



Forty-second Annual
Field Summer School
**ALL ABOUT MINING -
A TOTAL CONCEPT
OF THE MINING INDUSTRY**

2010

A Four-Week Program for
K-12 Educators
JUNE 21 - JULY 16, 2010

PURPOSE

The Colorado Mining Association (CMA) and the Colorado School of Mines (CSM) recognized in 1968 that many educators did not have a good understanding of the importance of the metals, industrial minerals, aggregates, and energy industries to the nation and the world. In response, the two organizations developed *All About Mining - A Total Concept of the Mining Industry*, an intensive summer training program for K-12 educators which provides them with a comprehensive overview of all phases of the minerals industries. During the past 41 years, almost 1,500 educators have completed the course. The program is one of the flagship courses of the Colorado School of Mines' K-12 Outreach Program, which offers a wide range of professional development opportunities for educators, including several nationally-recognized, earth science curriculum packages.

FACULTY

Approximately 75 authorities from industry, academia, private groups, and government lecture on their respective fields of expertise which include geology, geophysics, exploration, mining methods, metallurgical operations, metal applications, research, marketing, careers, economics, recycling, and environmental responsibility.

COURSE SCHEDULE

Classes begin at 8:00 am, Monday through Friday except for nine, field trip days. In general, classes are held from 8:00 am to early afternoon, Monday through Friday except for nine field trip days. Snacks are shared among teachers during lectures, and teachers are encouraged to bring their own lunches. There are no breaks for lunches except on full days. All classes are held on the CSM campus, unless otherwise directed. Classes and field trips are rigorous and demanding. All scheduled adjournment and break times are approximate and subject to change.

Field trips are an integral part of the class and include visits to study geology, surface and underground mining, milling, heap leaching, steelmaking, and fabrication. Some field trips require walking and climbing at high elevations. Some visits include dusty, noisy, or damp situations. Transportation, accommodations, and meals are provided for the participants on the three-day trip. Trips typically begin from 6:00 to 7:30 am and often end at 5:30 pm.

FIELD TRIP SCHEDULE (tentative)

- June 21 - United States Geological Survey Earthquake Center** - Golden - 10:45 am to noon.
- June 22 - Colorado Front Range Geology** - Golden and vicinity - 7:30 am to 4:30 pm
- June 25 - Western Museum of Mining & Industry** - Colorado Springs and Aggregate Quarry - Golden - 9:00 am to 5:00 pm
- June 28 - Earth Mechanics Laboratory** - Golden - 9:45 am to 10:45 am
- June 29 - Underground Molybdenum Mine, Reclamation Site, Water Treatment Plant and Experimental Mine** - Clear Creek County and vicinity - 7:00 am to 5:00 pm
- June 30 - Expanded Aggregate Mine/Plant and Underground Silver Mine** - Boulder County - 8:00 am to 5:30 pm
- July 1 - Mineral Assay Laboratory** - Golden - 1:00 pm to 2:15 pm
- July 2 - Surface Gold Mine and Heap Leach** - Victor - 6:00 am to 4:45 pm
- July 7 - July 9 - Molybdenum Concentrator, Coal Burning Power Plant, Surface and Underground Coal Mines, Nahcolite Solution Mine, Oil Shale Project, Gypsum Mine, and Wall Board Plant** - Western Colorado - 7:00 am to 5:30 pm
- July 15 - Steel Mill** - Pueblo - 6:00 am to 4:30 pm

APPLICATION, TUITION, AND COSTS

Apply early to the CMA Education Foundation (CMAEF) using the attached application form. A \$200 tuition fee should accompany the application. Volunteer sponsors assigned to each teacher pays additional tuition expenses of \$500 per teacher. If a registrant must cancel enrollment, the tuition amount **minus \$25** will be refunded. No full or partial tuition refunds will be granted after the close of business on the Thursday before the course begins. Acceptance is prioritized on first-paid registration basis. Registration is not guaranteed until after receipt of the \$200 tuition fee by the CMAEF.

Each student must provide his or her own steel-toed shoes or boots or steel-toe shoe caps for visits to mines, mills, and other operations associated with the course. Hard hats, hearing protection, and safety glasses will be provided by the CMAEF. Transportation to and from classes and meals/housing are the responsibility of individual attendees. All other course costs, including tuition, transportation on field trips, and meals while on most field trips, will be provided by the teacher sponsors. Detailed, preliminary course information, including an agenda, are mailed to each registrant following receipt of the tuition fee. Each student must bring his/her applicable current state or district teaching standards for use during the course.

Limited financial assistance to help with tuition, travel, accommodations, and meals is available for certain teachers who meet certain requirements. Applicants are encouraged to apply as early as possible.

