

Florissant Fossil Beds Field Seminars 2011

Florissant Fossil Beds Summer Seminar Series 2011

This year, 2011, marks the seventeenth year of the Friends' seminar series at Florissant Fossil Beds. It is the goal of the Friends of the Florissant Fossil Beds, Inc. and the staff at the Monument to provide high quality, entertaining, educational programs for the general public and educators. These programs endeavor to further the public's understanding of the geology, history, paleontology, and ecology of the Monument and the Pike's Peak Region.

Contents:

Friends of the Florissant Fossil Beds, Inc.	2
Fees, refund, and cancellation information.....	3
How to register.....	4
Things you should know.....	5
Seminar descriptions.....	6-8
Instructor biographies.....	9
Adams State graduate credit form.....	10
Friends membership and seminar registration forms.....	11

Friends of the Florissant Fossil Beds, Inc.

The Friends of the Florissant Fossil Beds, Inc. is a non-profit organization comprised of people just like yourself who are strongly dedicated to supporting Florissant Fossil Beds National Monument through a number of dynamic, innovative, and creative programs. All proceeds assist the Monument in protecting the world-class fossils and educating the public about their significance. A vital aspect of the partnership between the Monument and the Friends organization is that of promoting educational opportunities through field-based, experiential seminars. These seminars feature outstanding instructors who are recognized experts in their fields. We invite you to join us and take part in a lifelong process of learning and discovery.

The opinions and views represented in the seminar series are not necessarily that of the National Park Service or the Friends of the Florissant Fossil Beds, Inc.

Fees and Tuition

Friends' Seminar Fees

\$50.00 fee for each 1 day seminar

\$65.00 fee for the 2 day seminar (can be taken for 1 or 2 days with associated credit)

\$40.00 discounted fee for current member of Friends, 1 day

\$55.00 discounted fee for current member of Friends, 2 day

Adams State College Graduate Credit Tuition

\$27.50 tuition for 1/2 credit per 1 day, 7.5 hour class

\$55.00 tuition for 1 full credit per 2 day, 15.0 hour class

Please note that you must attend the entire 7.5 hour day to get credit.

Adams State College Undergraduate Credit Tuition

Call For Details (719) 748-3253 ext. 109

Please note that you must attend the entire 7.5 hour day to get credit.

Boces Recertification Tuition

\$5.00 recertification credit through the Pike's Peak BOCES of Colorado Springs

Teacher Discount:

Teachers who join the Friends of the Florissant Fossil Beds and sign up for a seminar by June 1st are entitled to a special rate for seminars which is \$30.00 for a one day and \$40.00 for a two day seminar.

Refund and Cancellation

We reserve the right to cancel any seminar if minimum enrollment is not met. We will make every effort to place participants in another seminar of their choosing or will return the registration fee and ASC tuition/BOCES fee. If you cancel your enrollment for any reason, the following policy will apply: refunds will be given for cancellations received up to one week prior to the seminar, minus a \$5.00 processing fee. No refund is given for cancellation less than a week prior to the seminar.

Disclaimer

•The seminars are educational in nature. In any educational environment, all sides of various issues need to be examined and some of these may prove to be controversial. Views expressed are not necessarily those of the National Park Service, the staff, or Friends of the Fossil Beds, Inc., nor are they responsible for their content.

•In most cases, books recommended will be available for purchase at the seminar, or the Rocky Mountain Nature Association bookstore at the Monument.

Registration Information

How to Register...

