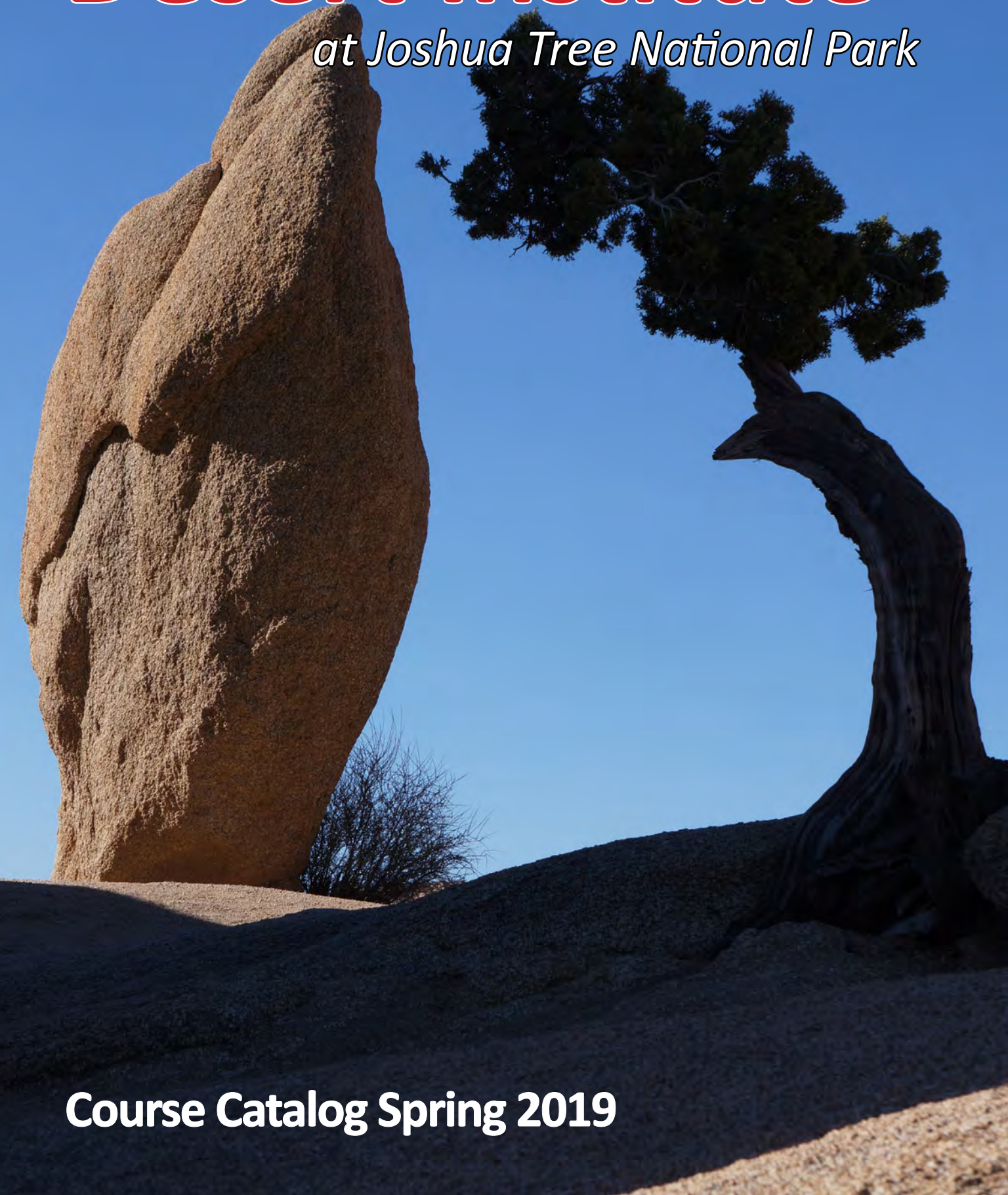


# Desert Institute

*at Joshua Tree National Park*



**Course Catalog Spring 2019**





# Welcome to Desert Institute at Joshua Tree National Park

In 1998, Joshua Tree National Park encouraged their longtime nonprofit partner, Joshua Tree National Park Association, to create a field program for adults that would compliment the park's own ranger-led interpretive activities by providing in-depth educational opportunities similar to other well known Field Institutes such as those at Yellowstone, Yosemite and Sequoia National Parks. The Joshua Tree National Park Association and the University of California Riverside Extension collaborated to establish a curriculum based course offering that would receive college credits. In the Spring of 1999 we launched five weekend classes with lecture and field experiences led by recognized scientists and park interpreters. The initial topics ranged from early mining history, homesteading history, geology, birds and archaeology of Joshua Tree National Park. By the Fall of 1999, the offerings had increased to 20 classes. Almost twenty years later, the Desert Institute at Joshua Tree National Park offers over 70 classes per year, community lectures, customized programs for visitors to the park and bus tour guides. In addition, the Desert Institute has expanded the geographic opportunities for classes beyond the park into the Colorado Desert and the Coachella Valley, the Mojave National Preserve, the Mojave Trails National Monument and the Sand to Snow National Monument.

Recently, we provided a Map and Compass class to park staff as part of a safety plan to ensure staff have a backup to GPS and avoid relying on electronics which, as we know, can fail. Superintendent David Smith stated, "Thanks so much for making this a reality. We rely so much on Joshua Tree National Park Association and the Desert Institute for funding and support - this is a great example of the tangible and practical help you provide the park. Thank you!"



## Spring 2019 Calendar

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March 1 - 3	Rocks and Minerals of Joshua Tree National Park*	pg. 6
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March 16	Citizen Science: Rock Art Recording Workshops <b>NEW!</b>	pg. 11
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May 4	Field Sketching for Non-Artists <b>NEW!</b>	pg. 16
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CAMPING OPTION

\* OFFERED FOR UNIVERSITY CREDIT



# Registration Information

## How Fit Do You Need To Be?

If you take part in a guided hike in Joshua Tree National Park, you will need to carry a backpack - with food, clothing, water and other essentials - that generally weighs up to 15 pounds. You will be exercising with either heat or cold, typical of the Mojave desert and elevation gain. And, you may need to scramble over large boulders along the route. To help you decide on which course is best for you, please take into account the "Hike Level" ratings and note that these ratings are only guidelines. What is labeled "strenuous" might be routine for a very fit visitor. For the most precise information about each activity or the effects of the desert environment, please call us at **760-367-5535**.

