# Teacher Enhancement Program for K-12 Educators

AT THE COLORADO SCHOOL OF MINES



### http://te.csmspace.com

### COLORADO SCHOOL OF MINES Teacher Enhancement Program Summer 2015

### 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 check(s) should be mailed to:

Teacher Enhancement Program Office of Special Programs & Continuing Education Colorado School of Mines Golden, CO 80401-0028 (303) 279-3855

To view the most current course listings or to order an official TE transcript, visit our home page at: http://te.csmspace.com

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 <u>minus</u> 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 <u>each</u> course and for <u>each</u> 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. We are unable to give you any information via phone or email on what courses appear on your transcript due to FERPA. 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 http://te.csmspace.com.

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

#### RUINS AND VOLCANOES OF NEW MEXICO II (K-12)

CT-1402-15D 2 semester credit hours Dates: June 1-4 Location: meet in Santa Fe, NM Instructor: Melanie Phelps Tuition Fee: \$300 (includes entrance fees, credit)

Explore the history of Santa Fe, a trading hub of Old Mexico. Hike through Petroglyph National Monument where the ancient natives etched 15,000 petroglyphs into the black basalt. Continue to El Malpais to explore lava tubes, pahoehoe, aa, cinder cones, craters, and calderas. Seek out the peacefulness of Chaco Canyon, one of the largest trade centers of the Ancient Pueblo Indians.

#### To register or for more information, contact:

Melanie Phelps, 719/252-1789 <u>melaniephe@aol.com</u> www.coloradorivertrip.com

#### PRINCIPLES AND FOUNDATIONS FOR ENVIRONMENTAL EDUCATION ONLINE (K-12)

CT-1216-15M 2 semester credit hours Dates: June 1-August 9 Instructor: Katie Navin Tuition Fee: \$90 (**payable during workshop**) Registration Fee: \$125 CAEE members, \$160 nonmembers

Explore the history and goals of environmental education; develop an understanding of the professional roles and instructional methods of environmental educators; and interact with other educators online. Become eligible to submit your work for certification in CAEE's certification program for a discount. For more information visit www.caee.org.

> **To register or for more information, contact:** Malinda Mochizuki, CAEE 303/273-9527, outreach@caee.org

# SPAIN: HISTORY OF CRUSADERS AND KINGS (K-12)

CT-1201-15D 4 semester credit hours Dates: June 6-16 Locations: Spain Instructor: Joyce Webb Tuition Fee: \$3,670 (includes airfare, lodging, ground transportation, tours, credit)

Experience Spain from the art and architecture of Madrid to Sevilla's Alcazar, Christopher Columbus' tomb, and the romance of Flamenco dancers. Visit the Rock of Gibraltar and take a day trip to the mysterious Tangiers on Africa's Moroccan coast. Wander Granada's grand Alhambra while learning of Spain's tangled history.

#### To register or for more information, contact:

Joyce Webb, 719/229-5482 joycewebb@ymail.com www.coloradorivertrip.com

# BLACK HILLS: MAMMOTHS, MONUMENTS, AND WARS (K-12)

CT-1428-15D 2 semester credit hours Dates: June 9-13 Location: meet in Scotts Bluff, NE Instructor: Melanie Phelps Tuition Fee: \$440 (includes entrance fees and tuition)

Retrace the Oregon Trail near Scotts Bluff, Nebraska. Explore giant land mammals at Agate Fossil Beds, and solve the ancient mystery of an ancient bog where only male mammoths died. Discover the wonders of South Dakota: Custer State Park, Badlands, Mt. Rushmore, Crazy Horse, and The Little Bighorn, then wind your way through caves, and discover the secrets of Black Hills gold. In Wyoming, tour a bison cliff kill site, and the giant columns of Devil's Tower.

> **To register or for more information, contact:** Melanie Phelps, 719/252-1789 <u>melaniephe@aol.com</u> www.coloradorivertrip.com

#### DO YOU KNOW YOUR 3 R's? RADIATION, RADIOACTIVITY & RADON (GR. 5- 12)

CT-9898-15D 1 semester credit hour Session I: Dates: June 9-10 Time: 8:30am-5:30pm Location: Rifle CO Session II: Dates & Times: June 16-17 (8:00am-5:00pm), June 18 (9:00am-12:00pm) Location: Golden, CO Instructors: Peg Roding, Bob Beckman Tuition Fee: \$50 (payable during workshop) Registration Fee: \$25 (returned after successful course completion)

Use Geiger counters and cloud chambers (available for check-out) to "see" ionizing radiation in our environment. Explore basic concepts of radioactivity (nuclear emissions, half-life, decay series). Develop an understanding of radioactive radon's source and effect on humans. Take home the curriculum of 14 activities (plus resources).