The following list will guide you through the registration process:

1. The first step is to decide which course(s) you want to take, noting the fees for each seminar as outlined on Page 3. See course descriptions for more information about each seminar (See the next few pages).
2. You can receive discounts on seminars if you are a member of the Friends of the Florissant Fossil Beds, Inc. Are you a current member of the Friends group? Do you need to renew your membership? Would you like to join the Friends for the first time? If you are interested in getting immediate discounts, you can join the Friends with your registration. To join the Friends group, please read, fill out, and mail in the registration form for the Friends group at the back of this brochure along with your registration form for the seminars you would like to take.
3. Are you a teacher? Will you be taking this course for graduate and/or undergraduate credit through Adams State and/or recertification credit through BOCES? Note the prices for credits as outlined on Page 3. For each seminar that you want to receive graduate credit (or undergraduate) from Adams State, you must fill out and submit a separate Adams State graduate (or undergraduate) credit form that are available at the end of this brochure.
4. Once you have decided upon the courses, decide whether or not you want to join the Friends group, and decide whether or not you are taking the course for any kind of credit, you are ready to fill out the registration form at the end of the brochure and mail it in with your payment.
5. NOTE: You can also pre-register by phone. Call (719) 748-3253 ask for extension 109 and leave a message. Your phone reservation will be held for up to ten days without payment. Receipt of payment confirms your space in the seminar.

Taking a seminar for credit? **READ THIS!**

Please remember that for each seminar you want to take for graduate (Undergraduate) credit from Adams State, you must fill out a separate graduate credit registration form that is at the end of this brochure.

Also note that you may not repeat a seminar for credit if you have previously taken and received credit for that seminar. Check titles and content carefully since one or two repeated classes may have a new title or description. Call us if you're in doubt. Adams State College tuition or BOCES recertification fee must be included with seminar registration and fees. Please write your check for the entire amount payable to **Friends of Florissant Fossil Beds, Inc.** We cannot accept credit cards in payment. Sorry.

Things You Need to Know Once You are Registered

How to get here:

- The Monument is reached from I-25 in Colorado Springs by taking State Highway 24 west approximately 35 miles to the town of Florissant. Turn south (left) on Teller County Road #1, proceeding about 2 miles to the entrance of Florissant Fossil Beds. Proceed to the visitor center area. The seminars will be held in the Yurt (30 foot circular tent) at the south end of the picnic area unless otherwise stated.
- All seminars begin at the Yurt at 9 am and end at 5 pm UNLESS OTHERWISE NOTED. PLEASE READ ALL INFORMATION CAREFULLY in the seminar description. Several seminars may begin at a different time or will meet elsewhere. You are responsible for your transportation in reaching the starting point.
- Allow approximately 1-hour drive from the west side of Colorado Springs, at least 2.5 hours from Denver. Seminars will begin on time. We ask that you arrange to arrive about 15 minutes before the start time to allow for check-in. Allow yourself plenty of time for a stress-free arrival.

What to bring and how to prepare:

- Most seminars will be outdoors for a large portion of the class and may require hiking. Be prepared for changeable mountain weather with layered clothing, rain gear, comfortable hiking shoes, hat, sunglasses and sunscreen. Insect repellent is a good idea. Meals are not provided, so bring a sack lunch, snacks, ample drinking water, and a plastic sack to carry away any refuse from your day. Bring a notebook and pen. You may wish to bring binoculars, camera, field lens, or any other items that would enhance your experience.

Seminar Descriptions 2011

Saturday, June 18, 2011, 9am – 5pm, Jerry McLain, “Historical Ranch Sites of the Sanborn Western Camps” (1/2 credit)

Information to come soon. The site for this seminar will be at the Nature Place which is located at Sanborn Western Camps in Florissant, CO 80816. Registrants will be given directions.

Friday, July 8, 2011, 5pm - 2am, Dr. Brian Linkhart, “Natural History and the Ecology of the Flammulated Owl” (1/2 credit)

The Flammulated Owl, as small as a fist and reticent enough to disappear in the shadows of western forests, was little known for more than a century. But the results of more than 25 years of study have shed light on the ecology and habitat requirements of the sensitive owl, with the aim of assisting in the development of conservation plans for forest ecosystems containing this and other sensitive species. Participants in this field-based course will learn about the natural history and ecology of the owl, and will participate in a nocturnal adventure into occupied territories of the owl in an attempt to hear whispers of its territorial song, observe its nesting behaviors, and attempt possible captures of adult owls. Participants should be prepared to take short to moderate hikes over steep, forested terrain, in a landscape illuminated only by soft starlight (and your handlamp), and may have the opportunity to experience close encounters with several forest animals, including owls. Previous knowledge of ecology and bird identification is helpful but not mandatory. This course is especially suitable for science teachers or those with an interest in ornithology, ecology, or field biology. The site for this seminar will be the Manitou Experimental Forest north of Woodland Park, Colorado on Highway 67. Registrants will be given directions.

