

# Teacher Enhancement Program for K-12 Educators

AT THE COLORADO SCHOOL OF MINES



SUMMER 2012

<http://te.csmspace.com>

# COLORADO SCHOOL OF MINES

## Teacher Enhancement Program

### Summer 2012

#### 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 **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. 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*

## Summer 2012 Course Offerings

### PARIS TO NORMANDY: WORLD WAR I AND II SITES (K-12)

CT-0964-12D  
4 semester credit hours  
Dates: May 26-June 5  
Locations: Belgium & France  
Instructor: Joyce Webb  
Tuition Fee: \$3,970 (includes airfare, lodging, ground transportation, entry fees)

Explore trenches and bunkers used during the German occupation of Belgium's North Coast. Tour the battlefields in Southern Belgium's Flanders Field; then travel to Normandy for an in-depth view of WWII's beaches, cemeteries and other war sites. Continue your journey to Paris for a visit to one of the world's best WWI and II museums. Learn how the German occupation affected Belgium, Paris, and the rest of France.

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

Joyce Webb, 719/229-5482  
[joycewebb@ymail.com](mailto:joycewebb@ymail.com)  
[www.coloradorivertrip.com](http://www.coloradorivertrip.com)

### RMNA TEACHER INSTITUTE (K-12)

CT-1044-12D  
2 semester credit hours  
Dates: June 4-7  
Time: 8:00am-4:30pm  
Location: Rocky Mtn. Nature Assoc., Estes Park  
Instructors: J'Ann Wright, Rachel Balduzzi  
Tuition Fee: \$50 (**payable during workshop**)

The RMNA Institute is designed to provide you with a hands-on learning experience while helping you explore the resources available through the RMNA and Rocky Mountain National Park. Develop ways to integrate environmental awareness and stewardship into your curricula. The first credit is paid through a grant from the Next Generation Fund.

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

Rachel Balduzzi, Rocky Mtn Nature Assoc.  
970/586-3262, [Rachel.Balduzzi@rmna.org](mailto:Rachel.Balduzzi@rmna.org)

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

CT-1216-12M  
2 semester credit hours  
Dates: June 4-August 12  
Instructor: Katie Navin  
Tuition Fee: \$90 (**payable during workshop**)  
Registration Fee: \$100

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 via distance learning. Become eligible to submit your work for certification in CAEE's certification program.

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

Malinda Mochizuki, CAEE  
303/273-9527, [outreach@caee.org](mailto:outreach@caee.org)

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

CT-0805-12D  
5 semester credit hours  
Dates: June 5-17  
Location: Italy  
Instructor: Joyce Webb  
Tuition Fee: \$4,210 (includes airfare, lodging, ground transportation, entry fees)

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:**

Joyce Webb, 719/229-5482  
[joycewebb@ymail.com](mailto:joycewebb@ymail.com)  
[www.coloradorivertrip.com](http://www.coloradorivertrip.com)

### ECOLOGICAL CATTLE RANCHING (K-12)

CT-0300-12D  
3 semester credit hours  
Dates: June 9-16  
Location: Dove Creek  
Tuition Fee: \$130 (**payable during workshop**)  
Registration Fee: \$1,200 (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 Jones  
970/883-2548 or [cjscolors@frontier.net](mailto:cjscolors@frontier.net)

### SCIENCE AND ART (K-6)

CT-0054-12D  
2 semester credit hours  
Dates: June 11-14  
Time: 8:00am-5:00pm  
Location: WarrenTech North, Arvada  
Course Coordinator: Sue Berger  
Tuition Fee: \$90 (**payable during workshop**)  
Materials & Supplies Fee: \$300 (registration deadline 4/30/12)

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  
[saberger2011@gmail.com](mailto:saberger2011@gmail.com)

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

CT-5700-12M

6 semester credit hours

Dates: June 11-July 6

Time: approx. 8:00am - early-mid afternoon (except on all-day field trips)

Location: CSM campus, Golden

Instructors: more than eighty-five authorities from industry, government, academia & private groups

Tuition Fee: \$250 (\$300 for registrations after May 31)

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, [colomine@coloradomining.org](mailto:colomine@coloradomining.org)

[www.allaboutmining.org](http://www.allaboutmining.org)

## **TEACHING ENVIRONMENTAL ISSUES IN THE CLASSROOM (GR. 5-12)**

CT-0858-12D

0.5 semester credit hour

Date: June 14

Time: 9:00am-5:00pm

Location: Aspen Center for Environmental Studies

Instructor: Katie Navin

Tuition Fee: \$35 (**payable during workshop**)

Registration Fee: \$30

Are you looking for tools and techniques to help address environmental issues and controversy in the classroom? Explore your role in facilitating the investigation and evaluation of environmental issues by modeling a variety of environmental education strategies to analyze and resolve issues.

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

Malinda Mochizuki, CAEE

303/273-9527 or [outreach@caee.org](mailto:outreach@caee.org)

## **ASTRONOMY FOR EDUCATORS (K-12)**

CT-1231-12D

1 semester credit hour

Dates: June 14-15

Times:

8:00am-5:00pm, and 8:30-10:30pm – day 1

8:00am-5:00pm – day 2

Location: Colorado Mountain Club, Golden

Instructor: Mike Zawaski, 970/302-8043

Tuition Fee: \$50 (**payable during workshop**)

Registration Fee: \$95 CMC member, \$105 non-member

Immerse yourself in the study of astronomy and the practice of sky watching with inquiry-based lessons (including Kinesthetic Astronomy) and evening sky watching. Content will include sky motions of the sun, planets, stars, seasons, and phase of the moon. Teaching materials will be provided.