#### **To register or for more information, contact:** Peg Roding, 303/420-3244

roding.3rs@q.com

#### WHIZ BANG SCIENCE (GR. 1-7)

CT-0542-15D 1 semester credit hour Dates: June 16-17 Time: 8:00am-4:00pm Location: CSM campus, Golden Instructor: Ralph Sodano Tuition Fee: \$125

Explore and arrive at a fuller understanding of electricity, magnetism, photosynthesis, water, atmosphere, combustion, light, and more through simple but striking demonstrations and activities that can be brought into your classroom.

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

#### ICELAND: LAND OF FIRE AND ICE (K-12)

CT-1506-15D 4.5 semester credit hours Dates: June 16-26 Location: Iceland Instructor: Melanie Phelps Tuition Fee: \$3,600 (includes lodging, ground transportation, tours, credit)

Explore the Viking city of Reykjavik. Discover the geology of plate tectonics; snorkel and hike where you can touch both the European and the North American Plates; then strap on your crampons and hike an active glacier. Soak in volcano heated hot springs, and walk among fumeroles, mudpots, steam vents, and geysers. Delve into lava tubes, study plant succession, and see world famous volcanoes of Katla, Hekla, and Eyjafjallajokull.

#### To register or for more information, contact:

Melanie Phelps, 719/252-1789 melaniephe@aol.com www.coloradorivertrip.com

# WASTEWATER AND RENEWABLE RESOURCES (K-12)

CT-1215-15D 0.5 semester credit hour Date: June 18 Time: 8:00am-5:00pm Location: Metro Wastewater Reclamation District, Denver Instructor: Alicia Gilley Tuition Fee: no charge (you must pre-register)

Learn the science behind wastewater treatment. Highlight the biosolids management process, including land application of solid materials, and the production of electricity. Tour the 52,000 acre METROGRO Farm, the Robert W. Hite Treatment Facility, and a working laboratory.

> **To register or for more information, contact:** Dawn Hoffman, Metro Wastewater Rec. District 303/286-3285 or dhoffman@mwrd.dst.co.us

# IRELAND: HAUNTED BY HISTORY AND RICH IN LEGENDS (K-12)

CT-0419-15D 4 semester credit hours Dates: June 19-29 Location: Ireland Instructor: Joyce Webb Tuition Fee: \$2,970 (includes airfare, lodging, ground transportation, tours, credit)

Experience the unpretentious simplicity of Ireland. Tour the southwestern Emerald Isle from castles to peat bogs, and explore the famous Aran Islands, the Burrens, and the Gaelic-speaking Dingle Peninsula. Kiss the Blarney Stone and climb the Rock of Cashel.

#### To register or for more information, contact:

Joyce Webb, 719/229-5482 joycewebb@ymail.com www.coloradorivertrip.com

#### **IRELAND II: DAWNING OF A NEW DAY (K-12)**

CT-0905-15M 4 semester credit hours Dates: June 24-July 2 Location: Ireland Instructor: Joyce Webb Tuition Fee: \$2,970 (includes airfare, lodging, ground transportation, tours, credit)

Tour Dublin, Belfast, and the east coast of Ireland. Discover the past as you gaze upon the Book of Kells, explore the tomb of Newgrange, and wander through the 6<sup>th</sup> century Monastery of Glendolough. Visit Trim Castle and explore the volcanic columns of the Giant's Causeway. The past and present become blended into another Irish adventure.

To register or for more information, contact:

Joyce Webb, 719/229-5482 joycewebb@ymail.com www.coloradorivertrip.com

#### **ROCKS AND MINERALS (K-12)**

CT-9666-15D 1 semester credit hour Dates: June 29-30 Time: 8:00am-5:00pm Location: CSM campus, Golden Instructors: Pete Modreski, Jane Dianich Tuition Fee: \$95

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. See complementary "Walking Tour of Building Stones" field course below.

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

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

CT-0706-15M 4 semester credit hours Dates: July 2-11 Location: Scotland Instructor: Joyce Webb Tuition Fee: \$3,670 (includes airfare, lodging, ground transportation, tours, credit)

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 Hebrides Islands. Wander with us and scan Loch Ness for legendary monsters.

> **To register or for more information, contact:** Joyce Webb, 719/229-5482

joycewebb@ymail.com www.coloradorivertrip.com

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

CT-04131-15M 0.5 semester credit hour Date: July1 Time: 8:30am-5:00pm 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 16<sup>th</sup> Street Mall. Receive a copy of a field guide written specifically for school groups. See the complementary "Rocks and Minerals" class above.