Monday and Tuesday, July 11 - 12, 2011, 9am - 5pm, Doug Coleman, “Wildflowers of the Central Rockies” (Monday), “Blowing in the Wind: Knowing Your Grasses” (Tuesday), (1/2 credit per day)

Monday July 11: Ecosystems and Flora of the Central Rockies-a one day class focused on an ecosystem approach to wildflower and shrub identification. This one day overview will reacquaint students with the basics of plant identification and will encourage an ecosystem approach to learning the region's flora. A morning and an afternoon field trip will occur on the Florissant Fossil Beds National Monument or nearby depending on season advancement. Students are encouraged to use Edwards and Weber's Plants of the Florissant Fossil Beds as a check list. This is available in the bookshop at the Fossil Beds. Bring your favorite tree and wildflower book or make a recommended purchase at the Fossil Beds. A hand lens, notebook and digital camera would prove very helpful.

Tuesday July 12 :Blowing in the Wind: An introduction to the grass-like plants of the Central Rockies. Cryptic and beautiful, native grasses, sedges and rushes often comprise 40% of any flora. There are over 85 species of these plants known as “graminoids” found on the Fossil Beds. We will identify the most common of those plants at Florissant or the surrounding area. A two or three tiered hand lens is essential. Students will learn how to use a key(from handout written material) as well as how to recognize the “signature of individual species in the field. No text is needed for the class, but several books will be suggested for further study for those interested.

Participants do not have to take both.

Seminar Descriptions 2010 (continued)

Saturday, July 16, 2011, 9am - 5pm, Dr. Bud Wobus, "Exploring the Basement: Learning to See What Isn't There" (1/2 credit)

The "basement" (oldest) rocks in central Colorado date back nearly 2 billion years. FAR older than the overlying lake beds and volcanics at Florissant (ca. 34 million years). This seminar will introduce participants to these crystalline, metamorphic rocks and three generations of granite ranging in age from 1800 to 1000 million years before the present, and will use them to interpret the role of vanished oceans, deep burial, and immense uplift (former mountains...) visualizing what is no longer there! The day begins with an illustrated overview of this history in the Yurt at Florissant Fossil Beds National Monument. The rest of the day will be a field trip to several stops between the Monument and South Park.

Tuesday, July 19, 2011, 9am - 5pm, Toni Ratzlaff, "Easy Printmaking Indoors or Out" (1/2 credit)

Come and see how you can help your students discover printmaking inside your classroom or outside. Explore the science of solar printing (cyanotype) and the pure fun of bubble printing. Other easy techniques include texture rubbing and finger paint printing. There will be lots of time to practice during this fun day as well as samples of these materials and information about where to get your own.

Saturday, July 30, 2011, 9am - 5, Steven Veatch, "Discovering Colorado's Ice Age Environments" (1/2 credit)

Participants will learn how to 1) make key paleoclimatic investigations, 2) learn how environments and climates change, and 3) discover how these changes are discerned through several climate indicators such as rocks, the fossil record, pollen, and tree rings. During the seminar, Florissant's ice age environment will be constructed using proxy data.

Wednesday and Thursday, August 3 - 4, 2011, 9 - 5pm, Dr. Bob Carnein, "Geologist as Detective"

In this seminar, we will first become familiar with the essential principles you need in order to conduct a geologic field investigation. No previous knowledge is expected. The seminar will focus on guided observation, how to record your observations, and how your observations can be used to reconstruct a basic geologic history of central Colorado.