## Registration

The Desert Institute accepts registrations year round for special programming. Registrations for fall field classes start in June and registrations for spring field classes start in November. If you wish to enroll with the registration form on page 24, please enclose a check payable to **Joshua Tree National Park Association**. Of course, you can contact the Desert Institute for enrollment and for any questions about our programs:

Phone: 760-367-5535

Email: [desertinstitute@joshuatree.org](mailto:desertinstitute@joshuatree.org)

On-line: [joshuatree.org](http://joshuatree.org)

Mail: Use the form on page 24

Please honestly assess your fitness level by reviewing the hiking level descriptions on this page and in the course descriptions.



The images and written content used within this website or document are intended to represent offered courses; however weather, landscape and other conditions during the actual course may be different. Certain catalog and course content may be in the public domain and some content, such as photographs, may have been contributed or licensed by third parties and may be protected by copyright. Desert Institute course descriptions may contain links or URLs to third party websites. These sites are not under the control of the National Park Service, Joshua Tree National Park or the Desert Institute, who provide them as a convenience only and their use shall not be construed as an endorsement of, sponsorship of, or affiliation with the website; and they are not responsible for the contents.

Course dates, instructors and class content are subject to change. Contact the Desert Institute at 760-367-5535 for the most up-to-date information.

**SIGN UP ONLINE**  
Click On Class Name

# "How-To" Courses

How-to's and step-by-step advice from the experts. Taking a clue from our course participants for more classes on "how-to" explore and enjoy Joshua Tree National Park, we are offering the following programs for those who want to develop new skills.

## Women's "Get Away" Weekend

Date/Time: Saturday, March 30, 8 am - 5 pm  
Sunday, March 31, 8 am - 4 pm  
Meet at: Joshua Tree Visitor Center  
Fee: \$120 JTNPA member, \$130 non member  
Instructors: Pam Kersey, Camping and Hike Leader  
Robin Balch, Camping and Hike Leader  
Hike Level: Moderate



Spend a weekend with the Desert Institute at Joshua Tree National Park where you can go to unplug, to get away, to learn new skills and to enjoy the company of other course participants. Trade in your computer, cell phone, Instagrams, clocks, schedules and workplace jargon for an off-the-grid weekend with the girls — two days of pure unadulterated fun and education! Join Pam and Robin learning about camping, camp cooking, hiking and enjoying Joshua Tree National Park. This weekend of classes will be held at Lost Horse Campground, a beautiful location that is perfect for this program!