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

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

CT-0428-15M 3.5 semester credit hours Dates: July 2-8 Location: Grand Canyon Instructor: Melanie Phelps Tuition Fee: \$3,060 (includes meals, credit)

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. This is the ultimate river trip.

#### To register or for more information, contact:

Melanie Phelps, 719/252-1789 <u>melaniephe@aol.com</u> www.coloradorivertrip.com

# DINOSAUR RIDGE TEACHERS' WORKSHOP (K-12)

CT-9206-15M 1 semester credit hour Dates: July 7-8 Time: 8:30am-5:00pm Location: Dinosaur Ridge Visitors Center, Morrison Instructors: Pete Modreski, Norb Cygan Tuition Fee: \$125

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. Visit the Trek Through Time Learning Center, the Morrison Natural History Museum, and the Triceratops Trail interpretive site in Golden.

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

#### INTRO TO PLANT PHENOLOGY AND CLIMATE CHANGE ONLINE (K-12)

CT-1213-15M 2 semester credit hours Dates: July 7-August 7 Instructor: Dennis Ward Tuition Fee: \$90 (**payable during workshop**) Registration Fee: \$35 Obtain detailed information about Project BudBurst (a plant-based citizen science program). Learn how to select your plants and make observations, get suggestions for structuring your classroom involvement, receive activities to engage your students in making observations and analyzing data, as well as forming a community with other educators.

**To register or for more information, contact:** Dennis Ward, NEON

720/746-4924 or dward@neoninc.org

#### USING PROJECT BUDBURST DATA ONLINE (K-12)

CT-1274-15M 2 semester credit hours Dates: July 7-August 7 Instructor: Dennis Ward Tuition Fee: \$90 (**payable during workshop**) Registration Fee: \$35

Integrate Project BudBurst data in your classroom. Discover an exciting new set of online data visualization tools developed by the National Geographic FieldScope program. Cover plant adaptations to a changing climate, and links between Project BudBurst data and other broadscale data sets.

> **To register or for more information, contact:** Dennis Ward, NEON 720/746-4924 or dward@neoninc.org

# INTRODUCTION TO CITIZEN SCIENCE ONLINE (K-12)

CT-1430-15M 2 semester credit hours Dates: July 7-August 7 Instructor: Dennis Ward Tuition Fee: \$90 (**payable during workshop**) Registration Fee: \$35

Receive an overview of citizen science, highlighting several existing programs that are targeted towards educators. Explore each of these programs, including how to participate, suggestions for structuring your involvement, education activities to engage your students, as well as forming a community with other educators.

> **To register or for more information, contact:** Dennis Ward, NEON 720/746-4924 or dward@neoninc.org

### **ORGANIC GARDENING FOR EDUCATORS (K-12)**

CT-1520-15M 0.5 semester credit hour Date: July 8 Time: 8:30am-5:00pm Locations: Fairview Elem., Denver Instructor: Judy Elliott Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$40 (includes lunch)

Come and get your hands dirty! Learn about horticulture in order to make your school garden lessons more effective and meaningful. Spend time in the garden and classroom exploring a foundation of gardening practices that will build confidence and skills.

> **To register or for more information:** Denver Urban Gardens 303/292-9900 or dirt@dug.org

#### YOUR HOME IS YOUR HABITAT (PREK-12)

CT-0296-15M 0.5 semester credit hour Date: July 9 Time: 9:00am-5:00pm Location: Downtown Aquarium, Denver Course Coordinator: Colleen Shipley, 303/561-4565 Tuition Fee: \$35 (payable during workshop) Registration Fee: \$75

Take an in-depth look at a variety of aquatic and terrestrial habitats while participating in cross-curricular activities that you can take back to your classroom. Take home a curriculum guide that includes background information in each habitat as well as standards-connected activities to use both in your classroom and during future visits to the Downtown Aquarium.

To register or for more information, contact:

Downtown Aquarium Sales & Service Center 303/561-4444

# ALASKA: GLACIERS, GOLD, AND GRIZZLIES (K-12)

CT-1304-15M 6 semester credit hours Dates: July 10-24 Location: Alaska Instructor: Melanie Phelps Tuition Fee: \$5,350 (includes AK airfare, ferry, lodging, ground transportation, credit)

Explore Alaska's towering mountains with sparkling deep blue glaciers, fjords, whales, grizzlies, sea lions, and rookeries. Cruise the Inland Passage on the Marine Alaska Highway Ferry. Tour Ketchikan Totem Pole Park, Glacier Bay, Kenai Fjords, Denali, and Lake Clark to see fishing grizzlies. Price may vary based upon air and ferry fares.

