

# Time Beyond Imagining...

## Colorado Plateau

### Field Studies

#### June 15-29, 2013

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The Colorado Plateau is one of the most spectacular regions on planet Earth, and it tells a story encompassing more than half of Earth's history. More than two dozen parks and monuments have been established on the plateau, and we will be visiting most of them! We are pleased that you have chosen to participate in this year's expedition, and we are looking forward to traveling together with you! Please read through the following information carefully, and meet the appropriate deadlines in a timely fashion.

**Facilities and Conditions:** This can be a rugged trip. We are camping for two weeks in a variety of settings, ranging from cushy campgrounds with showers and laundry, to barren primitive sites with no facilities (but with great views!). There will be a great deal of driving, but the vans are air-conditioned and are comfortable (within limits). Weather conditions will range from blazing hot (if we hit a heat wave, temperatures could exceed 105°) to rather cool if not downright cold (some camps will be at more than 8,000 feet). Thunderstorms will be a definite possibility at times. Please be prepared to operate comfortably under any of the above conditions.

**Comestibles:** The fee for the trip includes all your food needs, breakfast, lunch and dinners. We have volunteers who are organizing and conducting the food preparation, and all participants will be expected to contribute in the way of cooking, cleaning and packing. A KP list will be provided when we leave on the trip; it is expected that you will be there at your scheduled time. Please let us know if you have any serious food allergies.

**Academics:** Geology 174 is a 3 unit academic course, and you will be responsible for several things to receive a passing grade:

- Submitting complete lecture notes and worksheet following the trip
- Passing occasional quizzes during the trip
- Presentation of at least one topic during the trip

The presentations will be chosen from the list provided in this announcement. This assignment is made for the purpose of giving you a personal "ownership" of at least one of the parks or localities that we will see on the trip, and affording you the experience of preparing and giving presentations of scientific topics. Most people worry about public presentations, but it will quickly become clear that they are not threatening in our small group setting. Everyone on the trip will be doing one, and so all of us will be supportive of your efforts, just like you will be supporting the others. These presentations should be ready prior to the trip: references, resources, diagrams and duplicating are available through my office. I will be glad to assist you in any way I can.

**Community and Collegiality:** A journey of this nature can be a challenge. It is a long trip, and sometimes tempers may rise, or feelings get hurt. Please maintain some perspective at all times and think of the morale of the group before you complain or argue about anything. If problems or personality conflicts arise, come and talk to me and we will resolve them. **Alcohol and drugs** are most disruptive and absolutely **will not be tolerated**.

**Fees:** This is a three unit course, so a per-unit fee applies. There is also a trip fee of \$650 which covers transportation, food, camp fees, entry fees and teaching materials. It is paid in the MJC Business Office in the Student Center on East Campus.

I always look forward to getting back on the plateau, and I find inspiration and fulfillment from the experience. I trust it will be so for you as well. Take advantage of all that this land has to offer in the way of insight, understanding, and inspiration. It is truly a trip of a lifetime!

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### Timetable

**Monday, April 22:** Organizational Meeting, 7:00 in Science 132. **Purpose:** Orientation, selection of topics, review of equipment needs, and preparation for fundraising event.

**TBA at April 22 Meeting:** BBQ and gathering, BYO meat and one salad or dessert to share, I'll provide drinks and charcoal. Place to be announced. **Purpose:** final arrangements, assistance with logistics, social introductions, and some fun.

**Thursday, June 13 or Friday, June 14:** Final shopping and equipment preparation/packing. Bring gear between 2 and 4 PM **Friday** to school for loading in vans (to save time on Saturday). We will be meeting and packing the vans outside the NEW Science Community Center on WEST campus.

