

Colorado School of Mines

TEACHER ENHANCEMENT PROGRAM

Office of Special Programs and Continuing Education

EXPLORE

learn

DISCOVER

experience

perform

TEACH

SUMMER 2009

COLORADO SCHOOL OF MINES

Teacher Enhancement Program

Summer 2009

REGISTRATION

All of the courses announced in this brochure are coordinated through the Office of Special Programs and Continuing Education at the Colorado School of Mines. **Unless another organization or individual is specified as the registration contact in a course listing, enrollment forms and tuition checks/credit card information should be mailed or faxed to:**

Teacher Enhancement Program
Office of Special Programs & Continuing Education
Colorado School of Mines
P.O. Box 4028
Golden, CO 80401-0028
(303) 273-3314 FAX
(303) 273-3303 or (800) 446-9488, Ext. 3303

Visit our home page at:
http://www.mines.edu/Outreach/Cont_Ed/teacher.shtml

You must pre-register at least 48 hours prior to the start of a workshop (Saturday and Sunday excluded). Do not show up for a class without a confirmed registration from the Teacher Enhancement Office or person/organization taking the registrations. You are likely to be turned away by the instructor. CSM reserves the right to assign audit (non-credit) status with full tuition responsibility to walk-in participants.

TUITION AND REFUND POLICIES

Registration through Teacher Enhancement must be accompanied by full tuition payment by check or credit card authorization. If a course registrant cancels or transfers an enrollment, the tuition amount **minus** a \$25 cancellation/transfer fee will be refunded or applied to another course. Unless otherwise indicated, you must cancel at least 48 hours in advance of a workshop to qualify for a refund (Saturday and Sunday excluded). **Once a class has begun, no full or partial tuition refunds will be granted.** Colorado School of Mines reserves the right to cancel a course (usually one week prior to delivery) if the minimum enrollment is not reached (with full tuition refund to registrants). Colorado School of Mines and the Teacher Enhancement Office will not be liable for any other expenses incurred by registrants.

When paying tuition by check, please make out a **separate** check to "CSM Continuing Education" for **each** course and for **each** participant.

ATTENDANCE POLICY

Course participants are expected to attend each class session in its entirety. This includes arriving on time and staying until dismissal. Credit will be granted for a course only when the full contact hour requirements have been met. Missed sessions of a course cannot be made up by attending subsequent offerings of the same class or by completing additional assignments. In consideration of the instructor and other course registrants, **DO NOT** bring children of any age to class under any circumstances.

TRANSCRIPT AND CREDIT INFORMATION

The Teacher Enhancement Office and Colorado School of Mines cannot be responsible for meeting individual deadlines for credits toward teacher licensure and/or salary increases. Official transcripts for current course work can be printed upon written request approximately two weeks after the instructor submits course grades to the Teacher Enhancement Office. Individual letters of completion are not available. Graduate-level semester credit offered for each course is applicable for license renewal in the State of Colorado and is generally accepted elsewhere. The credit is not applicable toward a degree at CSM. Request for Transcript of Record forms can be found at www.mines.edu/Outreach/Cont_Ed/tep15.html.

All policies and requirements stated above are program-wide and not at the discretion of individual instructors. Enrollment in any course offered for CSM credit implies your agreement to comply with program policies and requirements.

All courses offered in cooperation with the Extended Studies Program of the Colorado Commission on Higher Education

Summer 2009 Course Offerings

ECOLOGICAL CATTLE RANCHING (K-12)

CT-0300-09D
3 semester credit hours
Dates: June 6-13
Location: Dove Creek
Tuition Fee: \$115 (**payable during workshop**)
Registration Fee: \$1,500 (includes all meals, bunkhouse, horses, tours; **\$250 deposit required**)

Learn how an ecological cattle rancher works to maintain the balance between man and nature. Be an active participant in herding cattle from one area to another to prevent overgrazing. Study desert flora/fauna and wild horse management while riding through the beautiful canyonlands of southwest Colorado.

To register or for more information, contact:

Catherine Entihar
970/883-2548 or cjsscolors@frontier.net

COLORADO ECOSYSTEM FIELD STUDIES (K-12)

CT-0726
6 semester credit hours
Dates:
Session I: June 7-20
Session II: July 19-August 1
Location: Cal-Wood Education Center, Jamestown
Instructor: Steven Johnson
Tuition Fee: \$220 (**payable during workshop**)
Registration Fee: \$1,050 (includes meals, group camping equipment, camping fees)

Focus on the Colorado Front Range's natural ecosystem in this field-camp course at Cal-Wood's 1,200-acre outdoor classroom. Conduct a complete ecosystem survey including analysis of the geography, climatology, geology, ecology, and conservation. Instruction and learning is active and delivered through direct lecture, hands-on activities, guided exploration, guest speakers, and field trips. You must be in good physical condition. Visit www.calwood.org for more information.

To register or for more information, contact:

Steven Johnson, Cal-Wood
303/859-0173

ITALY REVEALED: EXPLORING THE ANCIENT LAND OF THE ROMANS (K-12)

CT-0805-09D
5 semester credit hours
Dates: June 7-18
Location: Italy
Instructors: Melanie Phelps, Joyce Webb
Tuition Fee: \$2,960 plus airfare

Travel from Roman temples to medieval churches and from the ruins of Pompeii to Vatican City's treasure trove. Walk through the Roman Forum and sleep in the city of Siena. Experience Florence, the artistic capital of the world; hike along Le Cinque Terra, the sun-drenched Italian Riviera; marvel at the Leaning Tower of Pisa; and absorb Venice, the most romantic city in the world.

To register or for more information, contact:

Melanie Phelps, 719/440-7180
melaniephe@aol.com
www.coloradorivertrip.com

SCIENCE AND ART (K-6)

CT-0054-09D
2 semester credit hours
Dates: June 8-12
Time: 8:00am-5:00pm
Location: CSM campus, Golden
Course Coordinator: Sue Berger
Tuition Fee: \$80 (**payable during workshop**)
Materials & Supplies Fee: \$300 (must register/pay by May 1, 2009)

Learn how a science teacher and an art teacher can integrate science and art. Explore scientific background, perform hands-on science and art activities, acquire materials for classroom use, and receive an extensive literature resource list. A strong emphasis will be placed on the National Standards and Assessment. Work with hot air balloons, chromatography, papermaking, polymers and plastics, kaleidoscopes, and more.

To obtain an application, contact:

Sue Berger, 303/674-7386
sberger@mines.edu

TEACHING RENEWABLE ENERGY IN THE CLASSROOM (GR. 3-8)

CT-0727-09D
2 semester credit hours
Dates & Times:
June 8 (8:00am-5:00pm) and
June 9-12 (8:00am-4:00pm)
Location: CSM campus, Golden
Instructor: Rick Shin
Tuition Fee: \$210

Investigate wind power, solar power, geothermal power, hydrogen power, energy efficiency, and general renewable energy education. Build and take home demonstration materials. Many of the ideas and activities can be modified for lower or upper grade levels.

To register, mail the enrollment and full tuition amount to the CSM Teacher Enhancement Office.

TEACHING ENVIRONMENTAL ISSUES IN THE CLASSROOM (K-12)

CT-0858-09D
0.5 semester credit hour
Date: June 10
Time: 9:00am-5:00pm
Location: CAEE, Golden
Instructors: Ali Goulstone Sweeney, Katie Navin
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$30

Explore how to investigate and evaluate environmental issues with your students. Model a variety of effective strategies you can use to assist students in exploring and seeking responsible courses of action toward the resolution of environmental issues. Learn how to effectively teach about environmental issues and start to develop your own classroom plans and outlines.

To register or for more information, contact:

Katie Navin, CO Alliance for Environmental Ed.
303/273-9527 or info@caee.org

ELEPHANTS IN DANGER (K-12)

CT-04121-09D
0.5 semester credit hour
Date: June 13
Time: 9:00am-5:00pm
Location: Cheyenne Mtn. Zoo, Colorado Springs
Instructor: Jason Bredahl
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$75.25

Discover the amazing African elephant. Focus on the plight of the African elephant and the conservation efforts currently underway. A portion of your registration fee will go directly to the International Elephant Foundation so they may continue their work to help the elephants.

To register or for more information, contact:

April Felchner, Cheyenne Mtn. Zoo
719/633-9925 x127, edprograms@cmzoo.org

INCORPORATING PLANTS INTO THE CLASSROOM (K-6)

CT-0645-09D
0.5 semester credit hour
Date: June 16
Time: 8:30am-5:00pm
Location: Denver Botanic Gardens
Instructor: Lisa Davis, 720/865-3613
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$50 DBG member; \$55 non-member

Learn how you can use plants to teach not just science, but also reading, writing, math, and social studies. Get tips on ways to grow plants in your classroom successfully and cheaply.