### To register or for more information, contact:

Melanie Phelps, 719/252-1789 melaniephe@aol.com www.coloradorivertrip.com

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

CT-0786/CT-0845/CT-1039-15M 2 semester credit hours (each week) Dates: July 12-17 (chapters 1-6) July 19-24 (chapters 7-11) July 19-24 (chapters 12-16) Time: 8:30am-4:00pm Location: CSM Campus, Golden Course Coordinator: Bob Stair Tuition Fee: \$380 (per week)

Cover 6, 11 or all 16 chapters of the 9<sup>th</sup> edition of the IPS text to enhance your knowledge and classroom performance in physical science. Experience the use of student experiments while developing an understanding of basic concepts and laboratory skills.

#### To obtain an application, contact:

Bob Stair, SCI 303/988-5041 or rstair@sci-ips.com

#### **GERMANY: ROMANS, CASTLES, & KINGS (K-12)**

CT-1509-15M 6 semester credit hours Dates: July 15-29 Location: Germany Instructor: Joyce Webb Tuition Fee: \$4,550 (includes airfare, lodging, ground transportation, tours, credit)

Visit historical castles, vibrant cities, and quaint villages while traveling across Germany. Cruise on the Rhine River and gaze in awe at the castles that line both sides. Ascend Zugspitze, the highest point in Germany. Discover where German unity and democracy were born, and then visit the infamous WWII death camp, Dachau.

#### To register or for more information, contact:

Joyce Webb, 719/229-5482 joycewebb@ymail.com www.coloradorivertrip.com

#### WASTEWATER AND AQUATIC BIOLOGY (K-12)

CT-1082-15M 0.5 semester credit hour Date: July 16 Time: 8:00am-5:00pm Location: Metro Wastewater Reclamation District, Denver Instructor: Steve Lundt Tuition Fee: no charge (you must pre-register)

Obtain an introduction to the science behind wastewater treatment. Learn about industry efforts to preserve, protect, and improve aquatic environments while protecting public health. Tour a wastewater treatment plant, a water quality laboratory, and visit a river site with a Metro District water quality scientist.

> **To register or for more information, contact:** Dawn Hoffman, Metro Wastewater Rec. District 303/286-3285 or dhoffman@mwrd.dst.co.us

#### ECHOES FROM THE PAST (K-12)

CT-03104-15M 1 semester credit hour Dates & Times: July 16 (7:30am-6:00pm) July 17 (8:00am-4:00pm) Location: Mesa Verde National Park, Durango Instructor: Tonya MacKendrick Tuition Fee: \$50 (**payable during workshop**) Registration Fee: \$170 (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 enjoy narratives of voices from long ago as you travel back in time aboard the world famous historic Durango and Silverton Narrow Gauge Railroad. Register by July 2 to guarantee a seat on the train.

> To register or for more information, contact: Tonya MacKendrick, 970/216-2326 <u>TJS4294@aol.com</u> www.wcoloradohistoricadventures.weebly.com

# SKY ABOVE, WATER BELOW: COLORADO RIVER (K-12)

CT-1507-15M 2 semester credit hours Dates & Times: Lecture: July 16 (12:30pm-8:30pm) Canoe Trip: July 18-20 Locations: Sommers-Bausch Observatory, Boulder (lecture) Instructor: Sanlyn Buxner Tuition Fee: \$499

Get away from city lights and explore magnificent canyons and deep sky objects on a canoe trip on the Colorado River. Learn to find objects in the sky and discover how scientists study planets, stars, and galaxies. Learn how the Earth helps us make claims about far away worlds, including the possibility of life. Conduct your own research project in the field and discuss how classroom investigations support the Next Generation Science Standards.

#### To register or for more information, contact:

Centennial Canoe Outfitters, 720/283-0553 info@centennialcanoe.com www.centennialcanoe.com

#### SILVER, GOLD, AND GHOSTS: HISTORY OF MINING IN THE SAN JUANS (K-12)

CT-0559-15M 1 semester credit hour Dates & Times: July 20 (8:00am-5:00pm) July21 (7:45am-4:00pm) Location: Ouray, Silverton Instructor: Tonya MacKendrick Tuition Fee: \$50 (**payable during workshop**) Registration Fee: \$140 (meals, lodging, and transportation on your own)

Explore the history of silver and gold in the beautiful 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 professionally guided jeep tour to Yankee Boy Basin viewing mining sites along the way.

