habitat Units (11) Restoration Concepts and (12) Field-based practical evaluations of restoration efforts.

Prerequisites.

Nominees may be assigned from engineering, planning, natural resource management, regulatory, etc. to include program/project management functions within the Corps of Engineers. Occupational Series: Open to all including legal, real estate, navigation, etc. This workshop is designed to provide background introductory information. As 50% of the course is conducted in the field, students need to be of sufficent physical condition and health to wade in streams and rivers and climb over rocks and large woody debris.

WETLAND STREAM ECOLOGY BASIC

192 Length: 32 Hours 33FSE01A

Tuition: $1731 Class Type: Classroom

Purpose.

A knowledge of the state-of-the-science wetland stream ecology is required to formulate science based Water Resources Development Act (WRDA) projects which are critical to the mission of the CE Civil Works Program. Additionally, NEPA (National Environmental Policy Act) and Clean Water Act (Section 404) driven wetland mitigation alternatives require an understanding of modern basic stream ecology which is holistic, landscape focused based on a systems approach to the biological, chemical, physical and geological components. Students will collect and identify wetland stream flora (botanical/plant) including the dominant vascular flowering plants and algae associated with streams. Laboratory and field work will be directed at identifying the benthic (bottom dwelling) stream macro and microinvertebrates important to stream water quality, nutrient cycling and food web linkages. A revolutionary new focus will be to develop a knowledge of stream geofluvial processes important to shaping and reshaping the active modern river channel and its associated floodplain in a geological time frame. Participants will meet on a one-on-one basic leading international and national experts in the field of stream ecology. Problem solving field exercises in real time and place will be conducted and facilitated by these experts and class facilitators to develop an understanding of altered stream ecology and its impacts on selected ESA species inhabitating western river systems. Students will receive hands-on field training in the application and interpretaion of piezometers to understand the importance of upwelling and downwelling zones in a stream.

Description.

Topics include: (1) A holistic and landscape driven approach to wetland stream ecology, (2) Introduction to the identification of flora and fauna of wetland stream systems with a strong focus on western regional stream systems, (3) Introduction to the processes and effects of geofluvial morphology on stream systems, (4) Focus on stream water quality factors including nutrients, sediments and catchment areas, (5) Application of the new stream ecology knowledge to understanding and developing ESA (Endangered Species Act) mitigation alternatives ie Bull Trout, etc.(6) The importance of stream order, catchment size and location in a watershed upon the ecological dynamics-specifically aquatic food webs (7) Targeted daily field work to flowages of various stream order size and character re-inforce class instruction.

Prerequisites.

Noninees may be assigned from engineering, construction, regulatory, planning, natural resources, program and project management business lines and pacticies within the Corps of Engineers and other Federal Agencies. Occupational Series: Open to all including navigation, flood control and the environment. Students should have already have taken Course Number 426 titled Wetland River Func/Ecol which is a basic overview course. Due to the physical requirements of the field work integral to the course, potential students should be able to safely wade in flowing streams and rivers and negotiate rocks and large woody debris as the class traverses a range of waterbodies in field exercises.

WETLANDS DEV & REST

276 Length: 32 Hours 33WDR01A

Tuition: $1727 Class Type: Classroom

Purpose.

This course provides training in the concepts and practices of ecosystem restoration and development in both inland (fresh water) and coastal areas. The course is directed toward Corps of Engineers biologists, engineers, and natural resources managers concerned with ecosystem restoration including development and restoration of aquatic, wetland and riparian (stream/river) habitats. Practical, hands-on field experience and application of state-of-the-art techniques are emphasized and conducted by the leading national experts in the field of environmental restoration. The basic hydrologic principles in planning for and the development of environmental restoration projects is provided to meet the requirements of the Corps of Engineers and the public. Course focuses on lessons learned over the past twenty years with detailed analysis of hydrology, biology, and soils associated with both successful and failed restoration projects.

Description.