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

Colorado Mountain Club

[www.cmc.org/astronomyforeducators](http://www.cmc.org/astronomyforeducators)

## **MUSEUMS OF PARIS (K-12)**

CT-04132-12D

4 semester credit hours

Dates: June 17-25

Location: Paris, France

Instructor: Joyce Webb

Tuition Fee: \$3,470 (includes airfare, lodging, ground transportation, entrance fees)

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:**

Joyce Webb, 719/229-5482

[joycewebb@ymail.com](mailto:joycewebb@ymail.com)

[www.coloradorivertrip.com](http://www.coloradorivertrip.com)

## **DINOSAUR RIDGE TEACHERS' WORKSHOP (K-12)**

CT-9206-12D

1 semester credit hour

Dates: June 18-19

Time: 8:30am-5:00pm

Location: Dinosaur Ridge Visitors Center, Morrison

Instructors: Pete Modreski, Norb Cygan

Tuition Fee: \$120

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 near Fossil Trace in Golden.

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

## **HAWAII: VOLCANOES & CORAL REEFS (K-12)**

CT-0906-12D

4 semester credit hours

Dates: June 18-27

Location: Big Island of Hawaii

Instructor: Melanie Phelps

Tuition Fee: \$2,800 (includes airfare, ground transportation, lodging, entrance fees)

Explore Hawaii's Big Island – the newest land on earth. 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, 719/252-1789

[melaniephe@aol.com](mailto:melaniephe@aol.com)

[www.coloradorivertrip.com](http://www.coloradorivertrip.com)

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

CT-0829-12D

2 semester credit hours

Dates: June 18-21

Time: 8:00am-5:00pm

Location: WarrenTech North, Arvada

Course Coordinator: Sue Berger

Tuition Fee: \$90 (**payable during workshop**)

Materials & Supplies Fee: \$300 (registration deadline 4/30/12)

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. Some of the topics covered will include global warming, electricity, wind and solar power, the scientific method, energy, weather, and Newton's Laws.

**To obtain an application, contact:**

Sue Anne Berger, 303/674-7386  
saberger2011@gmail.com

**DIGITAL PHOTOGRAPHY ONLINE (K-12)**

CT-0562-12M  
1.5 semester credit hours  
Dates: June 18-July 16  
Location: Online course  
Instructor: John LaFerlita  
Registration Fee: \$200

Learn how to take better photographs and to edit the images using the free online version of Adobe Photoshop Elements. Topics will include light, composition, nature (landscape and close-ups). This class is for beginners using a PC or a Mac with a DVD player. You will need a basic understanding of computers and the Internet. Instruction is by online videos created specifically for the class.

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

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

**DIGITAL PHOTOGRAPHY AND POWERPOINT ONLINE (K-12)**

CT-05120-12M  
1.5 semester credit hours  
Dates: June 18-July 16  
Location: Online course  
Instructor: John LaFerlita  
Registration Fee: \$200

Learn how to take better photographs and transfer them into PowerPoint. Emphasis will be on creating a more visually oriented presentation. This class is for beginners using a PC or a Mac with a DVD player. You will need a basic understanding of computers and the Internet. Instruction is by online videos that have been created specifically for the class.

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

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

**ADOBE PHOTOSHOP ELEMENTS ONLINE (K-12)**

CT-0737-12M  
1.5 semester credit hours  
Dates: June 18-July 16  
Location: Online course  
Instructor: John LaFerlita  
Registration Fee: \$200

Learn to edit photographs and create slide shows that you can use in the classroom with the free online version of Adobe Photoshop Elements. This class is for beginners using a PC or a Mac with a DVD player. You will need a basic understanding of computers and the Internet. Instruction is by online videos that have been created specifically for the class.

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

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

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

CT-9157-12D  
1 semester credit hour  
Dates: June 19-20  
Time: 9:00am-5:00pm  
Location: Dumb Friends League, Denver  
Instructor: Nicole Schimming  
Tuition Fee: \$125

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.

**THE SCIENCE OF CLIMBING (K-12)**

CT-1217-12D  
1.5 semester credit hours  
Dates: June 19-21  
Time: 8:00am-5:00pm  
Locations: The Colorado Mountain Club & climbing sites, Golden  
Instructor: Mike Zawaski, 970/302-8043  
Tuition Fee: \$80 (**payable during workshop**)  
Registration Fee: \$120 CMC member, \$130 non-member

Learn basic climbing skills at local climbing areas, and explore how these rocks fit into Colorado's geologic history. Experience the connections between rock climbing and physical concepts such as friction, force, and motion on the innovative, hands-on equipment used by the Colorado Mountain Club's Youth Education Program.

**To register or for more information:**

Colorado Mountain Club  
[www.cmc.org/scienceofclimbingforeducators](http://www.cmc.org/scienceofclimbingforeducators)

**MOUNTAIN GORILLAS & PEOPLE (GR. 4-12)**

CT-0511-12D  
0.5 semester credit hour  
Date: June 23  
Time: 9:00am-5:00pm  
Location: Lone Tree Library  
Instructor: Laura Arndt  
Tuition Fee: \$90

These science inquiry activities provide a fascinating theme for teaching niches and ecosystems, DNA analysis, population trends, human impacts on the environment, food webs, biodiversity, data analysis, mapping, and more. Activities are based on current scientific research data and ongoing conservation projects.

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

Laura Arndt  
303/660-6925 or [laura.arndt1@gmail.com](mailto:laura.arndt1@gmail.com)

## **HIGH COUNTRY EQUESTRIAN ADVENTURE I (K-12)**

CT-9667-12D  
3 semester credit hours  
Dates: June 24-29  
Location: San Juan Mtns.  
Tuition Fee: \$130 (**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 Entihar Jones  
970/883-2548 or [cjscolors@frontier.net](mailto:cjscolors@frontier.net)

## **GEOLOGIC PRINCIPLES FOR EDUCATORS (GR. 5-12)**

CT-1121-12D  
1.5 semester credit hours  
Dates: June 25-27  
Time: 8:00am-5:00pm  
Location: Dinosaur Ridge, Morrison  
Instructor: Mike Zawaski  
Tuition Fee: \$80 (**payable during workshop**)  
Registration Fee: \$120

The first skill in learning geology is making good observations of rocks. Learn how to determine past environments that existed when different Colorado rocks formed, and why those rocks are now at the tops of mountains. Receive inquiry-based lesson plans and 50+ rocks. For more information, visit <http://observantnaturalist.org/teachers-rock.html>.