To register or for more information, contact:

Denver Botanic Gardens Registration
720/865-3580 or www.botanicgardens.org

DANCING WITH THE STARS... (GR. 1-7)

CT-0934-09D
1 semester credit hour
Dates: June 16-17
Time: 8:00am-4:00pm
Location: CSM Campus*, Golden
Instructor: Ralph Sodano
Tuition Fee: \$125

...and rumba with the Earth and moon. Cover standards and content areas of the stars, sun, Earth, and moon. Obtain lots of insightful and hands-on activities that can be brought back into your classroom. *The first day of class may be held at Steele Planetarium in Denver.

To register, mail the enrollment and full tuition amount to the CSM Teacher Enhancement Office.

CONNECTING CHILDREN WITH NATURE (K-8)

CT-0948-09D
0.5 semester credit hour
Date: June 18
Time: 8:00am-4:30pm
Location: Plains Conservation Center, Aurora
Instructors: Karin Hostetter
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$70 (Register for this workshop and the one below for \$120)

Richard Louv's book *Last Child in the Woods* propelled the "No Child Left Inside" movement. Understand the history of the movement and its relationship to education. Discover how to get students outside academically and physically while designing lessons to get your students outside on your school grounds.

To register or for more information, contact:

Lynette DeSchepper, Plains Conservation Center
303/693-3621 or ldeschepper@plainscenter.org

CYCLES: PAST AND PRESENT (GR. 4-12)

CT-0949-09D
0.5 semester credit hour
Date: June 19
Time: 8:00am-4:30pm
Location: Plains Conservation Center, Aurora
Instructors: Barb Hamman, Kathy McClintock
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$70 (Register for this workshop and the one above for \$120)

Cycles can occur over a variety of time periods – from a few years to millennia. Experience change over time with Denver Museum of Nature and Science curators who will lead us through their investigations. See how dung beetle populations alter with the reintroduction of bison at the Plains Center's West Bijou site. Examine a world famous exposure of the K-T boundary, and learn about the extinction of the dinosaurs and how mammals survived and flourished.

To register or for more information, contact:

Lynette DeSchepper, Plains Conservation Center
303/693-3621 or ldeschepper@plainscenter.org

INTRODUCTION TO CLIMATE CHANGE ONLINE (GR. 6-12)

CT-0762-09M
2 semester credit hours
Dates: June 19- August 2
Instructor: Sandra Henderson
Tuition Fee: \$80 (**payable during workshop**)
Registration Fee: \$225

This facilitated online course is designed to guide you through the basics of climate science, integrating content, classroom activities, and community-building discussions to help you understand the answers to common questions about climate variability and change. Offered by the National Center for Atmospheric Research, <http://ecourses.ncar.ucar.edu>.

To register or for more information, contact:

Sandra Henderson, 303/497-8108
sandrah@ucar.edu

EARTH SYSTEM SCIENCE: A CLIMATE CHANGE PERSPECTIVE ONLINE (GR. 6-12)

CT-0773-09M
2 semester credit hours
Dates: June 19-August 8
Instructor: Sandra Henderson
Tuition Fee: \$80 (**payable during workshop**)
Registration Fee: \$225

This facilitated online course is designed to guide you through the basics of understanding Earth as a system, integrating content, classroom activities, and community-building discussions to help you understand the answers to common questions about Earth system functions as related to climate change. Offered by the National Center for Atmospheric Research, <http://ecourses.ncar.ucar.edu>.

To register or for more information, contact:
Sandra Henderson, 303/497-8108
sandrah@ucar.edu

UNDERSTANDING CLIMATE CHANGE TODAY ONLINE (GR. 6-12)

CT-0860-09M
2 semester credit hours
Dates: June 19- August 8
Instructor: Sandra Henderson
Tuition Fee: \$80 (**payable during workshop**)
Registration Fee: \$225

This facilitated online course is designed to guide you through the basics of understanding the impacts of climate change, integrating content, classroom activities, and community-building discussions to help you understand the answers to common questions about what the implications of climate change are today. Offered by the National Center for Atmospheric Research, <http://ecourses.ncar.ucar.edu>.

To register or for more information, contact:
Sandra Henderson, 303/497-8108
sandrah@ucar.edu

THE FOSSIL RECORD: AN INTRODUCTION TO PALEONTOLOGY (GR. 6-12)

CT-0697-09D
0.5 semester credit hour
Date: June 20
Time: 8:30am-5:30pm
Location: Cripple Creek Parks & Recreation
Instructor: Steven Veatch
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$69

Receive a basic introduction to paleontology, the study of ancient life on earth and the fossils that remain. It is a field of continuous discovery where advances in technology and procedures of inquiry allow scientists to reconstruct earlier and very different worlds. Two field trips included.

To register or for more information, contact:
Cripple Creek Parks & Recreation
719/689-3514

HIGH COUNTRY EQUESTRIAN ADVENTURE I (K-12)

CT-9667
3 semester credit hours
Dates:
Session I: June 21-26
Session II: July 12-17
Session III: July 26-31
Location: San Juan Mtns.
Tuition Fee: \$115 (**payable during workshop**)
Registration Fee: \$900 (includes all meals, group camping equipment, horse expenses, and wranglers; **\$250 deposit required**)

Take a horse pack trip through the beautiful wilderness area of the San Juan Mountains to observe flora and fauna in various altitude zones, incredible geological features, and the ecological impact of human activity in the mountains. Provide your own transportation to and from the trailhead north of Durango. You should be in good physical condition.

To register or for more information, contact:
Catherine J. Entihar
970/883-2548 or cjscolors@frontier.net

TEACHING COMPASSION AND RESPECT: HUMANE EDUCATION IN THE CLASSROOM (K-12)

CT-9157-09D
1 semester credit hour
Dates: June 22-23
Time: 8:30am-4:30pm
Location: Dumb Friends League, Denver
Instructor: Nicole Schimming
Tuition Fee: \$115

Learn easy ways to integrate lessons of kindness, compassion and respect into your current curriculum. Take grade-appropriate curriculum guides and information back to your classroom. Tour behind the scenes of our animal shelter, and learn about our services for pets and people of Colorado.

To register, mail the enrollment form and full tuition amount to the CSM Teacher Enhancement Office.

HOW THINGS WORK (GR. 9-12)

CT-0118-09D
1 semester credit hour
Dates: June 22-23
Time: 8:30am-4:30pm
Location: CSM campus, Golden
Instructor: Tom Furtak
Tuition Fee: \$132 (Sponsored by the National Science Foundation)

Use examples from optical devices and visual effects to motivate students as they learn about waves, light, energy, reflection, refraction, polarization, interference, color, and vision. Receive a kit of materials for classroom activities. Curriculum is aligned with the Colorado Model Content Standards for Science. More information at: <http://higgs.mines.edu/light>.

To register, mail the enrollment form and full tuition amount to the CSM Teacher Enhancement Office.

EARTH SCIENCE AND ME (K-12)

CT-0824-09D
1.5 semester credit hours
Dates: June 22-24
Time: 7:30am-4:30pm
Location: West Jefferson Elem., Conifer
Instructors: Doug Scott, Dave Scott
Tuition Fee: \$70 (**payable during workshop**)
Registration Fee: \$175 (non-refundable 2 weeks prior to start date)

Learn about Colorado geology and earth science. Travel to a working mine to examine mining, economics, and reclamation. Receive more than 80 rocks and minerals, and learn how to identify them. All activities are hands-on and ready to use in your classroom.

To register or for more information, contact:

DST & Associates
303/902-8918

HANDS-ON SCIENCE ACTIVITIES (GR. 6-9)

CT-0829-09D
2 semester credit hours
Dates: June 22-26
Time: 8:00am-5:00pm
Location: CSM campus, Golden
Course Coordinator: Sue Berger
Tuition Fee: \$80 (**payable during workshop**)
Materials & Supplies Fee: \$300 (must register/pay by May 1, 2009)

Receive hands-on, discovery-oriented physical science activities that utilize inexpensive items and toys combined with real-world experiences that will enable your students to better understand abstract concepts. Align these activities with state science standards and assessments. Topics will include states and properties of matter, the scientific method, energy, weather, and Newton's Laws.

To obtain an application, contact:

Sue Anne Berger, 303/674-7386
sberger@mines.edu

THE COLORADO RIVER – RAGING RIVER OF BEAUTY AND CONTROVERSY (K-12)

CT-0221-09M
5 semester credit hours
Dates: June 22-July 1
Locations: Rocky Mountain, Arches, Canyonlands, Grand Canyon National Parks; Lake Powell
Instructors: Melanie Phelps, Joyce Webb
Tuition Fee: \$1,760

Travel and study the Colorado River from its pristine alpine headwaters in Rocky Mountain National Park to where it carves the rugged Grand Canyon. Raft in class III whitewater, canoe through sheer red rock canyons, boat on Lake Powell, and camp on sandy beaches while conducting authentic environmental research.

To register or for more information, contact:

Melanie Phelps, 719/440-7180
melaniephe@aol.com
www.coloradorivertrip.com

DIGITAL PHOTOGRAPHY ONLINE (K-12)

CT-0562-09M
1.5 semester credit hours
Dates: June 22-July 20
Location: Online course
Instructor: John LaFerlita
Registration Fee: \$190

Learn how to take better photographs and to manipulate the images using Adobe Photoshop Elements. Topics will include light, composition, nature (landscape, close-ups, and wildlife), and flash. This class is for beginners using PC's. You will need a basic understanding of computers, the Internet, and email attachments.