## "How-To" Navigate with Map and Compass

Date/Time: Saturday, March 9, 8 am - 4 pm  
Sunday, March 10, 8 am - 1 pm  
Meet at: Black Rock Nature Center  
Fee: \$95 JTNPA member, \$105 non member  
Instructor: Misha Askren, Sierra Club Outings Leader  
Hike Level: Moderate



Do you want the confidence to explore the desert without getting lost, even when you leave the trail? Misha Askren will teach participants how to navigate using a map and compass in this two-day field class. Participants will learn the basics of topography, map reading, using a compass, and the history of navigation during classroom and field exercises on Saturday. On Sunday, participants will put all their skills together in a route-finding adventure in the wilderness of Joshua Tree National Park, going to interesting spots and finding caches. These map and compass skills will allow participants to explore the wilderness and find their way back home. They also can be potentially lifesaving, in the event someone does get lost. No previous experience with compass or topo maps is needed. Participants will need to provide their own compass. Maps will be provided.

Suggested Reading: *Wilderness Navigation* by Mike and Bob Burns, found in the Visitor Centers or order at [joshuatree.org/store](http://joshuatree.org/store).

## Mammal Tracking in Joshua Tree National Park

Date/Time: Saturday, April 13, 8:15 am - 5:30 pm  
Sunday, April 14, 8:30 am - 2 pm  
Meet at: Joshua Tree Visitor Center  
Fee: \$120 JTNPA member, \$130 non member  
Instructor: Jim Lowery, Primitive Skills Teacher, Author of *The Tracker's Field Guide*  
Hike Level: Easy



Join Jim Lowery to learn and refine fundamental tracking skills. This class will explore the natural world through animal tracking, sign identification, and awareness techniques. Lowery will explain how to translate patterns found in the desert sand into animal stories. This class will be entirely field-based in order to provide abundant "dirt time" focusing on following trails, interpreting tracks and signs and even learning to read mood and body language of desert animals through their trails. Wildlife behavior, biology, and ecological relationships will also be examined by investigating the signs animals leave behind. Camping option available on Saturday evening for participants at the Lost Horse Campground, a beautiful location that is perfect for this program!

## "How-To" Survive in the Desert

Date/Time: Sunday, February 17, 9 am - 4 pm  
Meet at: Joshua Tree Visitor Center  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: Kelly Crawford, Joshua Tree Excursions  
Hike Level: Easy



The ultimate goal of survival training is to prevent survival situations from occurring in the first place. However, when survival is unavoidable, mindset, skills and improvisation are key. Learn the essential considerations needed to safely explore the sometimes harsh and often challenging desert landscape of Joshua Tree National Park. This workshop will provide an introduction to the fundamental thought processes, skills and knowledge needed to survive in desert regions and the hazards associated with desert travel. In this field class at Lost Horse Campground, students will become familiar with survival considerations, decision making processes, (what works, what doesn't and why). Concepts such as starting a fire, emergency shelters, water procurement, signaling, an overview of heat and cold-related injuries, hazards, and survival kits for car and backpack, will also be discussed. Kelly Crawford will teach the physical skills, tools and mental processes that will help prepare participants to safely discover some of the most beautiful and most dangerous habitats of the world; and survive, should it become necessary. The class will also emphasize that failing to plan or prepare and over-reliance on personal digital equipment (GPS and cell phones) can lead to catastrophic results. Learn how to be self-reliant and not become a Search and Rescue statistic.

# Natural Science Courses

**SIGN UP ONLINE**  
Click On Class Name

## Rocks and Minerals of Joshua Tree National Park

(Geosciences x425.1, 1.5 units)

Date/Time: Friday, March 1, 6 pm - 9 pm  
Saturday, March 2, 8 am - 5 pm  
Sunday, March 3, 8 am - 4 pm  
Meet at: Oasis Visitor Center  
Noncredit Fee: \$145 JTNPA member, \$155 non member  
Credit Fee: \$220 JTNPA member, \$230 non member  
Instructor: Dee Trent, Professor Emeritus, Citrus College  
Hike Level: Easy



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.