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

Mike Zawaski, 970/302-8043  
[mike@observantnaturalist.org](mailto:mike@observantnaturalist.org)

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

CT-0419-12M  
4 semester credit hours  
Dates: June 25-July 3  
Location: Ireland  
Instructor: Joyce Webb  
Tuition Fee: \$2,670 (includes airfare, lodging, ground transportation, and tours)

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](mailto:joycewebb@ymail.com)  
[www.coloradorivertrip.com](http://www.coloradorivertrip.com)

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

CT-9666-12D  
1 semester credit hour  
Dates: June 26-27  
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 field course below.

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

## **WASTEWATER AND RENEWABLE RESOURCES (K-12)**

CT-1215-12D  
0.5 semester credit hour  
Date: June 27  
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 the laboratory.

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

Kelley Merritt, Metro Wastewater District  
303/286-3455 or [kmerritt@mwrdd.dst.co.us](mailto:kmerritt@mwrdd.dst.co.us)

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

CT-04131-12D  
0.5 semester credit hour  
Date: June 28  
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.

## **GEOLOGY & HISTORY OF THE CRIPPLE CREEK MINING DISTRICT (K-12)**

CT-1232-12D  
0.5 semester credit hour  
Date: June 30  
Time: 8:30am-6:00pm  
Location: Cripple Creek Parks & Rec.  
Instructor: Steven Veatch  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$25

Explore the District's remarkable modern and historic mining operations. Learn about the geology and rich mining history of the area, then tour current mining operations of the Cripple Creek and Victor Gold Mining Company. Receive a resource CD for your classroom.

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

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

CT-0905-12M  
4 semester credit hours  
Dates: July 2-10  
Location: Eastern & Northern Ireland  
Instructor: Joyce Webb  
Tuition Fee: \$2,770 (includes airfare, lodging, ground transportation, and tours)

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

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

CT-0428-12M  
3.5 semester credit hours  
Dates: July 5-11  
Location: Grand Canyon  
Instructor: Melanie Phelps  
Tuition Fee: \$2,750

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  
[melaniephe@aol.com](mailto:melaniephe@aol.com)  
www.coloradorivertrip.com

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

CT-0841-12M  
1 semester credit hour  
Dates: July 10 & 12  
Time: 8:00am-5:00pm  
Locations: Denver and Centennial  
Instructors: Raylene Owen, JoAnne Scarbeary  
Tuition Fee: \$50 (**payable during workshop**)  
Registration Fee: \$35

Explore the history, science, and civics of water in the West through the use of hands-on, inquiry-based lessons. Using a variety of curricula support materials, leave with a heightened awareness of water issues and informal science resources to bring practical water education to your students.

**To register or for more information, contact:**  
Casey Davenhill  
Cherry Creek Stewardship Partners  
303/345-1675 or [casey@cherry-creek.org](mailto:casey@cherry-creek.org)

## **CAVES, CASTLES, AND COLORFUL CHARACTERS: HISTORY OF GLENWOOD SPRINGS TO MARBLE (K-12)**

CT-1042-12M  
1 semester credit hour  
Dates: July 12-13  
Time: 8:00am-5:00pm  
Locations: Glenwood Springs, Carbondale, Marble  
Instructor: Tonya MacKendrick  
Tuition Fee: \$50 (**payable during workshop**)  
Registration Fee: \$145 (meals, lodging, and transportation on your own)

Experience the rich natural and human history of Glenwood Springs, Carbondale, and Marble. Pass into the underworld for a thrilling tour of the Fairy Caves. Enjoy learning about colorful characters such as Doc Holiday. Take a guided jeep tour to the historic Crystal Mills and Crystal City, learning about the rich mining history of the Marble area.

**To register or for more information, contact:**  
Tonya MacKendrick, 970/216-2326  
[TJS4294@aol.com](mailto:TJS4294@aol.com)  
[www.wcolohistoricadventures.web.officelive.com](http://www.wcolohistoricadventures.web.officelive.com)

## **USING FORENSIC SCIENCE TO SOLVE A WILDLIFE CRIME (GR. 6-12)**

CT-0748-12M  
1 semester credit hour  
Dates: July 14-15  
Time: 8:30am-4:30pm  
Location: The Wildlife Experience, Parker  
Instructor: Laura Arndt  
Tuition Fee: \$135

Become an investigator of a wildlife crime with NSTA's forensics CSI curriculum book. Practice eight forensic lab procedures; then piece together clues from the crime reports, interviews, and physical evidence. Finally, identify the victim, suspect, and violated wildlife laws. Course facilitated by the author.

**To register or for more information, contact:**  
Laura Arndt  
303/660-6925 or [laura.arndt1@gmail.com](mailto:laura.arndt1@gmail.com)

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

CT-0786/CT-0845/CT-1039-12M  
2 semester credit hours (each week)

Dates:

July 15-20 (chapters 1-6)  
July 22-27 (chapters 7-11)  
July 22-27 (chapters 12-16)

Time: 8:30am-4:00pm

Location: CSM Campus, Golden

Instructors: Graden Kirksey, Peter Gendel, Bob Stair

Tuition Fee: \$385 (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. The use of software in student experimentation and the evaluation of student work will be discussed.

### **To obtain an application, contact:**

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

## **THE GREEN RIVER – MAJESTIC JOURNEY FROM GLACIERS TO GORGES (K-12)**

CT-0355-12M

5 semester credit hours

Dates: July 18-28

Locations: Yellowstone & Grand Teton National Parks,  
Flaming Gorge, Dinosaur National Monument

Instructor: Melanie Phelps

Tuition Fee: \$1,600

Discover river headwaters, geysers, mud pots, and mountains while exploring Yellowstone and the Grand Tetons National Parks. Follow the Green River from its mother snowfields of Wyoming and into the sandstone cliffs of Dinosaur National Monument. Whitewater raft and canoe through convoluted canyons while conducting authentic environmental research.