To register or for more information, contact:

John LaFerlita, 303/678-0312 or
laferlit@hotmail.com

DIGITAL PHOTOGRAPHY AND POWERPOINT ONLINE (K-12)

CT-05120-09M
1.5 semester credit hours
Dates: June 22-July 20
Location: Online course
Instructor: John LaFerlita
Registration Fee: \$190

Learn how to take better photographs, manipulate the images, and transfer them into PowerPoint in a PC-based class. This class is for those who have limited knowledge or experience with PowerPoint but have a basic understanding of computers and the Internet.

To register or for more information, contact:

John LaFerlita, 303/678-0312 or
laferlit@hotmail.com

ADOBE PHOTOSHOP ELEMENTS ONLINE (K-12)

CT-0737-09M
1.5 semester credit hours
Dates: June 22-July 20
Location: Online course
Instructor: John LaFerlita
Registration Fee: \$190

Learn to edit photographs and create slide shows that you can use in the classroom. This PC-based class is for those who have a limited knowledge of Photoshop Elements but have a basic understanding of computers and the Internet.

To register or for more information, contact:

John LaFerlita, 303/678-0312 or
laferlit@hotmail.com

ALL ABOUT MINING: A TOTAL CONCEPT OF THE MINING INDUSTRY (K-12)

CT-5700-09M
6 semester credit hours
Dates: June 22-July 17
Time: 7:30am-early afternoon (except on all-day field trips)
Location: CSM campus, Golden
Instructors: Seventy-five authorities from industry, government, academia & private groups
Course Coordinator: Dan Witkowsky, 303/972-1814,
DanielWitkowsky@aol.com
Tuition Fee: \$200

Obtain a general overview of the minerals industries, including geology, mining, ore-processing, environmental responsibility, career opportunities, etc., from industry experts via classroom lectures and nine days of field trips to surface/underground mines and processing plants. Finish the course with a set of lesson plans, developed by course participants, that you can apply in your classroom this fall.

To register or for more information, contact:

CMA Education Foundation, Inc.
303/575-9199, FAX 303/575-9194
<http://www.allaboutmining.org>

BLACK CANYON OF THE GUNNISON: SECRET GEM OF THE WEST (K-12)

CT-0557-09D

1 semester credit hour

Dates & Times:

June 24 (8:00am-5:00pm)

June 25 (7:30am-3:30pm)

Locations: Montrose to Delta

Instructor: Tonya Stites

Tuition Fee: \$45 (**payable during workshop**)

Registration Fee: \$80 (meals, lodging, and transportation on your own)

Trace the importance of the Gunnison River as it carved the spectacular views and canyons of the Black Canyon of the Gunnison. Explore the living history of Fort Uncompahgre, followed by a breathtaking guided boat ride at Curecanti National Park on Morrow Point Dam. Class includes a 1 1/2 mile round trip hike and over 200 steps.

To register or for more information, contact:

Tonya Stites, 970/835-4155 or

TJS4294@aol.com

www.historicwesterncoloroadventures.com

ROCKY MOUNTAIN WILD (K-12)

CT-0844-09D

1 semester credit hour

Dates & Times:

June 27 (9:00am-5:00pm)

June 28 (8:00am-4:00pm)

Location: Cheyenne Mtn. Zoo, Colorado Springs

Instructor: Julie Burger

Tuition Fee: \$45 (**payable during workshop**)

Registration Fee: \$90.50

Journey into our latest exhibit complex, *Rocky Mountain Wild*. Explore the new animals and learn how to take the natural world back to your classroom.

To register or for more information, contact:

April Felchner, Cheyenne Mountain Zoo

719/633-9925 (x127) or edprograms@cmzoo.org

ROCKS AND MINERALS (K-12)

CT-9666-09D

1 semester credit hour

Dates: June 29-30

Time: 8:00am-5:00pm

Location: CSM campus, Golden

Instructors: Pete Modreski, Jane Dianich

Tuition Fee: \$85

Learn or review the basics of rocks and minerals in dynamic and interactive ways in order to engage your students to learn about them. Examine specimens, do activities, and tour the CSM Geology Museum.

To register, mail the enrollment and full tuition amount to the CSM Teacher Enhancement Office.

WALKING TOUR OF BUILDING STONES IN DENVER (K-12)

CT-04131-09M

0.5 semester credit hour

Date: July 1

Time: 8:00am-4:30pm

Location: Downtown Denver

Instructors: Pete Modreski, Jane Dianich

Tuition Fee: \$75

Learn about rocks and geology as you tour historic Denver buildings in the vicinity of the State Capitol, Denver City and County Building, and the 16th Street Mall. Receive a copy of a field guide written specifically for school groups.

To register, mail the enrollment and full tuition amount to the CSM Teacher Enhancement Office.

THE GRAND CANYON OF THE COLORADO – THE ULTIMATE RIVER EXPEDITION (K-12)

CT-0428-09M

3.5 semester credit hours

Dates: July 2-8

Location: Cliff Dweller's Lodge, AZ

Instructors: Melanie Phelps, Joyce Webb

Tuition Fee: \$2,720

Experience the stunning geology of more than two billion years of earth history as you whitewater raft through some of the world's most famous rapids. Includes 6.5 days on a motorized raft, helicopter airlift to the rim, flight on a twin engine plane, and all food. Conduct authentic environmental research.

To register or for more information, contact:

Melanie Phelps, 719/440-7180

melaniephe@aol.com

www.coloradorivertrip.com

CLICK YOUR CLASS: POSITIVE REINFORCEMENT IN THE CLASSROOM (K-12)

CT-0916-09M

0.5 semester credit hour

Date: July 9

Time: 8:30am-4:30pm

Location: Dumb Friends League, Denver

Instructor: Nicole Schimming

Tuition Fee: \$63

Clicker train a DFL mascot dog and then learn how to apply similar techniques in your own classroom. Tour behind the scenes at our shelter and learn about the training we do with shelter animals.

To register, mail the enrollment form and full tuition amount to the CSM Teacher Enhancement Office.

DINOSAUR RIDGE TEACHERS' WORKSHOP (K-12)

CT-9206-09M

1 semester credit hour

Dates: July 9-10

Time: 8:30am-5:00pm

Location: Dinosaur Ridge Visitors Center, Morrison

Instructors: Pete Modreski, Norb Cygan, Kermit Shields

Tuition Fee: \$105

Experience an in-depth teacher orientation to the dinosaur bones and tracks found on Dinosaur Ridge near Morrison, and learn how to use them as a resource for teaching. There will be separate break-out sessions for activities keyed to primary and secondary grades, and visits to the new Trek Through Time Learning Center, the Morrison Natural History Museum, and the Triceratops Trail interpretive site near Fossil Trace in Golden.

To register, mail the enrollment form and full tuition amount to the CSM Teacher Enhancement Office.

ECHOES FROM THE PAST (K-12)

CT-03104-09M

1 semester credit hour

Dates & Times:

July 9 (8:00am-5:00pm)

July 10 (7:15am-5:30pm)

Location: Mesa Verde National Park, Durango

Instructor: Tonya Stites

Tuition Fee: \$45 (**payable during workshop**)

Registration Fee: \$145 (meals, lodging, and transportation on your own)

Listen to the echoes of past voices from the Ancestral Puebloans as you explore Mesa Verde National Park. Then listen to the train whistle of a long-ago era as it echoes off the canyon walls aboard the historic Durango and Silverton Narrow Gauge Railroad.

To register or for more information, contact:

Tonya Stites, 970/835-4155

TJS4294@aol.com

www.historicwesterncoloradoadventures.com

HAWAII: VOLCANOES & CORAL REEFS (K-12)

CT-0906-09M

4 semester credit hours

Dates: July 11-20

Location: Big Island of Hawaii

Instructors: Melanie Phelps, Joyce Webb

Tuition Fee: \$2,080 plus airfare

Explore Hawaii's Big Island. Tiptoe across Kilauea's active volcano caldera; step gently through aa and pahoehoe lava flows; and gaze upon molten lava flowing to the sea. Submerge into the shimmering brilliance of coral reef life to conduct biodiversity and environmental impact research.

To register or for more information, contact:

Melanie Phelps, 719/440-7180

melaniephe@aol.com

www.coloradorivertrip.com

EXPLORING THE ECOLOGY OF YOUR LOCAL LANDSCAPE (K-12)

CT-0841-09M

1 semester credit hour

Dates: July 14-15

Time: 8:00am-5:00pm

Locations: Aurora and Centennial

Instructor: Raylene Owen

Registration Fee: \$35

The Cherry Creek Stewardship Partners present hands-on, place-based workshops to encourage stewardship in the Cherry Creek watershed. This partnership of local land use agencies and private citizens provides a unique civics lesson while at the same time exploring varied aspects of ecology and environmental education. Guest instructors and resource specialists will provide important insight into the management of urban open spaces and our cultural landscape.

