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Forest
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Intermountain
Region

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Subject: Training Announcement - Continuing Education in Ecosystem Management (CEEM) for the Central and Southern Rocky Mountains Training Announcement

To: Resource Directors and Forest Supervisors

OPTIONAL REPLY DUE AUGUST 16, 2004

Enclosed is the training announcement and application form for the upcoming CEEM course for the Central and Southern Rocky Mountains. This training effort has been developed in cooperation with Regions 2, 3, and 4; Bureau of Indian Affairs; Colorado State University; Utah State University; and Northern Arizona University in order to better prepare our employees to meet the challenges of implementing ecosystem management for the present and future.

The two major goals of this program are:

1. To have participants understand how the human dimension, ecology, and economics function and interact; and to apply this understanding in ecosystem and landscape management.
2. To facilitate learning in an interdisciplinary environment so that professionals who represent different resource specialties will learn and work together.

CEEM is intended for natural resource professionals from all disciplines involved in forest management. This working level of training is valuable to the agency in its effort to implement an ecological approach to management.

The CEEM program is based on four core modules, which present basic concepts and methodology central to effective ecosystem management. Each of the four basic modules covers the breadth of ecosystem management, i.e., physical, biological, and social aspects. The progression from module to module is from the conceptual/theoretical to the applied. Each module must be attended by each participant in the order it is offered. Candidates should not apply unless they are able and willing to attend and complete each module. The course work will be rigorous and testing will occur.

There are six positions available to the Forest Service in Region 4 in fiscal year 2004. The estimated cost of tuition is \$8,000 per trainee, which the Regional Office will fund. If units still have candidates they wish to send, who meet the criteria, they will be responsible for the tuition and per diem costs.



Please contact Brian Ferguson (801-625-5220), Dana Hoskins (801-625-5156), or Dave Thomas (801-625-5505) if you have questions about the CEEM Program.

/s/ Bert Kulesza for
JACK G. TROYER
Regional Forester

cc: Dana Hoskins, Dave Thomas, Rita Kennedy, Brian Ferguson

**Continuing Education in Ecosystem Management (CEEM)
for the
Central and Southern Rockies and Great Basin**

Intermountain Region, Forest Service - USDA
Ogden, Utah

DATE ISSUED: June 30, 2004

CLOSING DATE: August 16, 2004

TRAINING OPPORTUNITY

CEEM is a continuing education program for the Central and Southern Rockies and Great Basin. It is designed to be a fully integrated and interdisciplinary coverage of ecosystem management. A major goal of the program is that participants gain an understanding of how major landscape units function and interact, and to apply this understanding in ecosystem and landscape management. The intended audience is natural resource professionals and technicians from all disciplines involved in wildland management.

The CEEM program is based on four core modules that present basic concepts and methodology central to effective ecosystem management. Each of the four basic modules covers the bread of ecosystem management, i.e., physical, biological, and social aspects. The progression from module to module is from the conceptual/theoretical to the applied. Modules are taught by Colorado State University, Northern Arizona University, and Utah State University.

Application and payment is for the entire eight-week CEEM program. Participants are expected to complete all four modules.

This is considered full-time training; therefore, during the periods of study, employees are expected to conform to the University's calendar. School holidays may be different from Federal holidays. Classes are planned for 8 hours per day. Time needed for assignments varies by student. Students will be paid for 8 hours per day, 40 hours per week, regardless of actual time spent on schoolwork. Classes that occur on Federal holidays are not compensated beyond the standard 8 hours per day.

The course work is demanding and students will be expected to spend extra time outside normal working hours in order to satisfactorily complete the course. The extra time includes studying, attending Saturday classes, and attending evening classes, if necessary. Each employee is expected to attend the whole course in order to fully interact with the other students and meet the intent of the training design.

Fees: Registration fee includes all instructional costs (e.g., books, pre-work materials, handouts) and some meals. These graduate level courses are offered for credit with additional fees.

THE CORE PROGRAM**2****Module I - Biophysical and Human Dimensions of Ecosystems**

This intensive 2-week course introduces key biophysical and socio-economic concepts. This module sets the stage for the entire program through exploration of the important concepts central to ecosystem management beginning with the history, perspective, and context of ecosystem management, and how ecosystem management differs from traditional approaches to the management of natural resources. This module introduces the important human dimensions of ecosystem management, including concepts relating to values, attitudes and behavior, contemporary models to predict behavior, and the identification of important community and institutional attributes and processes. Basic concepts in economics will be explored, as well as the role of planning in ecosystem management.

This module will introduce important concepts relating to physical landscapes, including how landscapes develop in time and space, how landscape elements are interconnected, and how they respond to disturbance. In this module, we will explore the levels of biological integration from populations through communities to ecosystems. Important population and community attributes will be explored, including genetic variation and influences on community composition, structure, and function. Participants will be familiar with basic concepts relating to the structure and function of ecosystems, and to basic principles of disturbance and landscape ecology.

Dates and Location: Oct. 18 – Oct. 29, 2004, Utah State University, Logan, Utah

Coordinator: James N. Long, College of Natural Resources and Ecology Center, Utah State University, Logan, Utah 84322-5215, (435) 797-2574, FAX (435) 797-4040, e-mail: FAKPB@cc.usu.edu.

Module II - Structure and Function of Ecological and Social Systems

This 2-week module builds upon the concepts introduced in Module I. Specific processes of landscape development will be studied and followed through to establish the relationship of landscape structure to vegetation and watersheds. We will look beyond the basic ecosystem concepts introduced earlier to examine scale and pattern of ecosystems and classification at several scales. Also covered will be dynamic aspects of ecology, including stand development, disturbance, and fragmentation. Biodiversity at the species and structural levels will be considered.