## Flora of Joshua Tree National Park

(Botany x420.5, 1.5 units)

Date/Time: Friday, March 8, 6 pm - 8:30 pm  
Saturday, March 9, 8 am - 5 pm  
Sunday, March 10, 8 am - 1 pm  
Meet at: Black Rock Canyon Nature Center  
Noncredit Fee: \$145 JTNPA member, \$155 non member  
Credit Fee: \$220 JTNPA member, \$230 non member  
Instructors: Kurt Leuschner, M.S., Wildlife Ecology  
Hike Level: Moderate



Students in this informal but purposeful class will have the opportunity to observe many of the flowering plants in Joshua Tree National Park, learn their names and something about their different places in the park's greater plant community. In addition, students will gain familiarity with the tools necessary to identify plants on their own. Friday's class will include a basic botany lecture, with emphasis on desert plants wherever possible and as appropriate. This will be followed by an introduction to basic field guides, and to the use of plant keys in identification. A lab session will give students the opportunity to examine plant and, especially, flower parts in close detail with instructor prompts and guidance. Saturday and Sunday are field days and will be spent in the park. With instructor assistance, students, in pairs or small groups, will practice identifying flowering plants. Walking distances for this class are minimal.

## Wildflower Wanderings

Date/Time: Saturday, March 9, 9 am - 4 pm  
Meet at: Oasis Visitor Center  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: Darrell Shade, Botanist, Desert Naturalist  
Hike Level: Easy/Moderate



Saturate your senses with the beauty of a wildflower bloom in Joshua Tree National Park. Darrell Shade will lead this all-day field class on a tour through the colorful flowers of a desert spring. Shade will entertain participants with descriptions of the flora, their botanical characteristics, and show how to identify the unique blossoms of the park. Shade will identify the flowers of the park by scientific and common names, allowing the participants to get to know these amazing plants.

This class will repeat again on **Saturday, April 27** with the same times. The focus of this class will be on higher elevation plants. Please be sure to enroll in the correct class date!



## Geology of Amboy Crater

Date/Time: Saturday, March 16, 9 am - 3 pm  
Meet at: Amboy Crater National Natural Landmark  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: Alessandro Grippo, Ph.D., Geological Sciences  
Hike Level: Moderate



Volcanoes of southern California? We are famous for faults, and earthquakes, and maybe for other geologic phenomena, but not volcanoes. Still, when we look to our landscape we find evidence of volcanic activity, some of it quite recent. In this class we will learn basic concepts of geology and explore Amboy Volcano and the surrounding lava fields to understand why they formed, and if they could become active again! Designated a National Natural Landmark in 1973, Amboy Crater was recognized for its visual and geological significance. There are a number of dormant volcanoes in the Mojave desert, and Amboy crater is a perfect example of a cinder volcanic cone very similar to the volcanoes throughout the region. Join Professor Grippo on this all-day field trip.

Suggested Reading: *Roadside Geology of Southern California* by Sylvester and Gans, found in the Visitor Centers or order at [joshuatree.org/store](http://joshuatree.org/store).

# Natural Science Courses

**SIGN UP ONLINE**  
Click On Class Name

## Desert Tortoise Conservation Biology

(Biology x412.18, 1 unit)

Date/Time: Saturday, March 23, 8 am - 6 pm  
Meet at: Copper Mountain College, Joshua Tree  
Noncredit Fee: \$85 JTNPA member, \$95 non member  
Credit Fee: \$135 JTNPA member, \$145 non member  
Instructors: Kristin H. Berry, Ph.D., USGS; Paul Delaney, Ph.D., Integrative Biology, Professor; Ed LaRue, M.S., Biologist; Michael Vamstad, M.S., Ecology and Scott Hoffman, M.S., Biology, USFWS  
Hike Level: Easy



*This class is sponsored by Copper Mountain College*

The desert tortoise *Gopherus agassizii* is a fascinating species whose existence is threatened. This class will highlight critical issues in desert tortoise conservation, and the unique morphological, physiological, and behavioral traits essential for these reptiles to survive. In the morning participants will explore the tortoise preserve at Copper Mountain College (CMC). Moving to the classroom, Kristin Berry, Ph.D., will explain the ecology, life history and current threats to this species. Edward LaRue Jr., M.S., will then show how to detect tortoises in the field, and discuss their occurrence in the Morongo Basin. Michael Vamstad, M.S., will discuss tortoise conservation and education activities in Joshua Tree National Park. Scott Hoffman, M.S., will describe the U.S. Fish and Wildlife Service's range-wide monitoring program for desert tortoises. Paul Delaney, Ph.D., will summarize preserve management, and the remarkable variety of adaptations exhibited by these amazing animals. Participants then return outside to practice detecting tortoises, scat, tracks and burrows using field equipment. Course fee includes continental breakfast and lunch.