Day 1: Focuses on the Florissant Fossil Beds National Monument and how it came to be. We will spend a significant part of the day on a walking tour of several field sites in the national monument, seeing how a geologist applies the principles covered in the morning.

Day 2: Most of the second day will be spent visiting outcrops between Colorado Springs and Lake George, in order to investigate how the Florissant Formation fits into the "bigger picture" of central Colorado geology. Participants taking Day 2 must have taken Day 1.

Registrants will be given pre-course materials. If you do not want to take both days, you may take Day 1 as a single, stand alone course.

Tuesday, August 9, 2011, 9am - 5pm, Chris Tholl, "Teaching Renewable Energy, Tools for K-12 Teachers and Parents" (1/2 credit)

This class is designed for K-12 teachers, park staff, naturalists, and anyone interested in energy and the Earth/human/sun relationship. Learn how to infuse into your existing curriculum or program, earth science concepts of photosynthesis and the cycle of energy production, transfer and conception. Walk through the activities of the new INNOVATORS curriculum used by the High Trails Outdoor Education Center, tour an 8kwh PV solar array, then hike to a renewably powered yurt. Hands on activities include mini-solar panel games, wind turbine blade design, build your own solar cooker, and passive solar design activities. The day includes a 3 miles round trip hike. This seminar will be located at the Nature Place at Sanborn Western Camps in Florissant, Colorado. Registrants will be given directions.

Instructor Biographies 2011

Toni Busch Ratzlaff is the Art teacher at Summit Elementary School in Divide, Colorado. Originally from Augusta, Kansas, she has a B.A. in Elementary Education and Art from Ottawa University, Ottawa, Kansas. She has a Colorado Teaching license with endorsements in K-12 Art and Elementary Education. She has received additional credit hours in Art Education through Adams State College, University of Colorado, and Arapahoe Community College. In addition to teaching at Summit for the past 15 years, she was the Executive Director of the Manitou Springs Arts Academy. She has taught many classes for adults, including continuing education workshops for the Colorado Art Education Association, Kennedy Center Imagination Celebration, and the Woodland Park School District. Volunteer positions have included Chair of the Mountain Arts Council, Mountain Artists, and the Mountain Arts Festival. As an artist, her current interests include masks and books. Other interests include sewing, history, geology, and kayaking.

Steven Veatch. Throughout his career as a geoscientist, Steven Veatch's research has focused on Colorado geology and mining history. He has conducted educational earth science programs throughout the Pikes Peak region. With colleagues and students from across the nation, he has studied a diversity of earth science topics, including climate change, glaciation, and Colorado's fossil record. Steve is an adjunct professor of earth science at Emporia State University where he received an MS in earth science. He has written over 100 articles and professional papers on geology. Steve is from a pioneering Teller and Boulder County mining family.

Dr. Brian D. Linkhart is an Associate Professor of Biology at Colorado College, where he teaches several field courses including ornithology, ecology, and field biology. He was a seasonal research biologist for the U.S. Forest Service for 18 years, and has taught summer field seminars on forest ecology since 1986. Over the past 30 years, Brian has conducted research on the ecology of various sensitive, threatened, and endangered birds in grassland and forest ecosystems. Since 1981, he has been supervising a research crew studying the demography and habitat requirements of Flammulated Owls on the Manitou Experimental Forest in central Colorado. This study, now one of the longest running investigations of avian population ecology in North America, is providing insight into how the small forest raptor may be affected by environmental changes, such as alteration of forest habitats, and climatic trends.

Dr. Reinhard "Bud" Wobus again joins us for our seminar series. He is at present the Edna McConnell Clark Professor of Geology at Williams College in Williamstown, Massachusetts where he is responsible for courses and laboratories in mineralogy, petrology, mineral resources and introductory physical geology. Dr. Wobus received his B.A. from Washington University, his MA in Geology from Harvard University and is PhD from Stanford University.