#### To register or for more information, contact:

Tonya MacKendrick, 970/216-2326 <u>TJS4294@aol.com</u> www.wcoloradohistoricadventures.weebly.com

# THE MIGHTY SAN JUANS: MINING HISTORY AND

### SURVIVAL (K-12)

CT-1434-15M 1 semester credit hour Dates & Times: July 23 (7:00am-5:30pm) July 24 (8:00am-3:00pm) Locations: Ouray and Telluride Instructor: Tonya MacKendrick Tuition Fee: \$50 (**payable during workshop**) Registration Fee: \$175 (meals, lodging, and transportation on your own) Experience the mighty San Juans from a new perspective. Take a guided jeep tour through the heart of the San Juans over Ophir Pass and Imogene Pass. The learn about the hardships and triumphs experienced by early miners as you explore the past of Telluride through guided walking tours. This class will involve some walking and moving around at high altitudes.

### To register or for more information, contact:

Tonya MacKendrick, 970/216-2326 TJS4294@aol.com

www.wcolorado historicad ventures.weebly.com

### HAWAIIAN ISLANDS ADVENTURE (GR. 6-12)

CT-1508-15M 3 semester credit hours Dates: July 23-August 6 Location: Hawaiian Islands Instructors: Mike Sipes, Marilyn Schmidt Tuition Fee: \$130 (**payable during trip**) Registration Fee: \$4,000 (includes airfare from Denver), \$3,050 from other cities (airfare additional)

Travel to the Hawaiian Islands to explore Hawaii, Kauai, and Maui. The state of Hawaii with its active volcanoes, cloud forests, and pristine coral reefs, is the most diverse state in the country. Experience Hawaiian culture, and visit many of the places for which this state is well known.

> **To register or for more information, contact:** Mike Sipes, 303/237-4975 mpsipes@centurylink.net

#### ALASKA II (K-12)

CT-1505-15M 2 semester credit hours Dates: July 24-27 Location: Prince William Sound, Alaska Instructor: Melanie Phelps Tuition Fee: \$1,090 (includes ferry, train, lodging, ground transportation, credit)

Travel by train and ferry to Valdez to explore Prince William Sound. Kayak among glacial icebergs calved from the huge Columbia Glacier. Explore the Old Valdez town site that was destroyed in the 1964 earthquake. Journey along the Richardson Highway to view the pipeline terminus and the Worthington Glacier. See the spectacular mountains of the Wrangell in St. Elias National Park.

#### **To register or for more information, contact:** Melanie Phelps, 719/252-1789

melaniephe@aol.com www.coloradorivertrip.com

#### AQUARIUMS AND YOUR CLASSROOM (GR. 1-12)

CT-0259-15M 0.5 semester credit hour Date: July 29 Time: 9:00am-5:00pm Location: Downtown Aquarium, Denver Course Coordinator: Colleen Shipley, 303/561-4565 Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$75

Learn and see how to do 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-thescenes tour, and meet staff to discuss aquarium careers. Bring the ocean to your classroom, and your class to the ocean, in Denver!

#### To register or for more information, contact:

Downtown Aquarium Sales & Service Center 303/561-4444

#### BELIZE: CORAL REEFS AND MAYA RUINS (K-12)

CT-1112-15M 4 semester credit hours Dates: August 1-9 Location: Belize, Central America Instructor: Melanie Phelps Tuition Fee: \$2,370 (includes lodging, ground transportation, credit)

Submerge yourself in the colorful world of the Belize coral reefs. Explore the fish as they change sexes, groom each other, and develop complex relationships of symbiosis. Then wander into the land of the ancient Mayans, with their extravagant architecture, rituals, and games.

To register or for more information, contact:

Melanie Phelps, 719/252-1789 melaniephe@aol.com www.coloradorivertrip.com

### **Additional Programs of Interest**

#### **Rocky Mountain Conservancy – Field Institute**

Most field seminars are field-based, hands-on learning experiences in Rocky Mountain National Park. A wide range of topics are available. Visit our website at <u>www.rmconservancy.org</u>. If you have any questions, including information on our refund policy, would like to talk with a person at the Field Seminar Center, or experience technical difficulties, please call (970) 586 3262. Many of our seminars fill up, so please register early. We look forward to seeing you in a field seminar this year. RMNA membership discounts are available.

#### **EcoAdventure Course Offerings**

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

#### WILDFLOWERS OF THE ROCKIES (K-12)

CT-9613-15D 1 semester credit hour Dates & Times: Session I: June 13 (9:00am-5:00pm) June 14 (9:00am-4:00pm) Session II: June 25 (9:00am-5:00pm) June 26 (9:00am4:00pm) Location: EcoAdventures, Morrison Tuition Fee: \$155 (\$175 after May 28<sup>th</sup>/June 10<sup>th</sup>)

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.

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

CT-0519-15D 1 semester credit hour Dates & Times: June 16 (9:00am-5:00pm) June 17 (9:00am-4:00pm) Location: EcoAdventures, Morrison Tuition Fee: \$150 (**\$170 after June 1**<sup>st</sup>)

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.