National training is conducted at three (3) regional wetland sites representing major wetland ecosystems: East Coast, West Coast, and at a Gulf of Mexico major estuary site. Technical sessions focus on marine, estuarine, and freshwater wetlands development and restoration of the particular coastal area involved (East Coast and West Coast). The Gulf of Mexico site focuses on wetland ecosystem restoration and development nationwide but emphasizes sites in Texas, Louisiana, Mississippi, Alabama, and Florida. All sessions include methods and case study training in site selection, determining water management (hydrology) and site design specifications, plant selection and revegetation techniques, operation and maintenance requirements, procedures for measuring and evaluating success of aquatic, riparian, wetlands, seagrass development and restoration and key factors to consider to determine the cost, manpower, expertise, equipment and materials required to successfully develop and restore these habitats. Selected case studies focused on lessons learned and extensive field exercises are included. Training is also provided for the following topics, as applicable, based on the location of the particular sessions: (1) hydrologic considerations for ecosystem restoration, (2) techniques for developing new and restored coastal and interior wetlands and seagrass beds, as applicable, using selected case studies, (3) techniques and examples for using wetland vegetation as an alternative to structural techniques for shoreline and levee erosion control, (4) identification of sources and methods for obtaining suitable plant stock including key factors that affect development and restoration costs and success rates; and (5) mitigation techniques for evaluation, predicting and reducing impacts of engineering activities in wetlands and seagrass areas, (6) guidance on key factors that should be considered when preparing work orders and contracts for restoration activities.

Prerequisites.

Nominees must be assigned (a) Occupational Series: 0025, 0028, 0150, 0400, 0800, and 1300. Highly recommended for planning, regulatory, environmental resources, policy, engineering and natural resources management personnel and those involved with the planning and implementation of ecosystem restoration projects, regulating and evaluating restored wetlands and seagrass; (b) GS-07 and above is suggested.

WORKING DIVER

35 Length: 114 Hours 58DVS01A

Tuition: $14950 Class Type: Classroom

Purpose.

This course provides Corps of Engineers employees who are assigned as divers, diver supervisors, and/or agency diving coordinators with the necessary skills, knowledges, and abilities to safely perform their assigned underwater tasks. This training will provide students with state-of-art technology and methodology to safely perform underwater diving operations and effectively manage diving contingencies.

Description.

Students will become familiar with and perform underwater exercises with state-of-art diving systems including self contained underwater breathing apparatus (SCUBA) and Surface Supplied Air equipment. This course consists of classroom presentations, training pool exercises, open water activities, and practical operations. Sessions pertinent to underwater diving operations will include, but are not limited to, the following topics and activities: (a) diving physics; (b) diving physiology; (c) diving medicine; (d) modern diving systems and support equipment; (e) SCUBA equipment and operations; (f) surface supplied air equipment and operations; (g) decompression principles & associated tables; (h) modern diving accident management techniques; (i) working dive planning; (j) diver supervision principles and practices (k) preparation and use of Activity Hazard Analyses; (l) USACE, OSHA, and US Navy diving regulations (ER 385-1-86, EM 385-1-1, 29 CFR 1910, and US Navy Diving Manual); and (m) management of the diving function.

