

## Rocks & Minerals of Joshua Tree National Park

### Information

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Date/ Time: Friday, March 20, 6 pm – 9 pm

Saturday, March 21, 8 am – 5 pm

Sunday, March 22, 8 am – 4 pm

Meet at: [Oasis Visitor Center](#) (click on link for a map of the meeting site)

74485 National Park Drive, Twentynine Palms

Instructor: Dee Trent, Ph.D., Professor Emeritus, Citrus College

### Overview

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Learn the geologic story of tectonic plates, magma, and the geologic time when the building blocks of Joshua Tree National Park were formed. Dee Trent will explain the critical principles that shaped the rocks and minerals of this area into the blonde granite and pre-Cambrian gneiss that are icons of the Mojave and Colorado Deserts. Participants will focus on identification of minerals and the three basic rock types. The class will apply its knowledge in the field by exploring numerous examples of the major rock types, contact zones, and unique geologic features such as polka dot granite and pink feldspar megacrysts.

### Itinerary

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Friday, March 20, 6 pm – 9 pm

*Oasis Visitor Center – Rattlesnake Room*

- Multi-media presentation
- Snack break, **bring your own food**
- Classroom rock identification lab
- Quiz for those taking course for college credit

Saturday, March 21, 8 am – 5 pm

*Oasis Visitor Center – Rattlesnake Room*

- Class room presentation
- Field class on pegmatite outcrops identifying mineral and rock types
- Field class on igneous rock identification and weathering
- Lunch/snack break, **bring your own food**
- Field class on metamorphic rock identification and weathering

Sunday, March 22, 8 am – 4 pm

*Oasis Visitor Center – Rattlesnake Room*

- Field class, igneous and metamorphic outcrops concentrating on landforms and human impact
- Lunch/snack break, **bring your own food**
- Field class, sedimentary deposits with emphasis on landform development
- Assign take home essay, for those taking course for college credit

## **What to Bring to the Course**

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### ***Required for Class***

- Access to a “standard sized” vehicle to travel the Geology Tour Road. If you do not own a vehicle that meets these requirements, we will be car pooling with other participants. If you have any concerns about not having the required vehicle please call 760-367-5537.

### ***Optional Class Materials***

- Magnifying glass or 10x loupe to look at rocks and minerals

### ***The 10 Essentials: Every day in the Desert***

- Day pack
- 4 quarts of water
- Closed toe hiking shoes
- Lunch and snacks
- Clothing layers
- Hat
- Sun glasses
- Sunscreen
- Notebook and pencil/pen
- Whistle

## **Fitness Requirements**

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Participants must be in good physical condition for courses/activities in a desert that may be hot, dry, windy, and sometimes surprisingly cold.

## **Hike Level**

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Easy

## **Guidelines**

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- You are responsible for your safety.
- Park your car in designated areas only. Parking along the side of the road is dangerous to you and the environment.
- Rattlesnakes are present in the desert. Avoid contact with wildlife. Put your hands and feet only where you can see them.

- Watch your step. Some of the class is at night, please bring a flash light and beware of uneven ground and equipment.
- Stay with the group. If you get lost, stay put.
- Drink plenty of water. If you run out, notify the instructor or the Desert Institute Representative.
- Before leaving the class, check out with the Desert Institute Representative.

### **College Credit**

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If taking this course for 1.5 units of Geosciences (X425.1) credit through the University of California Riverside Extension, participation (20%), mineral identification quiz (25%), rock identification quiz (25%) and take home essay (30%) will determine the grade.

### **Suggested Reading**

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\**Joshua Tree National Park Geology*, Joshua Tree National Park Association, 2002 by D.D. Trent and Richard W. Hazlett

### **Instructor Biography**

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D.D. "Dee" Trent received his undergraduate degree in geology from the University of Southern California and his Ph.D. from the University of Arizona. His work as an oil company geologist took him to California's San Joaquin Valley, Utah, Arizona and Alaska. Now semi-retired, he taught geology, physical oceanography and physics for 28 years at Citrus College, Glendora, CA, part of which time he was also an Adjunct Professor at USC teaching Field Geology. He has done field research on glaciers in Alaska and California, and in recent years has become involved in monitoring remediation of abandoned mines, which has taken him to mines in Montana, Nevada, California and Germany. He is author of *Mines and Geology of the Randsburg Area: An Historical Gem of the Mojave Desert*; a co-author of a widely used college textbook, *Geology and the Environment*, now in its 7<sup>th</sup> edition; author of *Joshua Tree National Park Geology*, co-authored with Richard Hazlett, and numerous professional publications. He appears in the PBS TV series, *The Earth Revealed*, teaches mini-field-oriented classes at Joshua Tree National Park, has lead geologic field excursions for the Rancho Santa Ana Botanic Garden, and is a frequent lecturer on cruise ships. He is featured in Huell Howser's PBS program, *Glaciers of California*. When not involved with geology, he plays banjo in a Dixieland band.

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\* The Desert Institute staff/instructors will attempt to accommodate participant's needs; however we reserve the right to deny a student participation in the course due to concerns regarding health and safety issues.