**Saturday, June 15, 6:30 AM:** Leave from Science Community Center. **Make arrangements to leave vehicles at home**

**Saturday, June 29:** arrive home at MJC approximately 5:00 PM

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### Tentative Itinerary

**Saturday, June 15:**

Leave MJC at 6:30 AM

Stops: Rainbow Basin or Calico Ghost Town

Camp: Black Canyon/Hole in the Wall, Mojave National Preserve

Facilities: water, picnic shelter, vault toilets

Conditions: hot and dry

Emergency phone: Mojave National Preserve, (760) 252-6100

**Sunday, June 16:** Mojave National Preserve to Zion National Park

Stops: Frenchmans Mountain, Las Vegas

Valley of Fire State Park and Lake Mead National Recreational Area

Camp: Zion National Park, Group Campground

Facilities: water, flush toilets

Conditions: hot (cool in the Narrows)

Emergency phone: Zion National Park (435) 772-3256

**Monday, June 17:** Zion to Grand Canyon National Park, North Rim

Stops: Angels Landing or Virgin Narrows hikes, Zion Arch Overlook

Coral Pink Sand Dunes State Park

Grand Canyon, North Rim

Camp: North Rim Group Campground, Grand Canyon National Park

Facilities: Water, flush toilets, showers, laundry, grocery

Conditions: Cool and comfortable (7,500 feet)

Emergency phone: Grand Canyon National Park, (520) 638-7888

**Tuesday, June 18:** Grand Canyon National Park

Stops: Hike, Kaibab or Widforss Trail

Cape Royale

Point Imperial

Camp and facilities: same as above

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**Wednesday, June 19:** Grand Canyon to Navajo National Monument

Stops: Colorado River, Glen Canyon Dam  
Antelope Canyon  
Horseshoe Bend  
Navajo Indian Reservation  
Camp: Camp: Navajo National Monument  
Facilities: Water, vault toilets  
Conditions: Warm and dry  
Emergency phone: Navajo National Monument (928) 672-2700

**Thursday, June 20:** Navajo National Monument to Cedar Mesa

Stops: Black Mesa Strip Mine  
Navajo National Monument  
Agathlas Needle  
Monument Valley  
San Juan River  
Valley of the Gods  
Goosenecks of the San Juan  
Camp: Near Muley Point Overlook, Cedar Mesa  
Facilities: absolutely none, but an incredible view...  
Conditions: moderate, thunderstorms a possibility  
Emergency phone: San Juan County Sheriff, Blanding or Monticello, Utah

**Friday, June 21:** Cedar Mesa to Mesa Verde National Park

Stops: Natural Bridges National Monument  
Abajo Mountains  
Anasazi Ruins and Hovenweep National Monument  
Mesa Verde National Park  
Camp: Morefield Campground, Mesa Verde National Park  
Facilities: Water, flush toilets, showers, laundry, grocery  
Conditions: Moderate to cool  
Emergency phone: Mesa Verde National Park (970) 529-4475 or (970) 533-7731

**Saturday, June 22:** Mesa Verde to Ouray, Colorado

Stops: Animas River, Durango  
Mesa Verde Cliff Dwellings, Spruce Tree House  
Silverton Caldera  
Bear Creek Glacier Deposits  
Camp: Ouray KOA  
Facilities: water, flush toilets, showers  
Conditions: moderate to cool  
Emergency phone: (970) 325-4736

**Sunday, June 23:** Ouray to Arches National Park

Stops: Black Canyon of the Gunnison National Monument  
Colorado National Monument  
La Sal Mountains  
Colorado River Canyon  
Camp: Arches National Park Group Campground  
Facilities: water, flush toilets  
Conditions: moderate to warm, may be windy  
Emergency phone: Arches National Park, (435) 259-8161

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**Monday, June 24:** Canyonlands and Arches National Parks

Stops: Upheaval Dome  
Arches National Park  
Island in the Sky, Canyonlands  
Moab Fossil Hunt  
Delicate Arch Sunset Hike  
Camp: Arches National Park Group Campground (see above)