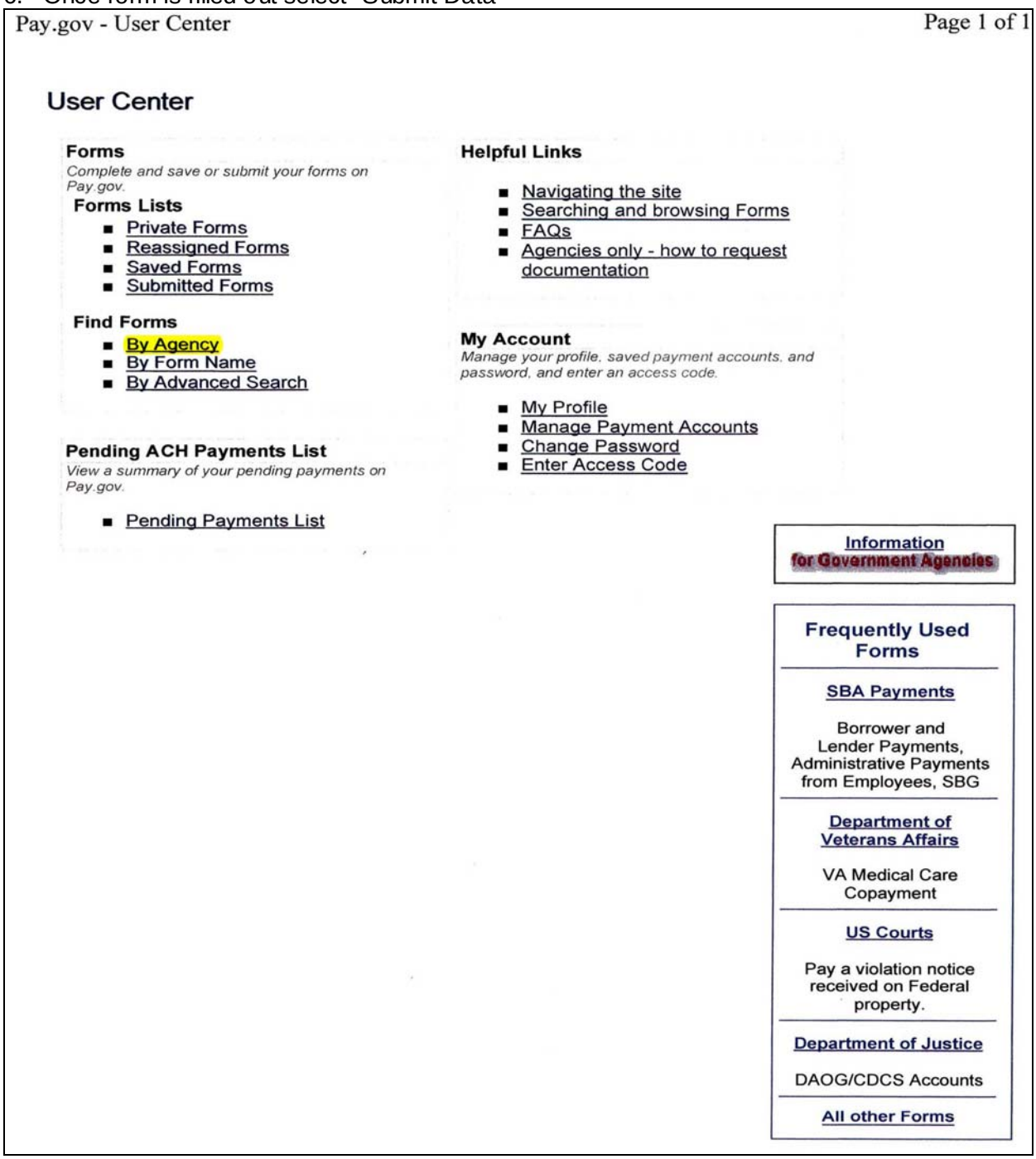
Prerequisites.

(a) Students for this course must have a current or projected assignment to a position requiring underwater diving skills and prior to attending this training must hold a SCUBA training certificate or equivalent from a nationally recognized diver training organization, e.g., PADI, NAUI, etc. Failure to provide evidence of diver certification will be cause for rejection; (b) Nominees must successfully complete a diving medical examination as detailed in ER 385-1-86 within the past 11 months and provide a copy of the completed medical form to the training agent on the first day of class; (c) proof of the last four government dives within the last 11 months; and (d) students must participate in all lectures, written and practical exercises, and score at least 70 percent on the comprehensive post-course examination to receive diver certification. Exceptions or deviations to any of these prerequisites shall be approved by the HQUSACE Safety and Occupational Health Office.