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

Melanie Phelps, 719/252-1789  
[melaniephe@aol.com](mailto:melaniephe@aol.com)  
[www.coloradorivertrip.com](http://www.coloradorivertrip.com)

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

CT-03104-12M

1 semester credit hour

Dates & Times:

July 19 (7:15am-5:30pm)  
July 20 (9:00am-4:00pm)

Location: Mesa Verde National Park, Durango

Instructor: Tonya MacKendrick

Tuition Fee: \$50 (**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 MacKendrick, 970/216-2326  
[TJS4294@aol.com](mailto:TJS4294@aol.com)  
[www.wcolohistoricadventures.web.officelive.com](http://www.wcolohistoricadventures.web.officelive.com)

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

CT-0259-12M

0.5 semester credit hour

Date: July 24

Time: 9:30am-5:30pm

Location: Downtown Aquarium, Denver

Course Coordinator: Colleen Shipley, 303/561-4565

Tuition Fee: \$35 (**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

## **OCEAN LITERACY (PREK-12)**

CT-0710-12M

0.5 semester credit hour

Date: July 25

Time: 9:30am-5:30pm

Location: Downtown Aquarium, Denver

Course Coordinator: Colleen Shipley, 303/561-4565

Tuition Fee: \$35 (**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

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

CT-0296-12M

0.5 semester credit hour

Date: July 26

Time: 9:30am-5:30pm

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 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 register or for more information, contact:**

Downtown Aquarium Sales & Service Center  
303/561-4444



## WASTEWATER AND AQUATIC BIOLOGY (K-12)

CT-1082-12M  
0.5 semester credit hour  
Date: July 26  
Time: 8:00am-5:00pm  
Location: Metro Wastewater Reclamation District,  
Denver  
Instructor: Julie Stahl  
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 working water quality laboratory, and the site of an aquatic habitat improvement program.

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

Kelley Merritt, Metro Wastewater District  
303/286-3455 or kmerritt@mwr.dst.co.us

## ALASKA ADVENTURE (GR. 6-12)

CT-1210-12M  
3 semester credit hours  
Dates: July 27-August 9  
Location: Alaska  
Course Coordinators: Mike Sipes, Marilyn Schmidt  
Tuition Fee: \$130 (**payable during trip**)  
Registration Fee: \$3,200

Travel to Alaska for 13 breathtaking days. Leave Seattle on a flight to Ketchikan, and then travel north to Juneau, Sitka, and Anchorage. In Anchorage, board Alaska Railroad's Denali Star to see the wonders of Denali National Park. Travel to the Kenai Peninsula before departing from Anchorage.

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

Mike Sipes  
303/237-4975 or mpsipes@centurylink.net

## UNDERSTANDING EVOLUTION (GR. 9-12)

CT-1059-12M  
0.5 semester credit hour  
Date: August 4  
Time: 8:00am-5:00pm  
Location: Univ. of Colorado, Boulder.  
Instructors: Sierra Love Stowell and others  
Tuition Fee: \$35 (**payable during workshop**; you must pre-register)

Enhance your evolution curriculum by obtaining information and sample classroom activities based on real research. All modules will be taught by University of Colorado graduate students and professors who research a diversity of fields. More information can be found at: <http://www.colorado.edu/ebio/teachingevolution/TeachingEvolution>.

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

Sierra Love Stowell  
303/748-1337 or cu.eeb.eoc@gmail.com

## GEOLOGIC PRINCIPLES FOR EDUCATORS (GR. 5-12)

CT-1121-12M  
1.5 semester credit hours  
Dates: August 8-10  
Time: 8:00am-5:00pm  
Location: NW BOCES, Steamboat Springs  
Instructor: Mike Zawaski, 970/302-8043  
Tuition Fee: \$80 (**payable during workshop**)  
Registration Fee: \$120

The first skill in learning geology is making good observations of rocks. Learn how to determine past environments that existed when different Colorado rocks formed, and why those rocks are now at the tops of mountains. Receive inquiry-based lesson plans and 50+ rocks. For more information, visit <http://observantnaturalist.org/teachers-rock.html>.

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

Julie Dalke, 970/879-0391x304  
jdalke@nwbores.org

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## Additional Programs of Interest

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### 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](http://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](mailto:skotl@sspr.org) for details or to obtain the special tuition flat rate.

## EcoAdventure Course Offerings

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

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

CT-9613-12D

1 semester credit hour

Dates & Times:

#### Session I:

June 7 (9:00am-5:00pm)

June 8 (9:00am-4:00pm)

#### Session II:

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

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

Location: EcoAdventures, Morrison

Tuition Fee: \$140 (**\$160 after May 24<sup>th</sup> /June 7<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.

### EARLY EXPLORERS OF THE ROCKY MOUNTAINS (K-12)

CT-0518-12D

1 semester credit hour

Dates & Times:

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

June 10 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Instructor: Trey Corkern

Tuition Fee: \$135 (**\$155 after May 24<sup>th</sup>**)

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.

### BEAVER ECOLOGY (K-12)

CT-95102-12D

1 semester credit hour

Dates & Times:

June 12 (1:00-9:00pm)

June 13 (2:00-9:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$135 (**\$155 after May 29<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-0104-12D

1 semester credit hour

Dates & Times:

June 19 (9:00am-5:00pm)

June 20 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$150 (**\$170 after June 5<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!

### WILD CANINES OF COLORADO (K-12)

CT-9617-12D

1 semester credit hour

Dates & Times:

June 26 (8:00am-5:00pm)

June 27 (7:30am-2:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$140 (**\$160 after June 5<sup>th</sup>**)

Discover the mischievous coyote, the cat-like canine, red fox, the extirpated wolf, and others. Learn each animal's natural history through hands-on activities and field observation during hikes. Supplement any animal study/ecology curriculum with class topics such as habitat, predator/prey relationships, and populations.

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

CT-1125-12M

1 semester credit hour

Dates & Times:

July 7 (9:00am-5:00pm)

July 8 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Instructor: Trey Corkern

Tuition Fee: \$135 (**\$155 after June 21<sup>st</sup>**)

How did men, women, and children cross an ocean of prairie to build homes and communities? Plant heirloom seeds, can preserves, and make cheese. Learn how to plant by the moon, pack a wagon, and harness draft animals. Visit a working homestead.