**Tuesday, June 25:** Arches to Goblin Valley State Park

Stops: Green River Dinosaur Hunt  
Cold Water Geysers  
Goblin Valley  
Camp: Goblin Valley State Park  
Facilities: water, flush toilets, showers  
Conditions: hot  
Emergency phone: Goblin Valley State Park (435) 564-3633

**Wednesday, June 26:** Goblin Valley to Kodachrome Basin State Park

Stops: Capitol Reef National Park  
Uranium Mines  
Anasazi State Park, Boulder  
Escalante Petrified Forest  
Camp: Kodachrome Basin State Park Group Campground  
Facilities: Water, flush toilets, showers  
Conditions: warm to hot  
Emergency phone: Kodachrome Basin State Park (435) 679-8562

**Thursday, June 27:** Kodachrome to Thomas Mountain, Utah

Stops: Bryce Canyon National Park  
Topaz Mountain  
Camp: Thomas Mountain Topaz Locality (tentative)  
Facilities: **none**  
Conditions: unpredictable  
Emergency phone: Sheriff's Department, Millard Co., Delta, Utah, or Juab County

**Friday, June 28:** Thomas Mountain to Berlin/Ichthyosaur State Park

Stops: Great Basin National Park and Lehmann Caves  
Garnet Hill Crystals  
1954 Earthquake Scarps  
Berlin-Ichthyosaur State Park  
Camp: Berlin-Ichthyosaur State Park  
Facilities: water, vault toilets  
Conditions: warm  
Emergency phone: Berlin/Ichthyosaur State Park (775) 964-2440

**Saturday, June 29:** Berlin to Home

Stops: Mono Lake  
Tioga Pass  
Lembert Dome

Arrive at MJC at approximately 5:00PM

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## Lecture Topics:

Select three or so of the topics below that you are interested in presenting on the trip. We will select topics at the first organizational meeting on April 22. You will be responsible for at least one presentation. Preparations should be complete prior to leaving on the trip. Available resources in the geology department include duplicating, portable chalkboard, and poster paper. A list of library references is available in my office, as well as a folder of information on each area listed below.

- Introduction to the Colorado Plateau
- Geology of Zion National Park
- GH Precambrian and Paleozoic History of the Grand Canyon
- GH Mesozoic and Cenozoic History of the Grand Canyon
- Glen Canyon Dam and the Colorado River
- Antelope Canyon and erosion of slot canyons
- Navajo National Monument
- Black Mesa Coal and Strip Mining
- Raplee Anticline and the Valley of the Gods
- Monument Valley and the Monument Upwarp
- Goosenecks of the San Juan River
- Natural Bridges National Monument
- Geology of Mesa Verde National Park
- Silverton Caldera and the San Juan Mountains
- Black Canyon of the Gunnison and the Ancestral Rockies
- Colorado National Monument
- Arches National Park
- Laccoliths (La Sal, Abajo and Sleeping Ute Mountains)
- Dead Horse Point and Canyonlands National Park
- GH Paradox Basin and Paleozoic Summary
- Morrison Formation and the Dinosaurs
- San Rafael Swell and Goblin Valley State Park
- Capitol Reef National Park and Uranium Developments
- Escalante-Grand Staircase National Monument and Kodachrome Basin
- Geology of Bryce Canyon National Park
- GH Mesozoic Summary
- Basin and Range Province
- Great Basin National Park and Cavern Development
- Berlin-Ichthyosaur State Park
- Mono Lake, Pleistocene Ice Ages, Pluvial Lakes
- Yosemite National Park and the Mesozoic Convergent Margin

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If you have some special expertise in some other discipline that would make for a good project, please offer your suggestions:

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Name: \_\_\_\_\_

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**Field Trip Emergency Information:**

Name: \_\_\_\_\_.

Address: \_\_\_\_\_ Zip: \_\_\_\_\_.

Phone (home): \_\_\_\_\_ work: \_\_\_\_\_ e-mail \_\_\_\_\_.

Whom do we notify in case of emergency?: \_\_\_\_\_.