Step-By-Step procedures for making a Pay.gov (https://pay.gov/paygov/) payment(s)

To ULC:

1. User Center – Go to Find Forms and select "By Agency"
2. Select the letter "U" and then select "United States Army Corps of Engineers (2)"
3. Select **"United States Army Corps of Engineers Learning Center"**
4. Then fill out "US Army Corps of Engineers USACE Learning Center PAYMENT BY CREDIT CARD" form.
5. **NOTE: Please ensure you use the assigned bill number(s) for your payment(s)**
6. Once form is filled out select "Submit Data"



Alpha Search - Agencies

U A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 0 - 9

- **Under Secretary for Health - Veterans Health Administration(24)**

  Department of Veterans Affairs > Under Secretary for Health - Veterans Health Administration
- United Mine Workers of America Benefit Funds
- United States Botanic Garden
- United States - Canada Border Environment Cooperation Commission
- **United States Agency for International Development(1)**
- **United States Army Corps of Engineers(2)**

  Department of Defense > Department of the Army > Office of the Chief of Staff of the Army > United States Army Corps of Engineers
- United States Capitol Preservation Commission
- **United States Coast Guard(8)**

  Department of Homeland Security > United States Coast Guard
- **United States Court of Veterans Appeals(1)**
- **United States District Court(5)**

  The Supreme Court of the United States > United States District Court
- **United States Fish and Wildlife Service(1)**

  Department of the Interior > Secretary of the Interior > Fish and Wildlife and Parks (Assistant Secretary) > United States Fish and Wildlife Service
- **United States Geological Survey(1)**

  Department of the Interior > Secretary of the Interior > Water and Science (Assistant Secretary) > United States Geological Survey
- United States Holocaust Memorial Council
- United States Information Agency
- United States International Trade Commission
- **United States Marine Corps(2)**

  Department of Defense > Department of the Navy > United States Marine Corps
- **United States Military Academy(2)**

  Department of Defense > Department of the Army > Office of the Chief of Staff of the Army > United States Military Academy
- United States Postal Service
- United States Sentencing Commission
- **United States Tax Court(5)**
- **US Customs and Border Protection(5)**

  Department of Homeland Security > US Customs and Border Protection

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Office of the Chief of Staff of the Army

United States Army Corps of Engineers

Results: **1-2** of **2**

Sort By: **Form Name** | Form Number | OMB Number | Agency Name

Hide Details

United States Army Corps of Engineers Finance Center View PDF

Form Number: **USACE Finance Center**

Please use this form to pay the United States Army Corps of Engineers for all payments other than the Learning Center. For example: travel debt, revenue generating agreements, leases, contract refunds, cost share accounts and miscellaneous payments.

United States Army Corps of Engineers < Department of Defense

https://www.pay.gov/paygov/forms/formInstanceRequiredLogin.html?agencyFormId=24623629

United States Army Corps of Engineers Learning Center View PDF

Form Number: **USACE Learning Ctr**

Please use this form to pay your PROSPECT course tuition fees.

United States Army Corps of Engineers < Department of Defense

https://www.pay.gov/paygov/forms/formInstanceRequiredLogin.html?agencyFormId=25850288

Results: **1-2** of **2**

Pay.gov - Form Instance

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Form Instance

USACE Learning Center
US Army Corps of Engineers
Home of the Purple Book and PROSPECT
Huntsville, AL

US Army Corps of Engineers USACE Learning Center
PAYMENT BY CREDIT CARD

*Please use this form to send credit card payments to the US Army Corps of Engineers for training bills and PROSPECT courses.

*Required Field

*Cardholder's Name:

*Cardholder's E-mail Address:

*ORG Name: (i.e. Little Rock District) | 9-digit Code (i.e. SWL) | District & Code List

*Cardholder Phone Number: | Extension:

Cardholder Fax Number:

Cardholder's Billing Address:

*Address 1:

Address 2:

*City:

*State: | *Zip:

*Course Title:

*3-Digit Control Number: | *Session Number:

*Class Dates: (mm/dd/yyyy) From: To:

*Student Name:	* Bill Number:	*Tuition Amount:
		$
		$
		$
		$
		$

Add more Students

Total Amount: $ 0.00

(PLEASE ENSURE "THE TOTAL AMOUNT" DOES NOT EXCEED YOUR SINGLE PURCHASE LIMIT)