To register or for more information, contact:

Cherry Creek Stewardship Partners

303/345-1675

casey@cherry-creek.org

SILVER, GOLD, AND GHOSTS (K-12)

CT-0559-09M

1 semester credit hour

Dates & Times:

July 17 (8:00am-5:00pm)

July 18 (7:45am-3:30pm)

Locations: Ouray

Instructor: Tonya Stites

Tuition Fee: \$45 (**payable during workshop**)

Registration Fee: \$145 (meals, lodging, and transportation on your own)

Explore the history of silver and gold in the San Juan Mountains. Walk through old ghost town remains, and enjoy a guided tour through the Mayflower Mill and Old Hundred Gold Mine in Silverton. Finish with a guided jeep tour to the top of Imogene Pass to view historical mining sites along the way.

To register or for more information, contact:

Tonya Stites, 970/835-4155 or

TJS4294@aol.com

www.historicwesterncoloradoadventures.com

FORCE, MOTION AND ENERGY (GR. 7-10)

CT-0509-09M

2 semester credit hours

Dates: July 20-24

Times: 8:30am-4:00pm

Location: CSM campus, Golden

Instructor: Bob Stair

Tuition Fee: \$300

Cover all seven chapters of a physical science curriculum encompassing: 1) force and pressure in equilibrium, 2) motion of objects and waves, and 3) thermal, potential and kinetic energy. During this concentrated "tutorial," you will perform 17 experiments. For each, you will discuss rationale for inclusion, teaching strategies, and the questions students pose.

To obtain an application, contact:

Jami Link, SCI

303/988-5041 or jami@sci-ips.com

TEACHING PLANTS FROM ROOT TO SEED (K-8)

CT-0646-09M

0.5 semester credit hour

Date: July 21

Time: 8:30am-5:00pm

Location: Denver Botanic Gardens

Course Coordinator: Lisa Davis, 720/865-3613

Tuition Fee: \$30 (**payable during workshop**)

Registration Fee: \$50 DBG member; \$55 non-member

Learn fun and unique ways to teach plant structure and function. Explore what each part of the plant does through hands-on activities that you can transfer easily to your classroom. Cover concepts such as photosynthesis, transpiration, and pollination.

To register or for more information, contact:

Denver Botanic Gardens Registration

720/865-3580, www.botanicgardens.org

OCEAN LITERACY (PREK-12)

CT-0710-09M
0.5 semester credit hour
Date: July 22
Time: 9:00am-5:00pm
Location: Downtown Aquarium, Denver
Course Coordinators: Alyce Todd, 303/561-4638 or
Colleen Shipley, 303/561-4565
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$75

Even though Colorado is not near an ocean, we are tied to it in many ways. Ocean literacy is an understanding of the ocean's influence on you, and your influence on the ocean. Learn the 7 essential principles of ocean literacy through interactive lessons and visiting the Aquarium residents.

To register or for more information, contact:
Downtown Aquarium Sales & Service Center
303/561-4444

AQUARIUMS AND YOUR CLASSROOM (GR. 1-12)

CT-0259-09M
0.5 semester credit hour
Date: July 23
Time: 9:00am-5:00pm
Location: Downtown Aquarium, Denver
Course Coordinators: Colleen Shipley, 303/561-4565 or
Alyce Todd, 303/561-4638
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$75

Take home a starter classroom aquarium. Practice aquarium set-up, learn maintenance tips, and try out a variety of activities that you and your students can do with your classroom aquarium as well as with our million-gallon version. Receive an interdisciplinary curriculum guide, go on a behind-the-scenes tour, and meet staff to discuss aquarium careers.

To register or for more information, contact:
Downtown Aquarium Sales & Service Center
303/561-4444

CLASSROOM PETS: SMALL MAMMALS IN THE CLASSROOM (K-12)

CT-0915-09M
0.5 semester credit hour
Date: July 23
Time: 8:30am-4:30pm
Location: Dumb Friends League, Denver
Instructor: Nicole Schimming
Tuition Fee: \$63

Does having a pet in your classroom foster learning? Does having a classroom pet teach responsibility? Explore these questions and more. Learn about different species of small mammals. Meet with some of these small creatures and decide if a classroom pet is right for you and your classroom.

To register, mail the enrollment form and full tuition amount to the CSM Teacher Enhancement Office.

MEXICO: MAYAN MYSTERIES AND CORAL ECOLOGY (K-12)

CT-0705-09M
4 semester credit hours
Dates: July 23-31
Location: Yucatan Peninsula, Mexico
Instructor: Melanie Phelps
Tuition Fee: \$2,030 plus airfare

Stand in awe at the power and demise of the Mayan culture, then slip beneath the crystal Caribbean seas as you snorkel or dive the Mexican coral reefs. Explore the mysteries, culture, and ecology of the Yucatan Peninsula, Mexico.

To register or for more information, contact:
Melanie Phelps, 719/440-7180
melaniephe@aol.com
www.coloradorivertrip.com

WILDLIFE FOR SALE (GR. 3-12)

CT-0491-09M
0.5 semester credit hour
Date: July 25
Time: 9:00am-5:00pm
Location: Cheyenne Mtn. Zoo, Colorado Springs
Instructor: Julie Burger
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$65.25

Learn why people become poachers and about cultural beliefs, such as the use of tiger bones to cure a vast array of diseases. Discuss poaching in Colorado and what each of us can do to protect wildlife.

To register or for more information, contact:
April Felchner, Cheyenne Mtn. Zoo
719/633-9925 (x127), edprograms@cmzoo.org

DOUGLAS COUNTY WATER ISSUES AND SOLUTIONS (GR. 6-9)

CT-0931-09M
0.5 semester credit hour
Date: July 25
Time: 8:30am-4:30pm
Location: Douglas County Park Meadows Facility, Lone Tree
Instructor: Hope Dalton
Tuition Fee: \$45 (lunch provided)

Learn about water resources in Douglas County from how weather patterns and geology impact our resources to how our laws protect these resources, and what you can do to promote personal responsibility. Explore water issues and potential solutions in this relevant and exciting class. Class is sponsored by the Douglas County Water Resource Authority (www.dewater.org).

To register or for more information, contact:
Jodi Long
Douglas County Water Resource Authority
303/225-5340 or jloug@alexandercapital.net

MUSEUMS OF PARIS (K-12)

CT-04132-09M
4 semester credit hours
Dates: July 25-August 2
Location: Paris, France
Instructors: Joyce Webb, Melanie Phelps
Tuition Fee: \$2,080 plus airfare

Visit the Louvre, Orsay, Rodin, and Picasso Museums plus tour Versailles. Climb Notre-Dame, cruise the Seine, zip up the Eiffel Tower, and saunter down the Avenue des Champs Elysees to the Arc de Triomphe. Capture the romance and joie de vivre that Paris exudes.

To register or for more information, contact:

Melanie Phelps, 719/440-7180
melaniephe@aol.com
www.coloradorivertrip.com

WILDFLOWERS OF THE SAN JUANS (K-12)

CT-9969-09M
2 semester credit hours
Dates: July 26-August 1
Location: CO Trail Foundation Education Facility, SW of Lake City
Instructor: Lori Brummer
Tuition Fee: \$80 (**payable during workshop**)
Registration Fee: \$395 (includes meals)

Treat yourself to a week in the San Juans at the height of the wildflower season. Learn basic plant morphology, how to use a dichotomous key, and the characteristics of the major plant families. Plant conservation, ecology, habitats, and community types will be discussed.

To register or for more information, contact:

Bea Slingsby, 303/422-3728 or
beehive@comcast.net or www.coloradotrail.org

MIDDLE/HIGH SCHOOL IPS PHYSICAL SCIENCE (GR. 7-10)

CT-0508-09M/CT-0786-09M
2 semester credit hours (1 week)
4 semester credit hours (2 weeks)
Dates:
July 26-31 (chapters 1-5)
August 2-7 (chapters 6-10)
Time: 8:30am-4:00pm
Location: CSM campus, Golden
Instructor: Graden Kirksey
Tuition Fee: \$300 (1 week), \$600 (2 weeks)

Cover 5 or all 10 chapters of the IPS text (8th edition) to enhance your knowledge and classroom performance in physical science. Experience (1) the use of student experiments to develop an understanding of basic concepts and laboratory skills; (2) reading, reasoning, and communicating in the context of science; (3) the utilization of computer software in student experimentation; and (4) methods of evaluating student achievement.

To obtain an application, contact:

Jami Link, SCI
303/988-5041 or jami@sci-ips.com

WRITING TEST QUESTIONS FOR SCIENCE COURSES (GR. 6-12)

CT-0349-09M
2 semester credit hours
Dates: July 27-31
Time: 9:00am-4:00pm
Location: CSM campus, Golden
Instructor: Bob Stair
Tuition Fee: \$300

To be valid and useful, test questions must be of high quality, clearly reflecting your content requirements and testing goals. Practice constructing questions in essay and multiple-choice formats, and creating lab tests. Learn how to use test results to guide and improve instruction.