*I began taking Desert Institute classes for professional development purposes. I immediately fell in love with every aspect from the expertise of the instructors, to the attentiveness of the volunteers and the high quality and variety of subjects the classes cover! Every class has exceeded my expectations.*

*I have a new found appreciation and sense of wonder for not only Joshua Tree National Park but also the desert.*

*These classes continue to inspire me to share with students some of the wonders and wildlife that JTNP and the desert have to offer. There are many classes I have yet to take and I look forward to the adventures that are yet to come!*

## Ecology of Joshua Tree National Park

(Biology x412.4, 2 units)

Date/Time: Saturday, March 23, 8 am - 5 pm  
Sunday, March 24, 7:45 am - 4:45 pm  
Meet at: Oasis Visitor Center  
Noncredit Fee: \$120 JTNPA member, \$130 non member  
Credit Fee: \$220 JTNPA member, \$230 non member  
Instructor: Allan Schoenherr, Ph.D., Ecology, Professor Emeritus  
Hike Level: Easy



Join Allan Schoenherr to learn about the desert environment and the unique plants--such as Joshua trees--and animals that define Joshua Tree National Park. Schoenherr will begin with an overview of the North American deserts and then focus on desert ecology in the park. Presentations will explain the relationships between living organisms as well as the adaptations that allow life to survive in arid landscapes. The class will visit multiple sites in the park where the two major ecosystems, the Mojave and Colorado Deserts, will be discussed. Participants will learn the distinctive qualities of these ecosystems, what plants and animals call them home, and identify flora and fauna in the field.

## Geology of the Marble Mountains

Date/Time: Saturday, March 30, 9 am - 3 pm  
Meet at: Roy's Cafe and Gas Station, Amboy  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: Alessandro Grippo, Ph.D., Geological Sciences  
Hike Level: Moderate



The Marble Mountains are a rather small mountain range located in one of the harshest, driest parts of the Mojave Desert, in southeastern California near the tiny towns of Chambless and Cadiz. What makes the Marble Mountains especially attractive to paleontologists is the comparatively rich Cambrian fossil biota which can be found in a particular rock layer, the Latham Shale, that is well-exposed in the southern part of the range, as well as in some nearby ranges such as the Bristol Mountains. The Latham Shale and the rock layers below and above it comprise a well-studied section of Lower and Middle Cambrian strata, which extends, with some variation, over a large part of the southern Mojave Desert. The dominant fossils in the Latham Shale are trilobites. Trilobites form one of the earliest known groups of arthropods. Join Professor Alessandro Grippo on this all-day field trip.

Suggested Reading: *Roadside Geology of Southern California* by Sylvester and Gans, found in the Visitor Centers or order at [joshuatree.org/store](http://joshuatree.org/store).



# Natural Science Courses

**SIGN UP ONLINE**  
Click On Class Name

## Desert Invertebrates: A Macro Photography and Microscopy Primer

(Biology x412.19, 1 unit)

Date/Time: Saturday, March 30, 9 am - 4:30 pm  
Sunday, March 31, 9 am - 4 pm  
Meet at: Oasis Visitor Center  
Noncredit Fee: \$145 JTNPA member, \$155 non member  
Credit Fee: \$195 JTNPA member, \$205 non member  
Instructor: Paul DeLey, Ph.D., Zoology, UC Riverside  
Hike Level: Easy/Moderate



Participants will be introduced to the major groups of respectively macroscopic and microscopic invertebrates found in southern California's deserts, where and when to find them, and how to observe and identify them with the aid of online tools after taking digital macro photographs in the field (in the case of insects and other animals visible to the naked eye), or with the aid of a compound microscope in the lab (for smaller animals). The first part will include an outline of basic techniques for approaching and photographing different macro subjects with a compact camera or an interchangeable lens/SLR camera. In the second part we will demonstrate simple techniques for isolating microscopic invertebrates from different materials, how to transfer them to microscope slides and how to operate a compound microscope to observe them.