Point of Contact:
Linda Sisk, CEHNC-RM, 256-895-1413

Submit Data

*Student Name:	* Bill Number:	*Tuition Amount:
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	Subtotal Amount:	$

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SECTION 2 — COMPETITIVE PROFESSIONAL DEVELOPMENT

SECTION 2 - COMPETITIVE PROFESSIONAL DEVELOPMENT

A variety of Competitive Professional Development opportunities are provided by DOD, HQDA, HQUSACE, and local activities. Many of these programs are announced annually in The Army Civilian Training Education and Development System (ACTEDS) Catalog. This catalog is available on the Army Civilian Personnel Online at http://cpol.army.mil/library/train/catalog/.

Typically the programs listed in the ACTEDS Catalog are competitive and many are at least partially funded.

The catalog includes information on the Civilian Education System, Senior Service College Programs, Functional Chief Representative Competitive Professional Development and Short Term Training Programs, Government and Non-Government Programs and Career Field Training.

Eligibility requirements, application procedures and forms and Army level suspense dates are included in the catalog. Please note however that many of these programs require that applications flow up the chain of command for prioritization and/or endorsement of the Army Command (ACOM). These programs will have interim suspense dates for submission of application.

USACE announces interim suspense dates and any USACE specific requirements by OPORD that are issued to subordinate commands. If you have questions regarding internal suspense dates please contact your CPAC or Major Subordinate Command (MSC) Human Resources Specialist.

SECTION 3 — ARMY SERVICE SCHOOLS, DMET TRAINING *(CORPS ONLY)*

SECTION 3 -
ARMY SERVICE SCHOOLS AND DEFENSE MANAGEMENT EDUCATION AND TRAINING (FOR CORPS OF ENGINEERS PERSONNEL ONLY)

General

This section summarizes the nomination process that ULC supports for Corps employees taking education and training with Army Service Schools and Defense Management Education and Training, and also provides helpful links to locate this training that is external to PROSPECT.

Nomination Procedures

The USACE Learning Center (CEHR-ULC) receives DOD quotas through the Structure Manning Decision Review (SMDR) process which is accomplished 3 years prior to the Fiscal Year the courses occur.

Quotas received are published to all training POCs and issued on a first-come, first-serve basis upon receipt of SF-182 (Authorization, Agreement, Certification of Training).

The employee's supervisor must submit an SF-182 for all primary and space-available nominations to Training Coordinators/Officers, who process requirements and send them to the USACE Quota Manager by encrypted email or fax them to (256) 895-7469, DSN 760-7469.

Helpful Links to Locate Training

Army Courses: The source for Army Service Schools is the Army Training Requirements and Resources System (ATRRS), https://www.atrrs.army.mil.

Army courses are listed by ATRRS School Codes which may be viewed at https://www.atrrs.army.mil/atrrscc/vertable.aspx?vertype=01&id=sch.

Defense Management Education and Training: Sources for Defense Management Education and Training vary. Major sources and their catalogs are listed below:

Defense Institute of Security Assistance Management (DISAM)
http://www.disam.dsca.mil/pages/courses/onsite/catalog/default.aspx

Defense Logistics Agency (DLA)
https://www.logisticsinformationservice.dla.mil/training/traindsc.aspx

Defense Resource Management Education Center
http://www.nps.edu/Academics/Centers/DRMI/index.html.

Defense Systems Management College (DSMC)
http://www.dau.mil/Locations/DSMC/default.aspx.