Chris Tholl is the director at the High Trails Outdoor Education Center. Before moving to Florissant permanently, Chris taught in the Social Studies Department at Fort Collins H.S. for six years, specializing in geography and US history. Chris was inspired to build a new program for the Colorado Outdoor Education Center focused on teaching students the value of renewable energy after he participated in a summer institute with SEI (Solar Energy International Carbondale, Colorado) in the summer of 2010.

Dr. Bob Carnein is a geologist who began volunteering at the Florissant Fossil Beds in 2008. He retired in June 2007. He has an M.S. Degree in Glaciology and a Ph. D. in Geology from The Ohio State University. He taught undergraduate geology at Waynesburg College and Lockhaven University both in Pennsylvania.



ADAMS STATE COLLEGE
 208 Edgemont Boulevard, Alamosa, Colorado 81102
EXTENDED STUDIES REGISTRATION FORM

Toll-Free: 800.548.6679 Phone: 719.587.7671 Fax: 719.587.7974

Please fill out carefully, legibly, and completely in ink

Date: _____ Social Security Number _____ / _____ / _____ Birthdate _____ / _____ / _____ E-Mail Address: _____

Sex: M F Home Phone: _____ Work Phone: _____ Are you a U.S. citizen? Yes No

Full Name: _____ (Last) _____ (First) _____ (Middle) _____ Previous Name: _____

Mailing Address: _____ (Street - P.O. Box) _____ (City) _____ (State) _____ (ZIP) + 4

Have you previously enrolled at Adams State College? Yes No Have you lived in Colorado continuously for the past 12 months? Yes (CO resident) No (Non-resident)

If yes, term and year last enrolled: _____

I would prefer to access my grade for this course online rather than by mail: Yes No

You must have at least a BA/BS to register for a course numbered 500 or above.

I have the following: No Degree BA/BS MA Doctorate

I am taking this course for: Graduate credit Undergraduate credit (approval required)

Ethnicity: (Mark any that apply)

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

Off-Campus Course for which you are registering:

The following **Selective Service** question must be answered to comply with Colorado State Law:

Prefix and Number: _____ CRN: _____

Title of Class: _____

Instructor: _____ Credit Hours: _____

Location of Class: _____ ASC Tuition: _____

If you are a male born after December 31, 1959, are you registered with the Selective Service? Yes No

****I understand that if an Incomplete grade is awarded, the incomplete grade will change to an "F" grade exactly one year from the registration date unless an earlier date is specified by my instructor.****
 I understand that if I have registered for hours in excess of 20 within this term, I must acquire Extended Studies approval prior to registration for this course.
 I understand that I must fulfill the residence requirement in effect for any special degree or certificate.
 I understand that if this class is to be used in a degree program, approval must be secured from the student's assigned academic advisor.
 I hereby request admission to Adams State College as an Extended Studies (non-certificate or non-degree bound) student. I understand that if I wish official admission to a degree program, I must submit a regular application. I certify that all information (including Selective Service) I have provided is true.

 Signature _____ Date _____



Friends of the Florissant Fossil Beds, Inc.

Join the Friends of the Florissant Fossil Beds, Inc. and help support Florissant Fossil Beds National Monument. Receive an immediate discount on your seminar fees!

Friends Membership Form

Membership Categories

Individual	\$15.00	Name _____
Individual (2 year)	\$27.00	Street _____
Family	\$25.00	City _____
Family (2 year)	\$40.00	State _____
Corp/ Business	\$100.00	ZIP _____
Lifetime (Old Fossil)	\$300.00	Phone _____
Contribution _____		
Total _____		

Seminar Registration Form

Teacher graduate credits are \$27.50 for 1/2 credit (7.5 hours)					
Course Number	Seminar Title	Seminar Fee	Adams State Tuition \$27.50	BOCES \$5.00	Total amount this seminar
ED 589					
ED 589					
ED 589					
ED 589					
ED 589					
ED 589					
			Membership Dues		
			Subtotal		
			Total		

Mail completed forms with payment to:
 Friends of the Florissant Fossil Beds
 PO Box 185
 Florissant, CO 80816