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

CT-95106-15D 1 semester credit hour Dates & Times: June 20 (9:00am-5:00pm) June 21 (9:00am-4:00pm) Location: EcoAdventures, Morrison Tuition Fee: \$155 (**\$175 after June 4**<sup>th</sup>)

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.

#### **BEAVER ECOLOGY (K-12)**

CT-95102-15M 1 semester credit hour Dates & Times: June 30 (1:00-9:00pm) July 1 (2:00-9:00pm) Location: EcoAdventures, Morrison Tuition Fee: \$150 (**\$170 after June 11**<sup>th</sup>)

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.

#### NATIVE AMERICAN GAMES AND TOYS (K-8)

CT-0104-15M 1 semester credit hour Dates & Times: July 7 (9:00am-5:00pm) July 8 (9:00am-4:00pm) Location: EcoAdventures, Morrison Tuition Fee: \$165 (**\$185 after June 29<sup>th</sup>**)

Explore the games and toys of various Native American people in this hands-on history class. Discover that many of the toys and games also had other benefits, such as modeling of adult roles and physical conditioning. Make several toys and games to take back to your classroom. Great for indoor recess activities!

#### MOOSE IN COLORADO (K-12)

CT-0922-15M 1 semester credit hour Dates & Times: July 22 (1:00-9:00pm) July 23 (7:00am-3:00pm) Location: near Granby, Rand, Gould Tuition Fee: \$150 (**\$170 after July 2<sup>nd</sup>**)

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.

#### TAMING THE FRONTIER: COLORADO'S PIONEERS AND HOMESTEADERS (K-12)

CT-1125-15M 1 semester credit hour Dates & Times: August 1 (9:00am-5:00pm) August 2 (9:00am-4:00pm) Location: EcoAdventures, Morrison Instructor: Trey Corkern Tuition Fee: \$155 (**\$175 after July 16<sup>th</sup>**)

How did men, women, and children cross an ocean of prairie to build homes and communities? Make sausage, plant heirloom seeds, and make cheese. Learn how to shoe a horse, pack a wagon, and harness draft animals. Visit a working homestead.

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

CT-9737-15M 1 semester credit hour Dates & Times: August 8 (8:00am-5:00pm) August 9 (2:00pm-8:00pm) Location: EcoAdventures, Morrison Tuition Fee: \$165 (**\$185 after July 23<sup>rd</sup>**)

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, 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 Pamsecoadventures.com

#### **Registration/Cancellation/Refund Policy**

If payments have not been received by the registration deadline (2 <sup>1</sup>/<sub>2</sub> 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 Botanic Gardens Course Offerings**

Note: Register for DBG courses through the Gardens. See box below.

#### **BUILDING A SCHOOL YARD GARDEN (K-12)**

CT-0812-15D 0.5 semester credit hour Date: June 15 Time: 8:30am-4:30pm Location: Denver Botanic Gardens Instructor: Kirsten Bell Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$50 DBG member; \$55 non-member

Learn how to create a simple vegetable garden in your school yard either in the ground or in containers. Get tips on gardening, plants suitable for your school year season, and ideas on how to incorporate a school yard garden curriculum into your reading, writing, math, science, and social studies.

#### THE GROWING CLASSROOM (K-12)

CT-1221-15D 0.5 semester credit hour Date: June 22 Time: 8:30am-4:30pm Location: Denver Botanic Gardens Instructor: Kirsten Bell Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$50 DBG member, \$55 non-member

Classrooms are often hot, cold, or have little to no natural light – all conditions not suitable for growing plants. With a little know-how, your classroom can be green and lush year round. Learn techniques and tips for successfully growing plants in your classroom, and take home a variety of plants you planted yourself.

#### **TEACHING PLANTS FROM ROOT TO SEED (K-12)**

CT-0646-15D 0.5 semester credit hour Date: June 29 Time: 8:30am-4:30pm Location: Denver Botanic Gardens Instructor: Kirsten Bell Tuition Fee: \$35 (**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.

# READING, WRITING & ARITHMETIC IN THE GARDEN (PREK-5)

CT-1220-15M 0.5 semester credit hour Date: July 20 Time: 8:30am-4:30pm Location: Denver Botanic Gardens Instructor: Melissa Gula Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$50 DBG member; \$55 non-member

Learn how to use your garden or classroom plants to teach a variety of subjects. Get easy-to-implement ideas on how to teach your content area requirements using plants and gardens. Explore a variety of activities that provide hands-on learning opportunities for your students in math, reading, writing, and social studies.