Information Resources Management College (IRMC), http://icollege.ndu.edu (also called National Defense University iCollege) http://www..ndu.edu

SECTION 4 — CIVILIAN EDUCATION SYSTEM (CES) LEADERSHIP DEVELOPMENT *(CORPS ONLY)*

SECTION 4 –
ARMY CIVILIAN HUMAN RESOURCES TRAINING APPLICATION SYSTEM (CHRTAS) ON-LINE SYSTEM FOR CIVILIAN EDUCATION SYSTEM (CES) COURSES (FOR CORPS OF ENGINEERS PERSONNEL ONLY)

ARMY CIVILIAN LEADER DEVELOPMENT PROGRAMS

Classes **Army Management Staff College (AMSC), Fort Leavenworth, KS (SC 704W)**

Visit http://usacac.army.mil/organizations/cace/amsc

As a result of changing roles and responsibilities of the Army Civilian Corps, Civilian training and leader development programs have evolved during the past few years. Based on its established officer and NCO education systems, the Army implemented the Civilian Education System (CES) in 2007 to enhance Civilians' career-long professional and leader development. The Civilian Education System (CES) is the foundation of the Army's leader development program for all Army Civilians, providing progressive and sequential education courses throughout their careers. CES is centrally funded by HQDA G-3/7 Training Directorate for most permanent Army Civilians, including but not limited to general schedule (GS), non-appropriated fund (NAF), local national (LN) and wage grade (WG) employees. CES leadership courses are required for all Army Civilians. Employees should include attendance at the CES course for which they are eligible in their Individual Development Plans (IDP).

The major underpinnings of CES courses are:

- Student Centered — Focuses on the transfer of knowledge using the Army's Lifelong Learning Philosophy, with the emphasis on leader development
- Problem Based — Provides students with real world issues and problems they will encounter as direct or indirect leaders
- Experiential — Allows students to practice new skills in an environment that minimizes risk, encourages participation, and offers immediate feedback
- Inquiry Based Learning — Focuses on questioning, critical thinking and problem-solving

CES Foundation Course (FC), Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/FC.aspx

All Army Civilians hired after Sept. 30, 2006, must complete the Foundation Course. It is geared toward new Army Civilians at any grade or leadership level.

This course is entirely dL and consists of modules that provide an orientation to being an Army Civilian and an introduction to the Army. You will gain an understanding of the Army's role within the Department of Defense, as well as the Army's composition, customs, traditions, values and

leadership doctrine. You will learn concepts of building teams, managing conflict and effective communication skills. As a new Army Civilian, you will be exposed to the administrative requirements of the Army organization and career management information.

CES Basic Course (BC), Resident/Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/BC.aspx

This blended course is focused on educating the supervisor or team leader on the foundations of leadership and management. When you complete this course, you will be better able to understand and apply basic leadership skills to lead and care for small teams. You will be more capable of communicating effectively, and developing, coaching and counseling subordinates.

CES Intermediate Course (IC), Resident/Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/IC.aspx

This course is focused on preparing Army Civilians for increased responsibilities to exercise direct and indirect leadership and supervision. It will enhance your ability to lead people and manage human and financial resources. You will be able to develop a cohesive and effective organization. You will increase your ability to be flexible and resilient while accomplishing the mission. The IC consists of a dL course and a three-week resident course. The resident course will be taken after successful completion of the dL course and takes place in a university setting encompassing a classroom environment and small group seminars. The dL phase must be completed prior to taking the resident phase. The time length between completing the dL course and beginning the resident course should not exceed 180 days. Those unable to successfully complete the dL course are not eligible for the resident phase.

CES Advanced Course (AC), Resident/Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/AC.aspx

The Advanced Course is designed for the Army Civilian leaders who exercise predominately indirect supervision and have the ability to lead, manage human and financial resources, implement change, direct program management and systems integration, display flexibility and resilience, and focus on mission. Subject areas include: Strategic Thinking and Assessment, Strategic Leadership, National Security and Military Strategies, Contemporary Environment, and Joint and Army Systems. This course is a combination of dL and four weeks of resident instruction. The AC consists of a dL course and a four-week resident course. The resident course will be taken after successful completion of the dL course and takes place in a university setting encompassing a classroom environment and small group seminars. The dL phase must be completed prior to taking the resident phase. The time length between completing the dL course and beginning the resident course should not exceed 180 days. Those unable to successfully complete the dL course are not eligible for the resident phase.