HOUSING

Students enrolled in *All About Mining - A Total Concept of the Mining Industry* who require accommodations must provide their own room and board in the Golden area for the period June 21, to July 17, 2010. The Colorado School of Mines offers a limited number of nominally priced, residence hall rooms to course attendees. Room reservations in campus residence halls are not accepted until after teachers have submitted a registration application with the \$200 tuition fee. Residence hall room reservations are accepted on a space-available basis, so make your arrangements early. Please indicate on the application if you need information on campus or off-campus housing. Students bringing children and/or pets cannot be accommodated in a residence hall and must make off-campus arrangements for housing.

CREDIT POLICY

The Colorado School of Mines grants six semester hours of graduate-level, recertification credit to those who have completed the course and attended all classes and field trips in their entirety. Missed course sessions **cannot be made up** by attending subsequent offerings of the same or related classes or by completing additional assignments. Full credit hours are granted only if **all** the full contact-hour requirements have been met, including arriving on time and staying until dismissal. The recertification credit hours are accepted by the State of Colorado and are generally accepted by other states, but they cannot be applied toward obtaining a degree at CSM. A course grade is based upon attendance, participation, and lesson plan and journal submittals. There are no special projects or written assignments. In consideration of the instructors and other course registrants, **DO NOT** bring children of any age to class under any circumstances.

TRANSCRIPT AVAILABILITY

The Teacher Enhancement Office and the Colorado School of Mines are not responsible for meeting individual deadlines for credits toward teacher recertification and/or salary increases. Official transcripts for current course work will be available upon request approximately two weeks after the instructor submits course grades to the CSM Teacher Enhancement Office. Individual letters of completion are not available.

FURTHER INFORMATION

<http://www.AllAboutMining.org>

Contact: Dan Witkowsky, Course Coordinator
303/972-1814 or DanielWitkowsky@aol.com



2010

REGISTRATION & APPLICATION
FOR
ALL ABOUT MINING



A TOTAL CONCEPT OF THE MINING INDUSTRY

June 21, through July 16, 2010

(CT-5700 - 6 Semester Hours Recertification Credit)

___ Mr. ___ Ms. NAME _____

NICKNAME _____ E-MAIL _____ SOC. SEC. NO.* _____

TELEPHONE: HOME () _____ SCHOOL () _____ CELL () _____

HOME ADDRESS _____

CITY, STATE _____ ZIP _____

SCHOOL _____ DISTRICT _____

SCHOOL ADDRESS _____

SUBJECT(S) TAUGHT:

_____ GRADE(S) _____

_____ GRADE(S) _____

TOTAL NUMBER OF STUDENTS TAUGHT PER SCHOOL YEAR _____

GRADE LEVEL:

___ ELEMENTARY ___ MIDDLE ___ JUNIOR HIGH ___ SENIOR HIGH ___ ADMINISTRATION ___ OTHER

DO YOU NEED INFORMATION ON CAMPUS HOUSING? ___ DO YOU HAVE ANY DIETARY RESTRICTIONS? ___

I understand that:

- Classes and field trips may be academically and physically demanding and may require extensive walking and climbing at sites that are wet or dusty, noisy, and/or at high elevations.
- Individual accommodations and/or commuting expenses are the responsibility of each student.
- Acceptance is prioritized on a first-paid registration basis. Registration is not guaranteed until after receipt of the \$200 tuition fee by the CMAEF.
- No full or partial tuition refunds will be granted after the close of business on the Thursday before the course begins.
- Steel-toed shoes, boots, or toe-caps purchased by each student must be worn during field trips.
- All scheduled adjournment and break times are approximate and are subject to change.
- CSM and CMAEF reserve the right to cancel this course, with full tuition refund to participants, if the minimum enrollment is not reached. In such case, CSM, the Teacher Enhancement Office, and CMAEF will not be liable for any expenses incurred by registrants.
- I authorize and permit photos and images of me taken or made during the course to be utilized for publicizing and documenting course activities by CMAEF and the Colorado School of Mines without remuneration of any kind.
- I certify that I am a kindergarten-to-grade-12 teacher and/or a college educator, and I agree to participate fully in all phases of this course, including preparation of lesson plans and keeping of a daily journal.

*Required for security purposes on certain field tours and to receive course credits, but will otherwise be kept confidential.

SIGNATURE: _____

RETURN THIS COMPLETED APPLICATION TO:

CMA Education Foundation, Inc.
216 16th Street, Suite 1250
Denver, Colorado 80202-5161
TEL (303) 575-9199 FAX (303) 575-9194
e-mail: colomine@coloradomining.org
http://www.AllAboutMining.org

To pay by credit card:

VISA MC AMEX

Card # _____

Exp. Date: _____

Cardholder Name: _____

Signature: _____