To obtain an application:

Jami Link, SCI
303/988-5041 or jami@sci-ips.com

SCOTLAND: THE HIGHLANDS OF GLADES AND LOCHS (K-12)

CT-0706-09M
4 semester credit hours
Dates: August 2-11
Location: Scottish Highlands
Instructor: Joyce Webb
Tuition Fee: \$2,480 plus airfare

Journey along mossy mountains, salty isles, and bottomless lochs. Taste haggis, hear bagpipes, and feel the winds of history blowing through the glens. Go time tripping through stone castles, and savor the pristine atmosphere of the Isle of Skye. Wander with us along the back lanes of Edinburgh, and scan Loch Ness for legendary monsters.

To register or for more information, contact:

Melanie Phelps, 719/440-7180
melaniephe@aol.com
www.coloradorivertrip.com

NEW GUINEA ADVENTURE (K-12)

CT-0936-09M
3 semester credit hours
Dates: August 2-18
Location: Papua, New Guinea
Course Coordinators: Mike Sipes, Marilyn Schmidt
Tuition Fee: \$115 (**payable during trip**)
Registration Fee: \$4,100 (includes airfare, meals, and lodging; \$600 deposit required)

Experience the culture and art of the indigenous people living in this country. Discover a great diversity of plants and animals, many of which are endemic to the island of New Guinea.

To register or for more information, contact:

Mike Sipes
303/237-4975 or mipsipes@earthlink.net

Additional Programs of Interest

DENVER MUSEUM OF NATURE & SCIENCE PALEONTOLOGY CERTIFICATION PROGRAM

These courses may be taken for your own enrichment or to become qualified to work on the Museum's fossil research. Although eight courses are required for certification, you can complete these courses at your own pace. For information, contact the Adult Programs Office at 303/370-6303 or PaleoCert@dmns.org. A complete list of course descriptions and program details is available at www.dmns.org/paleoprogram.

SOUTH PLATTE EDUCATION SERIES

CT-9421; **Build-Your-Own Natural History of Colorado**

A natural history series designed to your interests and teaching needs. Choose from a menu of courses which provide hands-on exploration of the wildlife and ecosystems along the S. Platte river. Combine classes on evenings and/or weekends to earn one semester credit hour. Visit our website at www.sspr.org/nature for class descriptions.

Contact Skot Latona, South Suburban Park and Recreation District, at 303/730-1022 x14 or email skotl@sspr.org for details or to obtain the special tuition flat rate.

Denver Museum of Nature & Science Course Offerings

Note: Register for DMNS courses through the Museum. See box below.

LAMP: THE SEARCH FOR LUNAR WATER (GR. 6-12)

CT-0914-09D
0.5 semester credit hour
Date: June 27
Time: 8:00am-4:30pm
Instructor: Meg John
Tuition Fee: \$25

Join the Museum for a day of lunar exploration. The Lunar Reconnaissance Orbiter (LRO) mission will conduct investigations to prepare for and support future human exploration of the moon. LRO focuses on the selection of safe landing sites, identification of lunar resources, and studies of how the lunar radiation environment will affect humans. The Lyman-Alpha Mapping Project (LAMP) is an instrument designed to search for lunar water at the moon's poles. Receive classroom activities designed to help your students explore light, identify chemical signatures, and participate in the search for lunar water.

GENETICS OF TASTE: A FLAVOR FOR HEALTH INSTITUTE (GR. 5-12)

CT-0927-09M
1 semester credit hour
Dates: July 29-30
Time: 8:00am-4:30pm
Instructor: Meg John
Tuition Fee: \$45 (**payable during workshop**)
Registration Fee: Free (through a grant from the Science Education Partnership Award) You must pre-register through the Museum.

Focus on current genetic research on taste and how it relates to human health. Centered on the community health lab in *Expedition Health*, you will have the opportunity to participate in real research while learning about genetics, the health triad (how genetics, choices and environment affect the body's systems) and nutrition. You will receive a \$200 stipend for attending both days of the workshop.

**To register for any DMNS course, contact:
DMNS Reservations, 303/322-7009.**

**For more information on a specific course,
contact the course coordinator, Meg John at
303/370-8208.**

EcoAdventure Course Offerings

Note: Register for EcoAdventure courses through EcoAdventures. See box on next page.

WILDFLOWERS OF THE ROCKIES (K-12)

CT-9613-09D

1 semester credit hour

Dates & Times:

Session I:

June 6 (9:00am-5:00pm)

June 7 (9:00am-4:00pm)

Session II:

June 25 (9:00am-5:00pm)

June 26 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$130 (**\$140 after May 21st/June 11th**)

Spend time in the wildflowers as you explore a variety of elevations and identify and discover interesting botanical facts, uses, myths and legends about wildflowers. Experience “botany in a bowl,” a creative activity to help kids understand the basics of botany.

EXPLORING THE PONDEROSA PINE FOREST (K-12)

CT-0105-09D

1 semester credit hour

Dates & Times:

June 13 (9:00am-5:00pm)

June 14 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$125 (**\$135 after May 28th**)

Discover the ponderosa pine ecosystem as you spend two days immersed in the rich spring flora and diverse wildlife of the ponderosa pine forest. The porcupine and Albert’s squirrel are two residents you will learn about. Explore the natural and cultural history of this massive pine’s role in logging and homesteading in Colorado.

EARLY EXPLORERS OF THE ROCKY MOUNTAINS (K-12)

CT-0518-09D

1 semester credit hour

Dates & Times:

June 20 (9:00am-5:00pm)

June 21 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$125 (**\$135 after June 4th**)

Discover the history of soldiers, trappers, priests, and spies in the Rocky Mountains. Use botany, zoology, cartography, journaling, geometry, and celestial navigation to keep up with the likes of Zebulon Pike, Father Escalante, and Kit Carson. Go home with field specimens.

THE UTE - A NATIVE AMERICAN WAY OF LIFE IN THE ROCKIES (K-12)

CT-95106-09D

1 semester credit hour

Dates & Times:

June 23 (9:00am-5:00pm)

June 24 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$130 (**\$140 after June 4th**)

Discover the history of the people of the shining mountains - Ute. Get a campsite up and running; learn the basics of ancient skills used in everyday life; try your hand at fire building, cooking, sewing, beading, twining, tanning and flint knapping.

WILD EDIBLE PLANTS OF THE ROCKY MOUNTAINS (K-12)

CT-0817-09D

1 semester credit hour

Dates & Times:

June 27 (9:00am-5:00pm)

June 28 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$130 (**\$140 after June 11th**)

Pre-requisite: CT-9613, Wildflowers of the Rockies

If you are curious about the weeds that could be food, come discover wild edible plants. Learn about identification, safety guidelines, gathering, and storage. Create a sampler of wild edible dishes that you make and taste.

MOOSE IN COLORADO (K-12)

CT-0922-09M

1 semester credit hour

Dates & Times:

July 7 (12:00-8:00pm)

July 8 (8:00am-3:00pm)

Location: Granby

Tuition Fee: \$120 (**\$130 after June 18th**)

Go to moose country for a wildlife watching opportunity with fun moose information and viewing equipment. Discover why an animal often described as a “conglomeration of parts” is so well suited to the wetland environments it inhabits. Moose also weave a unique wildlife management story. Camp or stay at a local hotel.

IT’S SENSE’SATIONAL: HOW ANIMALS SEE, HEAR, SMELL, TOUCH, AND TASTE (K-8)

CT-96102-09M

1 semester credit hour

Dates & Times:

July 11 (9:00am-5:00pm)

July 12 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$120 (**\$130 after June 25th**)

Let your senses go “wild” and discover what it is like to explore the world using the senses of a variety of Colorado’s animals. Understand how differently animals perceive the world with hands-on activities and “make and take” items. Try to follow an owl’s acoustic map or see with animal vision.

MONTANE & SUBALPINE WILDFLOWERS (K-12)

CT-9961-09M

1 semester credit hour

Dates & Times:

July 14 (9:00am-5:00pm)

July 15 (9:00am-4:00pm)

Location: Subalpine sites

Tuition Fee: \$120 (**\$130 after June 25th**)

Pre-requisite: CT-9613, Wildflowers of the Rockies

Hike in different montane and subalpine areas discovering the beautiful, but perhaps lesser known, wildflowers. Explore lush meadows and streamside habitats. Continue your identification skills on wildflowers in the montane and subalpine life zones. Discover interesting botanical facts, uses, myths, and legends.

SWEET WITH A STING: THE NATURAL HISTORY OF HONEYBEES (K-12)

CT-0519-09M

1 semester credit hour

Dates & Times:

July 18 (9:00am-5:00pm)

July 19 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$125 (**\$135 after July 2nd**)

Peer into a glass hive and learn about the natural history of honeybees and their relatives. Examine the life cycle and jobs of a hive bee. Watch field bees in action as they pollinate flowers and do the “waggle dance.” Take a field trip to a bee yard to learn about a beekeeper’s daily activities.