> To register by phone/email: DBG Registrar, 720/865-3580 registrar@botanicgardens.org

To register online: http://catalog.botanicgardens.org

### **Butterfly Pavilion Course Offerings**

#### Note: Register for Butterfly Pavilion courses through the Pavilion. See box below.

#### WHO SWALLOWED A FLY? (K-5)

CT-0532-15D 0.5 semester credit hour Date: June 9 Time: 8:00am-5:00pm Instructors: Christine Leahy, Deborah Brooks Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$45

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.

#### SECRETS OF THE RAINFOREST: FROM MORPHOS TO MALACHITES (K-5)

CT-1108-15D 0.5 semester credit hour Date: June 17 Time: 8:00am-5:00pm Instructors: Debbie Brooks, Christine Leahy Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$45

Discover the role butterflies play in diverse and disappearing rainforest ecosystems. Learn how to teach sustainability and conservation in a compelling and understandable way. Our hands-on, interdisciplinary activities will compliment and add to any classroom life science unit.

#### **DRAGONFLIES TALE (K-6)**

CT-0713-15M 0.5 semester credit hour Date: July 23 Time: 8:00am-5:00pm Instructors: Christine Leahy, Deborah Brooks Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$45

Explore five different Native American cultures through their stories and 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.

#### **INSECTS IN ART AND CULTURE (K-12)**

CT-0321-15M 1 semester credit hour Dates: July 28 & 30 Time: 8:00am-5:00pm Instructors: Christine Leahy, Deborah Brooks Tuition Fee: \$50 (payable during workshop) Registration Fee: \$90

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.

#### ART AND SCIENCE SERIES (GR. 5-12)

#### CT-0921

0.5 semester credit hour Location: Butterfly Pavilion, Westminster Instructors: Deborah Brooks, Christine Leahy Tuition Fee: \$35 (payable during each workshop)

#### PAPERMAKING & PAPER WASPS/

DREAMCATCHERS AND SPIDERS Date: June 25 Time: 8:00am-5:00pm Registration Fee: \$45

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. Then 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.

#### PRINTMAKING/SCIENTIFIC ILLUSTRATION

Date: July 7 Time: 8:00am-5:00pm Registration Fee: \$45

What is an aquatic invertebrate? Discover the numerous species that live in our world's oceans and other bodies of water. Make prints from latex models of several aquatic invertebrates. Then explore historic scientific illustrators who revolutionized the scientific discovery and classification of plant and insect species with observational methods still in practice today. Learn to identify, observe, and draw simple versions of a variety of plants.

### GOURD BASKETS AND POLLINATORS/BATIK &

INSECTS Date: July 15 Time: 8:00am-5:00pm 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. Discover the role of insects used in an ancient form of fabric decoration, batik. Then 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.

> To register or for more information, contact: Butterfly Pavilion Adult Education 720/974-1862 education@butterflies.org

### **Project WILD - Project Learning Tree**

Projects WILD and Learning Tree 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 and Learning Tree 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 nonrefundable 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.

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

CT-0720
3 semester credit hours
Session I: Dates: 8am, June 8 through 3pm, June 12 Location: Ft. Lewis College, Durango
Session II: Dates: 10am, July 6 through 4pm, July 11 Location: The Nature Place, Florissant
Tuition Fee: \$130 (payable during institute) Registration Fee: \$250 (includes meals, lodging &

materials)

Wildfire is scientific, fascinating, relevant, emotional, and natural. Explore and receive fire activities, kits, trunks, experiments, videos, cds, posters, and more. Experience field and research-based activities while learning about fire, insects, and drought from fire and natural resource professionals. Visit and study fire sites and mitigation efforts, and experience inquiry experiments.

### To register or for more information, contact:

Shawna Crocker 303/278-8822, www.coloradoplt.org

#### GROWING UP WILD! - EARLY CHILDHOOD PROJECT WILD (ECE-PREK)

CT-0974-15M 0.5 semester credit hour Date: July 13 Time: 8:00am-5:00pm Location: Butterfly Pavilion, Westminster Tuition Fee: \$35 (**payable during workshop**) Registration Fee: \$45

Explore the early childhood curriculum from Project WILD that builds on children's sense of wonder about nature and invites them to explore wildlife and the world around them.

> **To register or for more information, contact:** Christine Leahy, Butterfly Pavilion 720/974-1862, cleahy@butterflies.org

#### **AQUATIC PROJECT WILD (K-12)**

CT-9684-15M 0.5 semester credit hour Date: July 30 Time: 9:00am-5:00pm Location: Downtown Aquarium, Denver Tuition Fee: \$35 (**payable during each workshop**) Registration Fee: \$25

Receive activities that emphasize an interdisciplinary approach to teaching about aquatic life. Using hands-on activities that create awareness, appreciation, understanding, skills, and commitment you and your students will learn to address environmental and aquatic topics within the framework of your existing curriculum.