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

CT-95106-12M

1 semester credit hour

Dates & Times:

July 10 (9:00am-5:00pm)

July 11 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$140 (**\$160 after June 21<sup>st</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.

### THE UTE II (K-12)

CT-9962-12M

1 semester credit hour

Dates & Times:

July 12 (9:00am-5:00pm)

July 13 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$140 (**\$160 after June 21<sup>st</sup>**)

*Pre-requisite: CT-95106, Ute - A Native American Way of Life in the Rockies*

Expand your knowledge of the Ute further into the past as you practice ancient skills they would have used in everyday life prior to 1600. Build a wickiup; make a basket

and stone tool; learn about plants and their uses; practice ancient cooking and more advanced flint knapping; and try your hand at gourd work.

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

CT-0519-12M

1 semester credit hour

Dates & Times:

July 21 (9:00am-5:00pm)

July 22 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$135 (**\$155 after July 5<sup>th</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.

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

CT-0922-12M

1 semester credit hour

Dates & Times:

July 25 (1:00-9:00pm)

July 26 (7:00am-3:00pm)

Location: near Granby, Rand, Gould

Tuition Fee: \$135 (**\$155 after July 5<sup>th</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.

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

CT-9737-12M

1 semester credit hour

Dates & Times:

July 28 (8:00am-5:00pm)

July 29 (2:00pm-8:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$140 (**\$160 after July 12<sup>th</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.

### **BACK IN BLACK - RAVENS, CROWS, AND MAGPIES (K-12)**

CT-0463-12F

1 semester credit hour

Dates & Times:

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

September 9 (8:00am-4:00pm)

Location: EcoAdventures, Morrison

Tuition Fee: \$130 (**\$150 after August 23<sup>rd</sup>**)

Ravens, crows, magpies, and jays form the Corvid family. They are intelligent, social, curious, and one of the most adaptable bird species on earth. Their success is

noted in cultural folklore and history. Discover the natural and cultural history of these remarkable birds through hands-on activities and outdoor treks.

### **TEACHING COLORADO MINING HISTORY IN THE CLASSROOM (K-12)**

CT-1171-12F

1 semester credit hour

Dates & Times:

September 15 (9:00am-5:00pm)

September 16 (9:00am-4:00pm)

Location: EcoAdventures, Morrison

Instructor: Trey Corkern

Tuition Fee: \$135 (**\$155 after August 30<sup>st</sup>**)

From Spanish gold seekers to Greek coal miners, Colorado’s history has centered on mineral wealth. Explore gold, silver, coal, and uranium mining, pan for gold, use a single jack to drill, tour a mining facility, and learn how to bring hands-on activities into your classroom.

### **ELK BUGLING (K-12)**

CT-95105-12F

1 semester credit hour

Dates: September 29-30

Time: 12:00pm-7:30pm

Location: EcoAdventures, Morrison

Instructor: Pam Batton

Tuition Fee: \$135 (**\$155 after Sept. 6<sup>th</sup>**)

Observe and listen to the bull elk bugling during the mating season. Explore adaptations, behavior, and human/elk interactions through activities and observation. By the end of class, you’ll be thinking like an elk and understand the important ecological role of this large herbivore.

**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**

**Pamsecoadventures.com**

#### **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 Zoo Course Offerings

**Note: Register for Denver Zoo courses through the Zoo. See box below.**

### **CARNIVORES OF THE DENVER ZOO (K-8)**

CT-1222-12D  
1 semester credit hour  
Dates: June 11-12  
Time: 8:00am-4:00pm  
Tuition Fee: \$150

From mammals to birds and fish to reptiles, the Denver Zoo is your backdrop for uncovering the world of predators. Link these animals to their role in ecosystems, and learn what can happen if the top of the food chain becomes fragile.

### **GREAT APES OF THE DENVER ZOO (K-12)**

CT-1223-12D  
0.5 semester credit hour  
Date: June 14  
Time: 8:00am-4:00pm  
Tuition Fee: \$95

Explore two of the planet's most fascinating primates -- orangutans and gorillas. Primate experts will reveal the social complexity and intelligence of these amazing apes. Give your students a new view of the primate world, and explore our human connection with these incredible creatures.

### **COLORADO CONSERVATION CONNECTIONS (K-12)**

CT-1224-12D  
1 semester credit hour  
Dates: June 18-19  
Time: 8:00am-4:00pm  
Tuition Fee: \$150

From alpine tundra to urban neighborhoods, Colorado is made up of a variety of diverse ecosystems. Explore the connections humans have with the wildlife in their own backyard. Learn methods for turning your students into citizen scientists by investigating animal diversity in Colorado's ecosystems.

### **BIOMES OF THE WORLD (K-12)**

CT-1225-12D  
1-2 semester credit hours  
Dates: June 25-28  
Time: 8:00am-4:00pm  
Tuition Fee: \$150 or \$250

Take a journey around the world exploring and uncovering biomes, ecosystems, and amazing wildlife. Learn about the biodiversity hot spots that the Denver Zoo has committed its conservation resources to and the wildlife that is vital to ensuring that these bio-diverse places thrive. Attend two or all four days.

### **ELEPHANTS OF TOYOTA ELEPHANT PASSAGE (K-12)**

CT-1226-12M  
0.5 semester credit hour  
Date: July 9  
Time: 8:00am-4:00pm  
Tuition Fee: \$95

Learn about the incredible new home of our resident elephants Mimi and Dolly. Discover how the exhibit design plays a vital role in the overall mental and physical care of these animals, and what the Zoo is doing to help their wild relatives.

### **WILD SCIENCE: FIELD RESEARCH METHODS (GR. 3-12)**

CT-1227-12M  
1 semester credit hour  
Dates: July 11-12  
Time: 8:00am-4:00pm  
Tuition Fee: \$150

Denver Zoo staff is always conducting research on animals both here and in the wild. Explore how conservation biologists use science and math to assist them in researching animals such as bison, zebras, and African wild dogs.