Continuing Education for Senior Leaders (CESL), Resident/Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/CESL.aspx

Continuing Education for Senior Leaders (CESL) provides an interactive environment in which

senior leaders discuss current issues and relevant challenges facing Civilian and Military leaders and provides a continuing education program on specific topics. The CESL is conducted through blended learning - pre-course work and a 4.5-day resident course. The resident course consists of both small and large group activities. The course structure is a combination of guest speakers and interactive exercises on subjects like National Security Personnel Challenges, Strategic Thinking, Knowledge Management, and Cultural Well Being. Updates on Army initiatives are also included in the program.

Supervisor's Development Course (SDC), Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/SDC.aspx

The Supervisor Development Course (SDC) provides military and civilian supervisors or managers of Army Civilians the administration skills for management and basic supervision. The SDC contains lessons on topics mandated by the NDAA 2010. Topics include: Workforce Planning, Position Management and Classification, Hiring, Merit Systems Principles and Prohibited Personnel Practices, Onboarding, Performance Management, Training and Development, Recognition, Incentives and Awards, Coaching, Counseling and Mentoring, Leave Administration, Workers' Compensation, Labor Relations, Supervising a Diverse Workforce, Hostile Work Environment, Reasonable Accommodations, Creating an Engaging Work Environment, Managing Conflict, Valuing Individual Differences, Leading Change.

Senior Service College (SSC), Resident/Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/SSC.aspx

Senior Service College /Professional Military Education (PME) is the apex of the Army Civilian Education System (CES) and prepares Civilians for positions of greatest responsibility in the Department of Army, including but not limited to Army Enterprise Positions. Leaders who attend must have an understanding of complex policy and operational challenges and increased knowledge of the national security mission.

Schools available to Army Civilians

- Army War College (AWX), Carlisle, PA
- Dwight D. Eisenhower School for National Security and Resource Strategy (formerly ICAF), Washington, D.C.
- Army War College Distance Educations (AWC-DE)

Defense Senior Leadership Development Program (DSLDP)

http://www.civiliantraining.army.mil/leader/Pages/DSLDP.aspx

Defense Senior Leadership Development Program (DSLDP) is the Department of Defense (DOD) program to develop senior civilian leaders to excel in the 21st Century joint, interagency and multi-national environment. This program supports the government-wide effort to foster interagency cooperation and information sharing by providing opportunities to understand and experience, firsthand, the issues and challenges facing leaders across DOD and the broader national security arena. Designed to support one of the Department's top transformational priorities, DSLDP is the

senior-level component of our overall leader development strategy. The program provides the means to develop a cadre of world-class senior Civilian leaders with the Enterprise-wide Perspective and the critical skills needed to lead organizations and programs, and to achieve results in the national security environment today and well into the future.

Executive Leadership Development Program (ELDP)

http://www.civiliantraining.army.mil/leader/Pages/ELDP.aspx

The Executive Leadership Development Program (ELDP) provides Department of Defense (DOD) and interagency personnel the opportunity to participate in an exceptional joint and enterprise-wide Civilian leadership training and development experience. The objective is to promote greater understanding of the overall Department of Defense mission and culture, provide hands-on leadership training that parallels selected military training and ensure cross-Component exposure. The program is offered annually, and provides a series of learning and training experiences that blend experiential and academic learning, with hands-on exercises focused on the role of the war fighter. Program activities are conducted both in the United States and overseas.

Action Officer Development Course (AODC), Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/AODC.aspx

The Action Officer Development Course provides an overview of actions and responsibilities required of an Action Officer. You will learn the functions of an Action Officer and the expectations of managers and staff activities, the application of problem solving and time management techniques, and effective oral and written communication skills for military environments. The term "action officer" does not refer to a duty position.

Manager Development Course (MDC), Distance Learning (dL)

http://www.civiliantraining.army.mil/leader/Pages/MDC.aspx

Through the Manager Development Course students will gain an understanding of the demands of an Army Manager and learn knowledge and skills that will enable them to perform these duties at higher levels of the organization.