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

For updated information: Project WILD, 303/291-7165 Project Learning Tree, 303/278-8822 <u>www.coloradoplt.org</u> <u>www.wildlife.state.co.us/Education</u>

### **Denver Museum of Nature & Science Course Offerings**

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

#### SIMPLY SCIENCE (PREK-1)

CT-1025-15D 1.5 semester credit hours Dates: June 25-27 Time: 8:00am-4:30pm Instructor: Kristen Jensen Tuition Fee: \$50

Build your science content knowledge while learning how to incorporate and nurture science into your classroom. Enjoy a variety of in-depth experiences that explore an inquiry approach to science. Workshop will include discussions with Museum staff and scientists; connections to science concepts through math and children's fiction and nonfiction books; and hands-on interdisciplinary activities that incorporate art and manipulatives.

#### SIMPLY SCIENCE II (PREK-1)

CT-1118-15M 1 semester credit hour Dates: July 23-24 Time: 8:00am-4:30pm Instructor: Kristen Jensen Tuition Fee: \$50

In this follow-up workshop, continue to build your science content knowledge while learning how to incorporate more science into your classroom. Receive ample time to collaborate, brainstorm, and discuss ways to apply concepts.

#### ELEMENTARY INQUIRY ACADEMY HYBRID COURSE (GR. 3-5)

CT-1150-15F 3 semester credit hours Dates: June 15-October 10 June 15-18 (8:00am-3:30pm) October 10 (8:00am-3:00pm) August 30-Oct. 10 (online portion) Instructor: Robert Payo Tuition Fee: \$150

Become inspired by what inquiry teaching can do for you and your students. Delve into inquiry learning for your classroom with attention to  $21^{st}$  century skills. This handson learning experience provides fun and inventive ways of using inquiry while capitalizing on the life and physical science resources and experts available at the Museum. After experiencing inquiry learning first-hand during the onsite sessions, the six-week online portion extends your experience and helps you incorporate these new skills into your daily teaching practice with the support of your Museum facilitator and your fellow colleagues. Focus on how support inquiry across the curriculum through Colorado Standards and Next Generation Science Standards. Receive a \$150 stipend upon successful completion of the workshop.

# M.S. INQUIRY ACADEMY HYBRID COURSE (GR. 6-8)

CT-1214-15F 3 semester credit hours Dates: June 29-October 17 June 29-July 2 (8:00am-3:30pm) October 17 (8:00am-3:00pm) September 6-October 17 (online portion) Instructor: Tim Blesse Tuition Fee: \$150

Become inspired by what inquiry teaching can do for you and your students. Delve into inquiry learning and 21st century skills for your classroom. This hands-on learning experience provides fun and inventive ways of using inquiry while capitalizing on the life and physical science resources and experts available at the Museum. After experiencing inquiry learning first-hand during the onsite sessions, the six-week online portion extends your experience and helps you incorporate these new skills into your daily teaching practice with the support of your Museum facilitator and your fellow colleagues. Focus on how support inquiry across the curriculum through Colorado Standards and Next Generation Science Standards. Receive a \$150 stipend upon successful completion of the workshop.

For more information, contact: <u>teacherprograms@dmns.org</u> Register online at: <u>www.dmns.org/teachers/professional-</u> development

### **Course Enrollment Form**

Please Print			
Full Name:			
Mailing Address:			
City:	State:	Zip:	
Social Security Number*:		Date of Birth:	
Telephone: (school)	(hoi	me)	
School:	Grade Level:		
Email:			
When CSM is the registration contact, I pre	fer to receive a confirmation	on letter by:	
o E-mail:			
o Fax; fax number: ()			
oMail	*re	*required if taking course for credit	
Are you Hispanic/Latino? Yes/No			
Select one or more:			
American Indian or Alaska Native	Native Hawa	aiian or Other Pacific Islander	
Asian	White		
Black or African American			

### Indicate the course(s) for which you are registering

Course #	Course Title	<b>Course Dates</b>	Tuition
СТ			<u> </u>
СТ			
		Total:	

Please follow carefully the specific registration instructions which accompany each course listing in this catalog. When the Teacher Enhancement Program is the registration contact fill out the enrollment form 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. Do NOT mail this form to us unless we are listed as the registration contact!

Make checks payable to CSM Office of Continuing Education.

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

CSM Teacher Enhancement Program 1600 Jackson St., Ste. 160A Golden, CO 80401 Phone: (303) 279-3855 http://te.csmspace.com