BEAVER ECOLOGY (K-12)

CT-95102-09M

1 semester credit hour

Dates & Times:

July 21 (1:00-9:00pm)

July 22 (2:00-9:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$120 (**\$130 after July 2nd**)

Explore beaver ecology and learn about their natural history and role in cultural history. Discover activity ideas including the use of mini-experiments to highlight behavior and adaptations, and uncover management issues through a simulation project. Wander in a beaver habitat, and enjoy wildlife observations at an active beaver pond.

BEAR ME IN MIND: NATURAL HISTORY OF THE BLACK BEAR (K-12)

CT-9737-09M

1 semester credit hour

Dates & Times:

July 30 (8:00am-5:00pm)

July 31 (3:00-9:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$135 (**\$145 after July 16th**)

The natural history of the black bear will unfold through hands-on activities and a field trip to a wildlife sanctuary. Discover unique adaptations and behaviors of this large omnivore. Supplement any animal study/ecology curriculum with topics such as habitat, predator/prey relationships, and human/bear relationships.

To register for any EcoAdventures course, mail the CSM enrollment form along with a check payable to EcoAdventures to:

Pam Batton

EcoAdventures

5894 South Meadow Drive

Morrison, CO 80465

303/697-0327

Fax 303/697-0329

Registration/Cancellation/Refund Policy

If payments have not been received by the registration deadline (2 ½ weeks before the class), EcoAdventures reserves the right to charge a late registration fee of \$10.00 or delete you from the class and allow a person from the waiting list to take your spot.

If you notify us of a cancellation before the registration deadline, we will refund your tuition less a \$25.00 cancellation fee. If you cancel after the registration deadline, we will refund your tuition less a cancellation fee of \$35.00. If you cancel 48 hours before a class begins, we will refund half of your tuition. If you cancel 24 hours before a class begins or on the day of class or are a no-show to class, no refund will be offered. These fees also apply to class transfers.

Denver Earth Science Course Offerings

Note: Register for DESP courses through DESP. See box below.

DO YOU KNOW YOUR 3 R's? RADIATION, RADIOACTIVITY & RADON (GR. 7- 10)

CT-9898-09D
1 semester credit hour
Dates: June 9-11
Time: 8:00am-5:00pm
Location: CSM Campus, Golden
Instructors: Peg Roding, Bob Beckman
Tuition Fee: \$45

This module is an integrated science curriculum that addresses the **physical sciences**--what is radiation and radioactivity; the **earth sciences**--what earth materials are radioactive; and the **biological sciences**--what effect does radon gas have upon human health. Receive a curriculum notebook with background information and classroom activities and a kit of materials to teach Units 2 and 3 of the curriculum. Resource kits, which contain all the necessary materials to teach Unit 1, will be available on a "loan" basis for use in your classroom.

GROUND WATER STUDIES (GR. 6-9)

CT-9203-09D
1 semester credit hour
Dates: June 15-17
Time: 8:00am-5:00pm
Location: CSM campus, Golden
Instructor: Kathleen Lacy
Tuition Fee: \$75

Learn basic earth science concepts through the exploration of ground water, the largest accessible and most valuable source of fresh water on earth. Hands-on student activities use real data from industry and governmental agencies, and follow a problem-solving approach. Integrate science, mathematics, geography, and economics, as well as social and environmental issues. You will receive the curriculum notebook, which provides all the background and hands-on activities to teach the module to your students. A local field trip to a well drilling site, monitoring well, water treatment plant, and/or contaminated ground water site will give you a real-world look at an issue related to water.

FUTURES IN ENERGY (GR. 7-12)

CT-9126-09D
2 semester credit hours
Dates: June 15-19
Time: 8:00am-5:00pm
Location: CSM campus, Golden
Instructor: Rod Hayes
Tuition Fee: \$80 (sponsored by the Rocky Mountain Region of the Petroleum Technology Transfer Council)

Teach your students basic earth science concepts through the exploration of hydrocarbons. Hands-on student activities use real data from industry and follow a problem-solving approach. The module integrates science, geography, math, economics, and social studies into a high interest topic. The teacher resource kit includes a core sample, oil samples, maps, electric logs, and seismic sections. The "Gushers 'n Dusters" simulation game gives your students an opportunity to see the economics of the oil industry as banks, oil companies, and drilling companies negotiate and do business.

PALEONTOLOGY AND DINOSAURS (GR. 6-9)

CT-9526-09M
1 semester credit hour
Dates: July 20-22
Time: 8:00am-5:00pm
Location: Dinosaur Ridge Visitor Center, Morrison
Instructor: Rod Hayes
Tuition Fee: \$100

The module teaches you basic paleontology concepts through the study of dinosaurs. The hands-on activities use real data collected in the field, and model dinosaurs and fossils allow you to look at the earth's past by using a problem-solving approach. The module integrates science, mathematics, and geography into a high-interest topic.

Register online for any DESP course at:

http://inside.mines.edu/Outreach/cont_ed/desp/desp6.html

For more information, contact Jim Proud at 303/273-3621.

Denver Zoo Course Offerings

Note: Register for Denver Zoo courses through the Zoo. See box on next page.

DISCOVER DESERTS (K-12)

CT-0942-09D
0.5 semester credit hour
Date: June 15
Time: 8:00am-4:00pm
Instructor: Sarah Brenkert, Sarah Secor
Tuition Fee: \$85

Discover the diversity of plant and animal life that call the desert home. Look at different types of desert biomes and meet animals with some incredible adaptations for survival in these extreme environments. Experience live animal demonstrations, guided tour of the zoo, and a wealth of hands-on activities to bring the drama of desert survival back to your classroom.

AROUND THE WORLD IN TWO DAYS (K-12)

CT-0751-09D
1 semester credit hour
Dates: June 22-23
Time: 8:00am-4:00pm
Instructor: Sarah Brenkert, Sarah Secor
Tuition Fee: \$130

Ever wanted to travel to distant continents and experience the wonder of animal life around the globe? Meet animals from all around the world, learn about interactions between the natural world and human cultures, and come away with new and innovative ways to teach students of all ages to appreciate the earth's amazing biodiversity.

CREATURES OF THE NIGHT: GO NOCTURNAL (K-12)

CT-0938-09D
1 semester credit hour
Dates & Times:
8:00am, June 25 through 12:00pm, June 26
Instructors: Sarah Brenkert, Jennifer Bahmeier, Molly Maloy
Tuition Fee: \$150

Experience a world that awakes when the sun goes down. In this overnight workshop, meet animals that dwell, hunt, forage, and build in darkness, and the superlative senses that help them survive. Meet expert animal keepers, tour the zoo with night vision, and spend a night at the zoo. Receive classroom-ready curriculum applications to bring the night to life for your students.

LIONS, WOLVES, AND BEARS (K-12)

CT-0939-09M
1 semester credit hour
Dates: July 9-10
Time: 8:00am-4:00pm
Instructors: Sarah Brenkert, Marley Steele-Inama
Tuition Fee: \$130

Discover what makes bears, felines, and canines such unique and impressive mammals. Through guided tours of the zoo, live animal demonstrations, expert talks, and hands-on activities, you'll be top of the food chain when it comes to understanding the world of tooth and claw.

OCEANS ALIVE (K-12)

CT-0941-09M
0.5 semester credit hour
Date: July 13
Time: 8:00am-4:00pm
Instructors: Sarah Brenkert, Molly Maloy
Tuition Fee: \$85

From the ocean floor to the coral reef, discover the extraordinary biodiversity of our seas. Through guided tours, animal ambassadors, and hands-on activities, learn how to make conservation connections in your classroom that help fulfill Colorado Model Content Standards.

COLORADO WILD: NATIVE WILDLIFE (K-12)

CT-0940-09M
1 semester credit hour
Dates: July 16-17
Time: 8:00am-4:00pm
Instructors: Sarah Brenkert, Jennifer Bahmeier
Tuition Fee: \$130

Reptiles, mammals, amphibians, birds, fish, and invertebrates -- learn about the animals in your own backyard. Through live animal demos, expert speakers, hands-on outdoor activities, and tours of the zoo, become inspired to teach your students about the region's diverse ecosystems and wildlife, plus the conservation efforts that will preserve them for the future.

DISCOVERING POLAR ECOSYSTEMS (K-12)

CT-0832-09M
1 semester credit hour
Dates: July 20-21
Time: 8:00am-4:00pm
Instructors: Sarah Brenkert, Marley Steele Inama
Tuition Fee: \$130

Learn how polar animals survive with unique physical and behavioral adaptations, and further your knowledge and activity base on subjects including global warming and our polar connections. Tour the zoo, meet live animals, and learn from experts.

CONSERVING ANIMAL DIVERSITY: THE ROLE OF GENETICS (GR. 8-12)

CT-0943-09M
1 semester credit hour
Dates: July 23-24
Time: 8:00am-4:00pm
Instructors: Sarah Brenkert, Jennifer Bahmeier
Tuition Fee: \$130

Examine how the zoo uses genetic information to manage species conservation, the role modern zoos play in housing, breeding, and conserving endangered species, and the zoo's work to protect biodiversity around the globe. Cover key topics in genetics and theories of convergent and divergent evolution, natural selection, and biodiversity. Receive innovative curriculum applications grounded in critical thinking and hands-on exploration.