**Class size is limited to 6, please sign up early!**



## Mammal Tracking in Joshua Tree National Park

Date/Time: Saturday, April 13, 8:15 am - 5:30 pm  
Sunday, April 14, 8:30 am - 2 pm  
Meet at: Joshua Tree Visitor Center  
Fee: \$120 JTNPA member, \$130 non member  
Instructor: Jim Lowery, Primitive Skills Teacher, Author of *The Tracker's Field Guide*  
Hike Level: Easy



Join Jim Lowery to learn and refine fundamental tracking skills. This class will explore the natural world through animal tracking, sign identification, and awareness techniques. Lowery will explain how to translate patterns found in the desert sand into animal stories. This class will be entirely field-based in order to provide abundant "dirt time" focusing on following trails, interpreting tracks and signs and even learning to read mood and body language of desert animals through their trails. Wildlife behavior, biology, and ecological relationships will also be examined by investigating the signs animals leave behind.

Camping option available on Saturday evening for participants at the Lost Horse Campground, a beautiful location that is perfect for this program!

## Birds of Joshua Tree National Park

(Biology x404, 1 unit)

Date/Time: Friday, April 26, 6 pm - 8 pm  
Saturday, April 27, 7:30 am - 4:30 pm  
Sunday, April 28, 7:15 am - 1:15 pm  
Meet at: Black Rock Nature Center  
Noncredit Fee: \$145 JTNPA member, \$155 non member  
Credit Fee: \$195 JTNPA member, \$205 non member  
Instructor: Kurt Leuschner, M. S., Wildlife Ecology  
Hike Level: Easy/Moderate



The deceptively barren Mojave Desert landscape is home and resting grounds for numerous endemic migratory bird species. Kurt Leuschner will guide the class through the Mojave and Colorado Deserts to identify common and rare birds. Leuschner's focus will be on identifying individual species and separating summer and winter residents from true migrants. He will discuss nesting and feeding habits, interactions with plant life, and adaptive strategies. Participants will have the thrill of identifying the park's common spring bird species, better understand the role each plays in the desert ecosystem, and have the chance to sight species like the Pinyon Jay, Prairie Falcon, or Lawrence's Goldfinch.

## Geology of the Mojave National Preserve

Date/Time: Saturday, April 6, 9 am - 5 pm  
Sunday, April 7, 9 am - 4 pm  
Meet at: Hole in the Wall Campground, MNP  
Fee: \$130 JTNPA member, \$140 non member  
Plus campground fees  
Instructor: Ted Reeves, Instructor, University of the Pacific  
Hike Level: Moderate



From the swirling sands of Kelso Dunes to Hole-in-the-Wall's violent volcanic remnants, Mojave National Preserve serves as a showcase of ancient and modern geologic processes. Rocks here reveal the stories of prehistoric landscapes as old as 2.7 billion years - over half the age of the Earth! Explore and learn about the geology of the vast Mojave National Preserve with Ted Reeves, on this overnight camping excursion with a base camp at the Hole-In-The-Wall campground. You will need to provide your own camping equipment, food and drinks as there are few facilities in this national preserve. This class will take you to spectacular locations within the Mojave National Preserve including the newly re-opened Mitchell Caverns. Course fee includes the entrance fee for the caverns. Don't miss out on this opportunity! **Class size is limited to 12 participants.**

# Natural Science Courses

**SIGN UP ONLINE**  
Click On Class Name

## Desert Night Sky: Planets to Galaxies

Date/Time: Saturday, April 27, 2 pm - 10 pm  
Meet at: Oasis Visitor Center  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: David Chappell, Ph.D., Astronomy, Professor, University of LaVerne  
Hike Level: Easy



Warm April nights are a perfect time to experience the newly emerging spring night sky. The brilliant stars of winter have sunk beneath the horizon and spring galaxies swirl high in the heavens. David Chappell will lead participants on a tour of the heavens starting with the planets and ending with distant galaxies. Starting indoors, the course will cover basic astronomy and practical observing techniques as well as recent discoveries in astronomy. Just before sunset, the class will travel into the park to observe the night sky. Telescopes and binoculars will be used to see the rings of Saturn, the Great Orion Nebula, dozens of galaxies, and more.