A portion of Module II will be devoted to study of the structure and function of social systems from individuals to communities, how they are affected by past and current changes and trends, and how they affect the planning process. We will also examine the structure and function of the various institutions that impact management, bureaucratic behavior, and institutional barriers to effective management. Ecological economics will consider human wants and needs, sustainability, planning, growth and development, and optimization. Module II will also include a basic review of sampling and statistics and the application of statistical principles to the analysis of physical properties and human, wildlife, and plant populations.

Dates and Location: Jan. 31- Feb. 11, 2005, Northern Arizona University, Flagstaff, Arizona

Coordinator: Ernest A. Kurmes, School of Forestry, Northern Arizona University, P. O. Box 15018, Flagstaff, AZ 86011-5018, (602) 523-6640, FAX (602) 523-1080, e-mail: EAK@alpine.for.nau.edu

Module III - Integrated Inventory, Analysis, and Assessment of Ecosystems

This intensive 2-week module will develop skills to assess the biophysical and socio-political environment. This module builds on concepts and information presented in the first two modules to develop an understanding of measurement, predicting future conditions, and decision-making techniques used in ecosystem management. Skills to be learned in this module will be directly applicable to the development and assessment of plans and projects to implement ecosystem management. Techniques used to assess the biophysical environment will be covered. Assessment of vegetation will include simulation vegetation changes, the role of disturbance, controlled herbivore, and wildlife habitat structure.

Conservation of biological diversity will include reserve design, measurement of landscapes, and population modeling. In this module, soil and slope stability, water resource assessment and monitoring, and hydrologic modeling will be covered in assessing the physical environment. The use of GIS and remote sensing technologies to assess the biophysical environment will be explored. Measurement and assessment of the social and political elements of the ecosystem will be covered. Techniques of social assessment will include survey, ethnographic and key informant research, and address issues of cost effectiveness. Models of group participation in decision making, conflict resolution, and implementation of the public involvement process will be covered. Principles and techniques for measuring equity and efficiency will be explored. Benefit/cost analysis, input/output models, and new direction on economic assessment of natural resources will be covered. This module will explore the concepts and role of decision support systems in ecosystem management. Use of tactical and strategic planning tools will be covered.

Dates and Location: April 11-22, 2005, Colorado State University, Fort Collins, Colorado

Coordinator: Frederick W. (Skip) Smith, Department of Forest Science, College of Natural Resources, Colorado State University, Fort Collins, Colorado 80523, (303) 491-7505, FAX (303) 491-6754, e-mail: skip@larix.cfnr.colostate.edu

Module IV - Ecosystem Management Implementation

Participants develop an integrated ecosystem assessment of a landscape unit in a capstone exercise. Participants conduct the assessment as an interdisciplinary team over a two-week period in the field. Landscapes are nominated by host units (e.g., Forest Service districts, Indian reservations, state agencies, etc.) in the Central and Southern Rocky Mountains and chosen for the exercise based on their spatial scale and the issues that affect the area. The team conducts an inventory of social, biological and physical elements to characterize the current and reference conditions of the landscape. The team evaluates and synthesizes information to develop alternative future conditions for the landscape and suggests pathways to these future conditions.

AREA OF CONSIDERATION

Region 4, including all State and Federal Agencies within Utah, Wyoming, and Nevada (separate announcements are issued for the other Regions and agencies).

EVALUATION CRITERIA

A. Two years of professional or technical experience, including experience relevant to ecosystem management.

B. Personal commitment based on a short narrative statement by the applicant expressing their desire and willingness to devote personal time to the course work, reasons for continuing their education, and commitment to completing core modules.

C. Supervisor's statement of commitment to time and funding, if required.

HOW TO APPLY:

Applicants are to submit their applications through their Forest Supervisor to Human Resource Management, Rita Kennedy, Employee Development Specialist. The following items are needed:

A. Statement of interest and commitment to the CEEM program.

B. Summary of work experience

C. Relevant education and training

D. Letter of recommendation from supervisor, including statement of commitment to time and funding.

Instructions for completing the SF-182 by selected participants will be sent at a later date. All arrangements with the university are the responsibility of those selected.

EQUAL EMPLOYMENT OPPORTUNITY

Candidates for the CEEM Program will be considered without discrimination for any non-merit reasons, such as race, color, religion, sex, national origin, politics, marital status, physical handicaps, age, or membership or non-membership in any employee organization.

SELECTION PROCESS

The R-4 CEEM Team will determine regional selections. Broad versus narrow focus of present job will be given additional consideration. The mix of personal commitment of the applicant and overall program needs will also be considered. Selected Regional applications will be prioritized and forwarded to the CEEM Interagency Core Team who will make final selections from all regions and agencies participating. Applicants must notify Rita Kennedy (HR) of any cancellations.

REGISTRATION FORM - CEEM

SUMMARY OF WORK EXPERIENCE

Name: _____

Current Office Address: _____

Phone: _____ IBM _____

Address: _____

Series/Grade: _____ Current Job Title: _____

No. of Years: _____

Duty Station: _____

Short Description of Work Experience:
: _____

Highest Level of Education: _____ Year _____

Relevant Training:

PERSONAL COMMITMENT (use additional sheet if necessary)

(attach Supervisor's letter of recommendation)

SIGNATURE

Applicant's Signature

Date:

Certification for release of time and funding:

Date: _____ Supervisor's Signature _____