LEARNING ABOUT LIFECYCLES (K-12)

CT-0937-09M

1 semester credit hour

Dates: July 27-28

Time: 8:00am-4:00pm

Instructors: Sarah Secor, Jennifer Bahmeier

Tuition Fee: \$130

Discover the amazing ways animals survive, reproduce, and care for their young. Learn the lifecycles and family structures of mammals, birds, reptiles, amphibians, and insects. Explore each animal group in depth while taking time to tour the zoo and meet animal visitors. Receive classroom-ready activities and new insight to share the wonder of animal diversity with your students.

**Register online for any Denver Zoo course at:
www.denverzoo.org/education/teacherWorkshops.asp**

For questions, contact the Denver Zoo Education Department at 303/376-4808.

Butterfly Pavilion Course Offerings

Note: Register for Butterfly Pavilion courses through the Butterfly Pavilion. See box on next page.

INSECTS IN ART AND CULTURE (K-12)

CT-0321-09D
1 semester credit hour
Dates: June 16-17
Time: 8:00am-5:00pm
Location: Butterfly Pavilion, Westminster
Instructors: Nicole Bickford, Deborah Brooks
Tuition Fee: \$45 (**payable during workshop**)
Registration Fee: \$75

Discover the symbolic meaning of insects in cultures of past and present as you explore human beliefs and environmental conditions through art and literature. Delve into myths and art activities as you explore the lives, history, and significance of honeybees, silk moths, dragonflies, and many more invertebrates.

INSECT INVESTIGATIONS: SCIENCE NOTEBOOKS AND BUGS IN THE CLASSROOM (K-12)

CT-0920-09D
0.5 semester credit hour
Date: June 25
Time: 8:00am-5:00pm
Location: Butterfly Pavilion, Westminster
Instructors: Nicole Bickford, Patrick Tennyson
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$40

Explore the amazing world of insects and their relatives as you investigate how inquiry-based learning can enhance discovery in your classroom. Exciting hands-on, take-home activities will allow you to explore how to successfully incorporate literacy and science notebooks in your classroom insect investigations.

WHO SWALLOWED A FLY? (K-6)

CT-0532-09M
0.5 semester credit hour
Date: July 30
Time: 8:00am-5:00pm
Location: Butterfly Pavilion, Westminster
Instructors: Nicole Bickford, Deborah Brooks
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$40

Use a variety of children's literature that focuses on bugs and other invertebrates. Read and play with the language and unique art that make these books memorable. Explore Eric Carle's famous bug stories; find language and art in nature with the Butterfly Alphabet; and bring home lesson plans and ideas that integrate visual and language arts.

FLY FISHING ENTOMOLOGY (GR. 6-12)

CT-0821-09M
0.5 semester credit hour
Date: August 5
Time: 8:00am-5:00pm
Location: Butterfly Pavilion, Westminster
Instructor: Patrick Tennyson
Tuition Fee: \$30 (**payable during workshop**)
Registration Fee: \$40

Investigate the world beneath the surface as a trout sees it. Discover aquatic entomology (study of insects) from a fly-fishing point of view. Learn to distinguish among the multitude of fly patterns and the "natural" insects they imitate. Spend an afternoon on the river exploring aquatic habitats and learning how to "match the hatch."

CAUTION: ENTERING THE INSECT WORLD (K-8)

CT-0711-09F
0.5 semester credit hour
Date: October 3
Time: 8:00am-5:00pm
Location: Butterfly Pavilion, Westminster
Instructor: Denise Price
Tuition Fee: \$35 (**payable during workshop**)
Registration Fee: \$40

Insects have amazing adaptations to help them survive. Explore the world of insects as you visit the exhibits, and learn how insect coloration, flight, symbiosis, behaviors, and much more help insects stay alive. Take home Colorado State Content Standard-based resources and activities for use in your classroom.

DRAGONFLIES TALE (K-6)

CT-0713-09F
0.5 semester credit hour
Date: October 10
Time: 8:00am-5:00pm
Location: Butterfly Pavilion, Westminster
Instructors: Nicole Bickford, Deborah Brooks
Tuition Fee: \$35 (**payable during workshop**)
Registration Fee: \$40

Explore five different Native American cultures via their stories and their art. Create a dragonfly like the Zuni boy who saved his village; discover how Grandmother Spider inspired the Muskogee Indians to catch bad dreams; and create your own dream catcher. Integrate science, literacy, social studies, and visual art in this fun, standards-based workshop.

New Program at the Pavilion

ART AND SCIENCE SERIES (GR. 5-12)

CT-0921-09M

0.5-1 semester credit hour

Location: Butterfly Pavilion, Westminster

Instructors: Kris Pohl, Deborah Brooks

Course Coordinator: Kris Pohl, 720/974-1868

Tuition Fee: \$30-\$45 (**payable during workshop when two or four workshops completed**)

BATIK & INSECTS

Date: June 30

Time: 7:30am-11:30am

Registration Fee: \$40

Discover the roles of insects used in an ancient form of fabric decoration: batik. Find out how bees make wax, how silk moths are used to create silk, and how scale insects can be turned into a spectacular scarlet dye. Create a one-of-a-kind batik scarf with these insect products.

DREAMCATCHERS AND ARACHNIDS

Date: July 14

Time: 7:30am-11:30am

Registration Fee: \$40

Explore the importance of arachnids in nature as well as in Native American culture. Discover the myth behind the dreamcatcher in Native American tales as you weave your own dreamcatcher.

PAPERMAKING AND PAPER WASPS

Date: July 28

Time: 7:30am-11:30am

Registration Fee: \$30

According to French lore, paper was invented after a nobleman observed paper wasps creating their own hive. Learn a simple method of recycling paper to create handmade paper for stationery, scrapbooking, and cards.

GOURD BASKETS AND POLLINATORS

Date: August 4

Time: 7:30am-11:30am

Registration Fee: \$45

Hardshell gourds are a popular crafter's medium, but what role do insects play? Learn more about pollinators as you transform a hardshell gourd into a lovely art object.

To register for any of the Butterfly Pavilion course offerings, mail the CSM enrollment form along with a check (payable to the Butterfly Pavilion) or credit card information for the Registration Fee to:

Butterfly Pavilion

Kris Pohl, Education

6252 W. 104th Ave.

Westminster, CO 80205

720/974-1868 Fax 303/657-5944

kpohl@butterflies.org

Project WILD - Project Learning Tree – Project WET

Projects WILD, Learning Tree and WET are supplemental, interdisciplinary environmental education programs emphasizing wildlife, forest and water resources, and our interdependence with the natural world. Using hands-on activities that create awareness, appreciation, understanding, skills and commitment, you and your students learn to address environmental issues within the framework of your existing curriculum. You will receive activity guides, posters, prizes, and other supplemental materials.

All Project WILD, Learning Tree and WET PreK-12 activities have been correlated to the Colorado Model Content Standards for Science, Math, Geography, History, Reading and Writing. Spanish translations of activities are available for Project Learning Tree and Project WILD. New PLT materials are available for integrated middle and high school curricula.

Following is a list of upcoming workshops. **Pre-register by calling the person listed and sending in the non-refundable registration fee at least 7 days prior to the first day of the workshop (unless otherwise noted). Tuition will be due on the first day of the workshop. Please register through the person listed, not through the Colorado School of Mines.** Workshops may be cancelled one week before the start date if minimum enrollment numbers have not been met. Other dates may have been added; call for updated workshop listings. Visit our web sites at www.plt.org/events/index.cfm and <http://wildlife.state.co.us/Education/TeacherWorkshops/In dex.aspx> for more information.

FIRE ECOLOGY INSTITUTE FOR EDUCATORS (GR. 4-12)

CT-0720-09D

2.5 semester credit hours

Dates & Times:

8am, June 8 through 2pm, June 12

Location: Ft. Lewis College, Durango

Tuition Fee: \$105 (**payable during institute**)

Registration Fee: \$50 (includes meals, lodging & materials; other fees paid by a National Fire Plan Grant)

Experience field and research-based activities and experiments while learning about fire, insects, and drought from fire and natural resource professionals. Visit and study lodgepole fire sites and mitigation efforts, and experience inquiry experiments.