**Teachers: Watch for two new Teacher Development Workshops in early summer of 2019 conducted by Mary Walls. Please see her biography on page 23**



## Citizen Science: Phenological Monitoring in JTNP

(Biology x413, 1 unit)

Date/Time: Saturday, May 4, 6 pm - 8 pm  
Sunday, May 5, 8 am - 5 pm  
Meet at: Black Rock Nature Center  
Noncredit Fee: \$145 JTNPA member, \$155 non member  
Credit Fee: \$195 JTNPA member, \$205 non member  
Instructor: Monica Gorman, Ph.D., Biology, Professor, Los Angeles City College  
Hike Level: Moderate/Strenuous



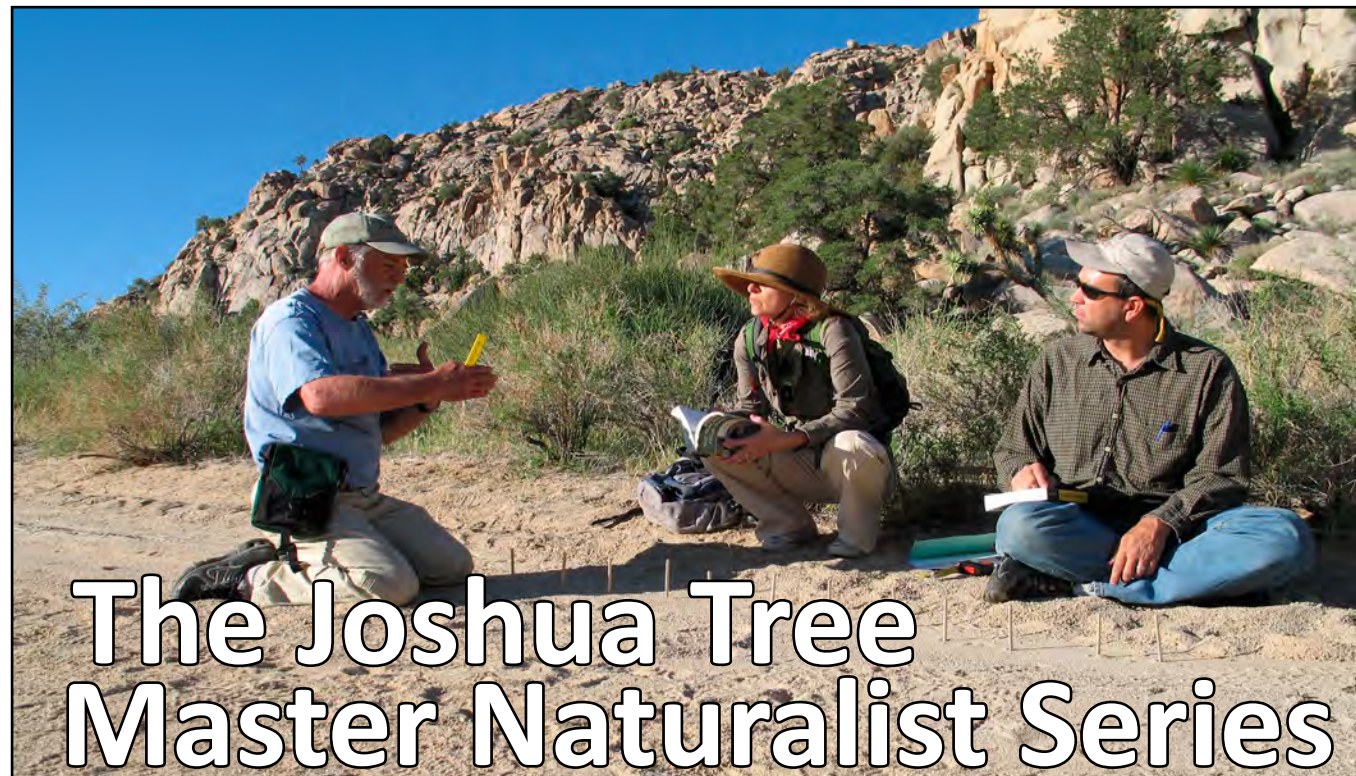
Climate change is on everyone's mind these days, and as Californians, we are all wondering what effects rising global temperatures are going to have on our state. Here's your chance to help answer that question. Learn how to become a citizen scientist and collect data on the effects of climate change on plant phenology - or life cycle changes - in Joshua Tree National Park or your own backyard for the California Phenology Project. The Project is gathering data on the effects of global warming on when plants produce leaves, flowers, and fruits to learn whether plants are engaging in these activities earlier as temperatures rise. We will spend Saturday evening in the classroom learning about the Project, including basic plant biology and the plants that are being monitored in Joshua Tree National Park. We will spend Sunday monitoring plants on Ryan Mountain. The hike up Ryan is 1.5 miles (3.0 miles round-trip) with an elevation gain of about 1000 feet and will end with fantastic views of the Park from the summit. We will return to the classroom to enter our data. Come be part of the solution, not the problem!