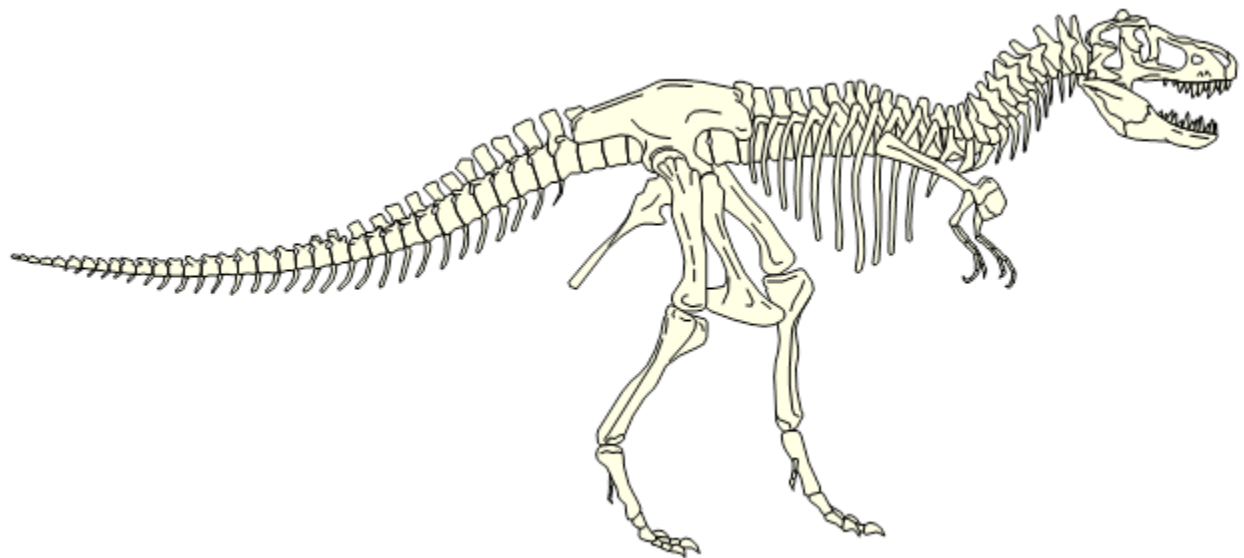
\_\_\_\_\_.

Medical Allergies: \_\_\_\_\_.

Medications: (those you are taking, and those to avoid) \_\_\_\_\_.

Date of Last Tetanus Shot: \_\_\_\_\_.

Special Medical Problems: \_\_\_\_\_.



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## Suggested Equipment List

Sleeping Bag  
Ensolite Pad and/or cot  
Ground Cloth  
Tent (small, compact, may share with a friend)  
Day Pack  
Small Beach Chair  
Duffle Bag or Suitcase  
Non-disposable Water Container(s); 64 oz. total  
Pocket Knife  
Flashlight with extra batteries and bulb  
Notebook  
Sketch Pad  
Writing and Drawing utensils  
Towel and Washcloth  
Toilet Paper and Kleenex  
Poncho  
Sunscreen-High SPF (the sun out there is much more intense)  
Bug Repellent  
Small Ice Chest or Insulated Bag  
Personal Items: soap, shampoo, lip balm, toothbrush and paste, deodorant, etc.  
Mess Kit: plate, bowl, utensils, unbreakable mug/Sierra cup

### **Clothing 4-5 day supply**

Short-sleeve and Sleeveless T-shirts  
Shorts  
Long-Sleeved Shirts  
Long Pants  
Socks (extras for hiking too)  
Underwear  
Sturdy Hiking Boots or Athletic Shoes  
Comfortable “in camp” Shoes/Sandals  
Jacket  
Swim suit

Spending Money (for showers, laundry, snacks, souvenirs, books, etc.)  
Camera and spare batteries, flash drives  
Rock hammer (optional)