### **ARCTIC ACTION: LINKING POLAR BEAR CONSERVATION & CLIMATE CHANGE (GR. 3-12)**

CT-1228-12M  
1 semester credit hour  
Dates: July 16-17  
Time: 8:00am-4:00pm  
Tuition Fee: \$150

Learn how the Denver Zoo and Polar Bears International are joining forces to help save North America's most beloved and charismatic animals. Discover how your classroom can become the perfect platform for engaging your students in this conservation cause.

### **TOYOTA ELEPHANT PASSAGE: JOURNEY TO SUSTAINABILITY (GR. 3-12)**

CT-1229-12M  
1 semester credit hour  
Dates: July 19-20  
Time: 8:00am-4:00pm  
Tuition Fee: \$150

Use our new exhibit as your road as you map out your goals for teaching sustainability in your classroom. Navigate best practices that will shape your students into future stewards of the earth through science investigation.

### **TOYOTA ELEPHANT PASSAGE: FIELD TRIP TO AUTHENTIC LEARNING (K-8)**

CT-1230-12M  
1 semester credit hour  
Dates: July 24-25  
Time: 8:00am-4:00pm  
Tuition Fee: \$150

Learn how to transform your standard field trip into an authentic learning experience for students. Explore the exhibit with zoo staff, and discover how it can bring social studies, science, reading, art, and math to life.

**Register online for Denver Zoo course at:  
[www.denverzoo.org/education/teacherWorkshops.asp](http://www.denverzoo.org/education/teacherWorkshops.asp)  
or call 303/376-4808.**

## Denver Museum of Nature & Science Course Offerings

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

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

CT-1025-12D  
1.5 semester credit hour  
Dates: June 5-7  
Time: 8:00am-4:30pm  
Tuition Fee: \$70 (generous support provided by the Institute of Museum & Library Services)  
**Pre-requisite:** must be a practicing PreK-1 teacher

Build your science content knowledge while learning how to incorporate more science into your classroom. Enjoy a variety of in-depth experiences that explore inquiry, geology, and health, life, and space sciences. Hear content lectures by Museum staff and scientists; discover literacy connections using children's literature and nonfiction books; and do hands-on interdisciplinary activities that incorporate art, science, and manipulatives. Receive a \$300 stipend upon successful course completion.

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

CT-1150-12F  
3 semester credit hours  
Dates: July 9-October 13  
July 9-12 (8:00am-4:30pm)  
October 13 (8:00am-1:00pm)  
Sept. 9-Oct. 13 (online portion)  
Instructor: Sharon Reiter  
Tuition Fee: \$115  
**Pre-requisite:** For practicing 3-5 grade teachers only.

Wishing you could incorporate more of an inquiry approach to your science teaching in general and your life and health science teaching in particular, but not sure where to begin? Join the DMNS to learn how to bring inquiry learning and 21st century skills into your classroom. This hands-on learning experience shares fun and inventive ways of using inquiry while capitalizing on the resources and experts available at the Museum. After experiencing inquiry learning first-hand, the five-week online portion extends your experience and helps you incorporate these new skills into your daily teaching practice. Special attention will be paid to using inquiry to help you negotiate the new Colorado Standards across the curriculum. Receive a \$500 stipend upon successful completion of the workshop.

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

CT-1214-12F  
3 semester credit hours  
Dates: July 23-October 20  
July 23-26 (8:00am-4:30pm)  
October 20 (8:00am-1:00pm)  
Sept. 16-Oct. 20 (online portion)  
Instructor: Sharon Reiter  
Tuition Fee: \$115  
**Pre-requisite:** For practicing 6-8 grade teachers only.

Bring more inquiry and 21st Century skills practice into your M.S. classroom. This hands-on learning experience shares fun and inventive ways of using inquiry while capitalizing on the resources and experts available at the Museum. Learn how to use the inquiry approach in all your teaching, and brush up on your content knowledge regarding visible light. The online portion extends your experience and helps you incorporate these new skills into your daily teaching practice. Special attention will be given to the new Colorado Standards across the curriculum. Receive a \$500 stipend upon successful completion of the course.

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

CT-1118-12M  
1 semester credit hour  
Dates: July 30-31  
Time: 8:00am-4:30pm  
Tuition Fee: \$45  
**Pre-requisite:** attendance of a Simply Science workshop and a practicing PreK-1 teacher

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 from Simply Science in your classroom. Receive a \$150 stipend upon successful course completion.

<p><b>Register online for DMNS courses at:</b> <a href="http://www.dmns.org/teachers/professional-development/">www.dmns.org/teachers/professional-development/</a> <b>For questions or more information, contact</b> <a href="mailto:Kristina.horton@dmns.org">Kristina.horton@dmns.org</a></p>
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## Butterfly Pavilion Course Offerings

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

### **FRIEND OR FOE: EXPLORE PLANT-ANIMAL INTERACTIONS (K-5)**

CT-0820-12D  
0.5 semester credit hour  
Date: June 14  
Time: 8:00am-5:00pm  
Instructor: Amy Yarger  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$45

Plant traits often reflect a history of interactions with animals. Survey a variety of plant-animal relationships including pollination, seed dispersal, plant defense mechanisms, and carnivorous plants. Observe plant-animal interactions in the garden, and then learn how to create a schoolyard habitat for beneficial insects. Learn through projects, outdoor observations, and stories and games that can be used back in the classroom.

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

CT-0321-12D  
1 semester credit hour  
Dates: June 21-22  
Time: 8:00am-5:00pm  
Instructors: Nicole Bickford, Deborah Brooks  
Tuition Fee: \$50 (**payable during workshop**)  
Registration Fee: \$100

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.

### **DREAM WEAVER (PREK-8)**

CT-1084-12D  
0.5 semester credit hour  
Date: June 27  
Time: 8:00am-5:00pm  
Instructor: Debbie Brooks  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$45

Discover the crafty side of Anansi the Spider and the ingenuity of Grandmother Spider. Learn something new about these eight-legged creatures by exploring the creepy and awesome world of arachnids. Enjoy a fun mix of inquiry and creativity while learning through science, art, and literary-based lessons.