To register or for more information, contact:

Shawna Crocker, 303/202-4662

scrocker@colostate.edu

WATER IN THE WEST: PROJECT WET (K-12)

CT-0854-09D

1 semester credit hour

Dates: June 8-9

Time: 8:30am-5:00pm

Location: Douglas County Fairgrounds, Castle Rock

Tuition Fee: \$45 (**payable during workshop**)

Registration Fee: \$50

Registration Contact: Paula Mountjoy, 720/346-3777

GLOBAL CONNECTIONS: FORESTS OF THE WORLD (GR. 9-12)

CT-0935-09D

0.5 semester credit hour

Date: June 19

Time: 9:00am-6:30pm

Locations: Snow Mountain Ranch, Granby

Tuition Fee: \$30 (**payable during workshop**)

Registration Fee: \$30 (includes lunch and materials)

Registration Contact: Shawna Crocker, 303/202-4662 or scrocker@colostate.edu

PROJECT WET: FORESTS TO FAUCETS (AURORA'S WATER RESOURCES) (K-12)

CT-0668-09D

1.5 semester credit hours

Dates: June 23-25

Time: 9:00am-5:00pm

Location: Aurora Municipal Center

Tuition Fee: \$70 (**payable during workshop**)

Registration Fee: \$50 (free to educators teaching within the City of Aurora)

Registration Contact: Natalie Brower-Kirton, 720/427-6029 or nbrower@auroragov.org

BASIC PROJECT WILD (K-12)

CT-9598-09M

0.5 semester credit hour

Date: July 8

Time: 8:00am-5:00pm

Location: Butterfly Pavilion, Westminster

Tuition Fee: \$30 (**payable during workshop**)

Registration Fee: \$25

Registration Contact: Kris Pohl, 720/974-1868

BASIC PROJECT LEARNING TREE

CT-0822-09M

0.5 semester credit hour per workshop

Date: July 9

Time: 8:00am-5:00pm

Location: Butterfly Pavilion, Westminster

Tuition Fee: \$30 (**payable during each workshop**)

Registration Fee: \$25

Registration Contact: Kris Pohl, 720/974-1868

AQUATIC PROJECT WILD (PREK-12)

CT-9684-09M

0.5 semester credit hour

Date: July 21

Time: 9:00am-5:00pm

Location: Downtown Aquarium, Denver

Tuition Fee: \$30 (**payable during workshop**)

Registration Fee: \$25

Registration Contact: Downtown Aquarium, 303/561-4444

WILDLIFE WATCH (K-12)

CT-9914-09M

0.5 semester credit hour

Date: August 2

Time: 9:00am-5:00pm

Location: Plains Conservation Center, Aurora

Tuition: \$30 (**payable during workshop**)

Registration Fee: \$15

Registration Contact: Wildlife Watch, 303/291-7250 or www.wildlifewatch.net

PROJECT WILD II WORKSHOPS

Project WILD II workshops are advanced WILD classes. You will explore wildlife/nature related topics in greater depth, and broaden your skills and knowledge to better use Project WILD in the classroom or any other educational settings.

WILDLIFE AND CLIMATE CHANGE (WILD II WORKSHOP) (GR. 6-12)

CT-0944-09M

0.5 semester credit hour

Date: July 7

Time: 8:00am-5:00pm

Location: UCAR, Boulder

Tuition Fee: \$30 (**payable during workshop**)

Registration Fee: \$25

Pre-requisite: Basic Project WILD/Learning Tree workshop

Registration Contact: Tabbi Kinion, 303/291-7165 or tabbi.kinion@state.co.us

ARKANSAS RIVER FLOAT TRIP (WILD II WORKSHOP) (K-12)

CT-02117-09M

1 semester credit hour

Dates: August 15-16

Time: 8:30am-4:30pm

Location: Salida, CO

Tuition Fee: \$45 (**payable during workshop**)

Registration Fee: \$10 (plus \$6 park pass per vehicle, per day)

Pre-requisite: Basic Project WILD/Learning Workshop

Registration Contact: Rob White, 719/539-7289, rwhite@ahra.salida.co.us

BATS (WILD II WORKSHOP) (K-8)

CT-00101-09F

0.5 semester credit hour

Date: September 26

Time: 8:30am-5:00pm

Location: Colorado Division of Wildlife, Denver

Tuition Fee: \$30 (**payable during workshop**)

Registration Fee: \$25

Pre-requisite: Basic Project WILD/Learning Tree/WET workshop

Registration Contact: Tabbi Kinion, 303/291-7165, tabbi.kinion@state.co.us

For updated information contact:

Project WILD, 303/291-7262

Project Learning Tree, 303/202-4662

Project WET, 303/291-7601

See the following website for full course descriptions or added workshops:

www.wildlife.state.co.us/education/teacherresources

Summer 2009 Canoe Trips

Note: Register for canoe trips through Centennial Canoe Outfitters. See box below.

GEOLOGY OF THE COLORADO RIVER BY CANOE, LEVELS I & II (K-12)

CT-9142-09D

2 semester credit hours

Dates & Times:

Lecture: June 17 (9:00am-4:30pm)

Canoe Trip: June 19-21

Locations: The lecture will be held at CSM, Golden.

The trip will begin and end near Grand Junction, CO.

Instructor: Ed Adams

Tuition Fee: \$424 (**\$100 deposit required upon enrollment**)

Canoe a 30-mile stretch of the Colorado River through the Colorado Plateau west of Grand Junction. This gentle river features majestic walls of red sandstone and includes a rare look at the old Pre-Cambrian basement rock, known locally as "Black Rocks", as well as typical canyon cliffs of sedimentary rocks. Camping along the river's bank, exploring a natural amphitheater with ancient rock art, or hiking into deep box canyons will leave you awed by the immensity of geologic time and the silence of the wilderness.

ASTRONOMY IN THE WILDERNESS/GUNNISON RIVER, LEVELS I & II (K-12)

CT-0263-09M

2 semester credit hours

Dates & Times:

Lecture: July 15 (1:00-8:30pm)

Canoe Trip: July 17-19

Locations: The lecture will be held at Fiske Planetarium,

Boulder. The trip will begin and end near Grand Junction, CO.

Instructor: Sanlyn Buxner

Tuition Fee: \$414 (**\$100 deposit required upon enrollment**)

Get away from the city lights and view spectacular sights of the heavens along this remote stretch of the Gunnison River as you canoe through spectacular canyons with petroglyphs and waterfalls. Learn constellations, deep sky objects and basic astronomy, including activities for the classroom. By viewing the wilderness night sky and spending time in the planetarium, you will learn about the galaxies, life cycles of stars, and new topics in astronomy. No previous astronomy experience is necessary.

GEOLOGY OF THE GREEN RIVER BY CANOE, LEVELS I & II (K-12)

CT-9420-09M

3 semester credit hours

Dates & Times:

Lecture: July 27 (9:00am-4:30pm)

Canoe Trip: July 29-August 2

Locations: The lecture will be held at CSM, Golden.

The trip will begin and end in Moab, UT.

Instructor: Ed Adams

Tuition Fee: \$663 (**\$100 deposit required upon enrollment**)

Explore 60 miles of wilderness along Utah's peaceful Green River as it winds through the red-rock formations just north of Canyonlands National Park. The moving panorama of this twisting river is incomparable. Explore vast canyon systems which branch out in all directions on daily excursions, including one full-day exploration. The course will emphasize the unique geology of Utah's canyons with some discussion of the impact of man from early explorers to uranium mining.

To register , mail the CSM enrollment form along with the \$100 deposit (made payable to Centennial Canoe Outfitters) to:

Centennial Canoe Outfitters

P.O. Box 3365

Centennial, CO 80161-3365

720/283-0553 or toll-free 1/877/353-1850

E-mail: info@centennialcanoe.com

Register online: www.centennialcanoe.com

Centennial Canoe Outfitters will supply all canoes, group equipment, meals, and canoeing instruction prior to the trip. You are responsible for your transportation to the river and back. No previous canoeing experience is required.

Level II Courses

Former participants in Level I classes can qualify for Level II credit by completing a special project to be conducted concurrently with the basic class offering.

Course Enrollment Form

Please Print

Full Name: _____
 Mailing Address: _____
 City: _____ State: _____ Zip: _____
 Social Security Number*: _____ Date of Birth: _____
 Telephone: (school) _____ (home) _____
 School: _____ Grade Level: _____
 Email: _____

When CSM is the registration contact, I prefer to receive my confirmation by:

e-mail; home: _____ work: _____

****Choose the e-mail option ONLY if you check and read your e-mail regularly.****

Fax; fax number: () _____

oMail *required if taking course for credit

Ethnic Origin (optional):

_____ American Indian or Alaskan Native	_____ Caucasian/White, not of Hispanic Origin
_____ Asian or Pacific Islander	_____ Hispanic
_____ Black, not of Hispanic Origin	_____ I do not wish to provide this information, other

Indicate the class(es) for which you are registering

Course #	Course Title	Course Dates	Tuition
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____

Total: _____

Please follow carefully the specific registration instructions which accompany each course listing in this catalog. Many, but not all, listings will direct you to fill out the form above and mail along with the tuition amount to the Colorado School of Mines Teacher Enhancement Program. Please send a separate check for each course, and for each participant.

Make checks payable to CSM Office of Continuing Education unless otherwise noted.

Mail check(s) and application form (unless otherwise noted in course listing) to:

Teacher Enhancement Program
 Colorado School of Mines
 Golden, CO 80401-0028
 FAX: (303) 273-3314
 Phone: (303) 273-3303

http://www.mines.edu/Outreach/Cont_Ed/teacher.shtml#registration

To pay by credit card:
 VISA MC AMEX DISC
 Card # _____
 Exp. Date: _____
 Cardholder Name: _____
 Signature: _____