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

CT-0532-12D  
0.5 semester credit hour  
Date: June 28  
Time: 8:00am-5:00pm  
Instructors: Nicole Bickford, 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-1108-12M  
0.5 semester credit hour  
Date: July 17  
Time: 8:00am-5:00pm  
Instructor: Debbie Brooks  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$45

Experience the Pavilion's tropical rainforest like never before. Discover the role butterflies and other invertebrates play in the diverse and disappearing rainforest ecosystem. Explore unique relationships between the forest and the animals that live there through a variety of hands-on, interdisciplinary activities that will serve as a great addition to any classroom life science unit.

### **INSECT INVESTIGATIONS: SCIENCE NOTEBOOKS AND BUGS IN THE CLASSROOM (K-5)**

CT-0920-12M  
0.5 semester credit hour  
Date: July 18  
Time: 8:00am-5:00pm  
Instructor: Sarah Folzenlogen  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$45

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 show you how to successfully incorporate literacy and science notebooks into your classroom insect investigations.

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

CT-0921  
0.5 semester credit hour  
Instructor: Deborah Brooks  
Course Coordinator: Marissa Copan, 720/974-1877  
Tuition Fee: \$35 (**payable during each workshop**)

### **GOURD BASKETS AND POLLINATORS/PAPERMAKING**

Date: June 19  
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. 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.

### PRINTMAKING/SCIENTIFIC ILLUSTRATION

Date: June 26  
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.

### BATIK & INSECTS/ DREAMCATCHERS AND SPIDERS

Date: September 30  
Time: 8:00am-5:00pm  
Registration Fee: \$45

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. Then create a one-of-a-kind batik scarf. 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.

**To register or for more information contact:  
Adult Education 720/974-1877 or  
mcopan@butterflies.org.**

## Cheyenne Mountain Zoo Course Offering

**Note: Register for Cheyenne Mtn. Zoo course through the CM Zoo. See box below.**

### ZOO SCIENCE UNVEILED (K-12)

CT-1219-12M  
2 semester credit hours  
Dates: July 9-12  
Time: 8:00am-4:00pm  
Location: Cheyenne Mtn. Zoo, Colorado Springs  
Instructor: Megan McDaniel  
Tuition Fee: \$90 (**payable during workshop**)  
Registration Fee: \$200 CMZ member; \$228 non-member

Are you looking for new ways to inspire your passion for life science? This class will empower you with renewed excitement for conservation and environmental science.

Preview our newest exhibit, Encounter Africa, and learn about its design including plants and enclosures. This class will include behind-the-scenes opportunities like you have never experienced!

**To register or for more information, contact:  
Erin Hobson, 719/633-9925 (x127) or  
edprograms@cmzoo.org  
To register online:  
[www.cmzoo.org/exploreLearn/adults/classes.asp](http://www.cmzoo.org/exploreLearn/adults/classes.asp)**

## Denver Botanic Gardens Course Offering

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

### **BUILDING A SCHOOLYARD GARDEN (K-6)**

CT-0812-12M  
0.5 semester credit hour  
Date: July 2  
Time: 8:30am-5:00pm  
Location: Denver Botanic Gardens  
Instructor: Lisa Davis  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$50 DBG member; \$55 non-member

Learn how to create a simple vegetable garden in your schoolyard (in the ground or in containers) and ways to incorporate the garden into your classroom curriculum. Learn tips on gardening, and discover plants that you can plant in spring or fall and harvest before it gets cold or school ends. Learn how your garden can be incorporated into your reading, writing, math, science, and social studies curriculum.

### **TEACHING PLANTS FROM ROOT TO SEED (GR. 2-12)**

CT-0646-12M  
0.5 semester credit hour  
Date: July 9  
Time: 8:30am-4:30pm  
Location: Denver Botanic Gardens  
Instructor: Lisa Davis  
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-6)**

CT-1220-12M  
0.5 semester credit hour  
Date: July 24  
Time: 8:30am-4:30pm  
Location: Denver Botanic Gardens  
Instructor: Lisa Davis  
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 to learn math, reading, writing, and social studies.

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

CT-1221-12M  
0.5 semester credit hour  
Date: July 31  
Time: 8:30am-4:30pm  
Location: Denver Botanic Gardens  
Course Coordinator: Lisa Davis  
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.

**To register online:**

**<http://catalog.botanicgardens.org> or contact  
Denver Botanic Gardens at:  
720/865-3580**



## 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 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.coloradopl.org](http://www.coloradopl.org) and <http://wildlife.state.co.us/Education/TeacherResources/Pages/TeacherResources2.aspx> for more information.

### BASIC PROJECT LEARNING TREE: BRINGING THE OUTSIDE IN (GR. 3-8)

CT-0822-12D  
0.5 semester credit hour  
Date: June 7  
Time: 8:30am-4:30pm  
Location: Denver Botanic Gardens  
Course Coordinator: Lisa Davis, 720/865-3613  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$40 DBG member, \$45 non-member

Explore the PLT curriculum and learn all about trees. Learn key identification traits of Colorado trees as well as non-native trees that grow in our area. Find out the challenges associated with growing trees in Colorado and how you can care for trees with your students.

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

Denver Botanic Gardens  
720/865-3580 or <http://catalog.botanicgardens.org>

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

CT-0668-12D  
1.5 semester credit hours  
Dates: June 26-28  
Time: 9:00am-5:00pm  
Location: The Morrison Nature Center, Aurora  
Tuition Fee: \$80 (**payable during workshop**)  
Registration Fee: \$50 (checks returned upon successful course completion)

Learn where your drinking water comes from. Explore our mountain watersheds, conduct water quality studies, tour a xeriscape garden, and visit a drinking water treatment plant. Receive Project Learning Tree and WET curriculum guides and access to Aurora Water's innovative educational opportunities.

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

Natalie Brower-Kirton, 720/427-6029  
[nbrower@auroragov.org](mailto:nbrower@auroragov.org)

### ENVIRONMENTAL EXPERIENCES FOR EARLY CHILDHOOD (PREK-1)

CT-1208-12M  
0.5 semester credit hour for each workshop

#### Workshop I:

Date: July 21  
Time: 9:00am-4:30pm  
Location: Starsmore Discovery Center, Colorado Springs  
Registration Fee: \$35

**Registration Contact:** Erika Sueker, 303/202-4661

#### Workshop II:

Date: July 24  
Time: 8:00am-5:00pm  
Location: Butterfly Pavilion, Westminster  
Registration Fee: \$35

**Registration Contact:** Marissa Copan, 720/974-1877

#### Workshop III:

Date: July 30  
Time: 8:30am-4:30pm  
Location: Denver Botanic Gardens  
Registration Fee: \$40 DBG member, \$45 non-member

**Registration Contact:** DBG, 720/865-3580

Tuition Fee: \$35 (**payable during each workshop**)

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

CT-0974-12M  
0.5 semester credit hour  
Date: July 26  
Time: 8:00am-5:00pm  
Location: Butterfly Pavilion, Westminster  
Tuition Fee: \$35 (**payable during workshop**)  
Registration Fee: \$45

Explore the new 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:

Marissa Copan, Butterfly Pavilion  
720/974-1877, [mcopan@butterflies.org](mailto:mcopan@butterflies.org)

## GET TO KNOW YOUR H2O (K-12)

CT-0499-12M

1 semester credit hour

Dates: August 1-2

Time: 8:30am-4:30pm

Location: Boulder Public Library

Instructor: Steve Noud

Tuition Fee: \$50 (**payable during workshop**)

Registration Fee: free (you must pre-register)

Learn all about the Boulder Creek and St. Vrain watersheds. Participate in hands-on activities and receive resources for incorporating water education into your curriculum. Learn where our water comes from, how to measure dissolved oxygen, where to find aquatic insects, and more.

To register or for more information, contact:

Steve Noud

303/413-7386 or nouds@bouldercolorado.gov

For updated information contact:

Project WILD, 303/291-7262

Project Learning Tree, 303/202-4662

Check the following website for added workshops:

<http://wildlife.state.co.us/Education/TeacherResources/Pages/TeacherResources2.aspx>

## Denver Earth Science Project Course Offerings

### DO YOU KNOW YOUR 3 R's? RADIATION, RADIOACTIVITY & RADON (GR. 6- 12)

CT-9898-12D

1 semester credit hour

#### Session I:

Dates & Times:

June 19-20 (8:00am-5:00pm)

June 21 (8:00am-12:00pm)

Location: Pueblo Health Dept.

#### Session II:

Dates & Times:

June 26-27 (8:00am-5:00pm)

June 28 (8:00am-12:00pm)

Location: CSM Campus, Golden

Instructors: Peg Roding, Bob Beckman

Tuition Fee: \$50 (**payable during workshop**)

Registration Fee: \$25 (returned upon successful course completion, registration deadline June 11)

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. Complete all activities, gain background knowledge, and receive complete curriculum and kit for Units 2 and 3. Resource kits for Unit 1 available for check-out.

To register or for more information, contact:

Peg Roding, 303/420-3244

roding.3rs@q.com

### DINOSAUR RIDGE ACTIVITIES (K-8)

CT-1116-12M

1.5 semester credit hours

Dates & Times:

July 30-August 1 (8:30am-4:30pm)

August 2 (8:30am-12:30pm)

Location: Dinosaur Ridge Visitor Center, Morrison

Instructor: Marsha Barber

Tuition Fee: \$160 (returned upon successful course completion)

Learn the geology and paleontology at Dinosaur Ridge and its vicinity by completing hands-on activities and then observing in the field. Receive a notebook of activities that can be duplicated for use with middle school students.

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

## Summer 2012 Canoe Trip

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

### **GEOLOGY, ECOLOGY, AND ART OF THE GREEN RIVER BY CANOE, LEVELS I & II (K-12)**

CT-1209-12M

3 semester credit hours

Dates & Times:

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

Canoe Trip: June 27-July 1

Locations: The lecture will be held at CSM, Golden. The trip will begin and end in Moab, UT.

Instructors: Ed Adams, Karen Caddis

Tuition Fee: \$748 (**\$100 deposit required upon enrollment**)

Join a geologist and biologist to 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. Explore vast canyon systems which branch out in all directions. The course will emphasize the unique geology and natural history of the area as we investigate its riparian ecosystem and the surrounding desert to learn how human, plant, and animal life has adapted. Study how people and the passage of time have changed the region.

**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](mailto:info@centennialcanoe.com)**

**Register online: [www.centennialcanoe.com](http://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.**

## Fall 2012 Course Preview

### **FIELD STUDIES IN PALEONTOLOGY: EXPLORING THE SHELF ROAD (K-12)**

CT-0640-12F

0.5 semester credit hour

Date: October 6

Time: 8:30am-6:00pm

Location: Cripple Creek Parks & Recreation

Instructor: Steve Veatch

Tuition Fee: \$35 (**payable during workshop**)

Registration Fee: \$69

Starting from Cripple Creek, explore the geological and paleontological wonders along the Shelf Road. Follow the old wagon roads used to haul dinosaur bones from Garden Park to Canon City, visit a dinosaur quarry, and explore nearby dinosaur tracks. Field guide included.

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

Cripple Creek Parks & Recreation

719/689-3514

## 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 a confirmation letter by:**

**E-mail:** \_\_\_\_\_

**Fax; fax number:** ( ) \_\_\_\_\_

**oMail**

**\*required if taking course for credit**

Are you Hispanic/Latino? Yes/No

Select one or more:

\_\_\_\_\_ American Indian or Alaska Native

\_\_\_\_\_ Native Hawaiian or Other Pacific Islander

\_\_\_\_\_ Asian

\_\_\_\_\_ White

\_\_\_\_\_ Black or African American

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

Course #	Course Title	Course Dates	Tuition
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____
CT- _____	_____	_____	_____
<b>Total:</b>			_____

*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>