*This was hands down the best class I have ever taken. That was due to your thorough knowledge of the subject and willingness to share. Thank you!*



**IF YOU LOVE** observing nature and learning about Joshua Tree National Park, expand your knowledge through the **Joshua Tree Master Naturalist Series**. Seven comprehensive courses on key Joshua Tree topics are designed to broaden your understanding of the ecology, plants, geology, wildlife, and history of the park. Through field-based excursions and lectures, you'll cultivate observations skills that are the hallmark of a good naturalist. By documenting field observations through sketches, journaling, photography and more, you'll learn how to make a deeper connection to nature. When you complete eight courses, of your choice, from our eleven science classes that we offer annually, you will receive your "Joshua Tree Naturalist" certification and a Joshua Tree National Park hoodie. Courses will be offered yearly and certification may be completed over time. These eleven courses in the **Joshua Tree Master Naturalist Series** are also approved for credit from UC Riverside Extension. UC Riverside credit **is not required** for the Joshua Tree Master Naturalist certificate.



# The Joshua Tree Master Naturalist Series

## 2019 NATURALIST SERIES

Rocks and Minerals of Joshua Tree National Park  
March 1 - 3, 2019

Flora of Joshua Tree National Park  
March 8 - 10, 2019

Desert Invertebrates:  
A Macro Photography and Microscopy Primer  
March 30 - 31, 2018

Ecology of Joshua Tree National Park  
March 23 - 24, 2019

Desert Tortoise Conservation Biology  
March 23, 2019

Birds of Joshua Tree National Park  
April 26 - 28, 2019

Citizen Science: Phenological Monitoring in  
Joshua Tree National Park  
May 4 - 5, 2019

**SIGN UP ONLINE**  
*Click On Class Name*

### Rock Art of Southern California: From Palms to Pines

Date/Time: Sunday, February 17, 8 am - 6 pm  
Meet at: Pilot Travel Center, North Palm Springs  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: Daniel McCarthy, M.S., Anthropology  
Hike Level: Easy



Discover the mystery of the enigmatic symbols left behind by the Indigenous Peoples with Daniel McCarthy. McCarthy will provide a glimpse into the life of the Native Nations through pictographs and petroglyphs preserved in stone. This all-day field class will carpool from the Coachella Valley to Corn Springs in the Salton Sea area and end in Idyllwild. Participants will not only have the thrill of seeing rock carvings and paintings in their original setting but will learn what is known of their stories. The class will also learn about the migratory patterns of the Native Peoples, their places of habitation, and the reason they traveled seasonally. **Participants will drive over 150 miles during the class.** Carpooling is recommended.



### Intaglios Along the Colorado River

Date/Time: Saturday, March 9, 7:30 am - 6 pm  
Meet at: Oasis Visitor Center  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: Daniel McCarthy, M.S., Anthropology  
Hike Level: Easy



Intaglios or large figures laid out on the ground are one of the unsolved mysteries of modern Archaeology. Officially classified as a form of rock art, there are over 300 intaglios in the American Southwest and Mexico. Daniel McCarthy will lead this all-day field class to three sites to explore these larger than life images preserved on the desert floor. The best known of these are the Blythe Intaglios along the Colorado River that are famous for multiple human-like figures. The largest human figure is 240 feet in length! Participants will learn about these "gravel pictographs" and their significance. This is a great opportunity to visit these immense drawings with an expert archaeologist. **Participants will drive 230 miles (round trip) during the class, from Twentynine Palms to just north of Blythe where the class will finish.** Carpooling is encouraged.

# Cultural History Courses

### Native American Plant Uses

Date/Time: Sunday, March 17, 9 am - 4 pm  
Meet at: Big Morongo Canyon Preserve  
Fee: \$70 JTNPA member, \$80 non member  
Instructor: Daniel McCarthy, M.S., Anthropology  
Hike Level: Easy



*This class is sponsored by Big Morongo Canyon Preserve*

Discover the abundant uses of native desert plants with Daniel McCarthy. McCarthy will teach participants about the plants historically harvested by the native peoples of Southern California for food, medicine, and utilitarian purposes. The program will start with an overview of local Native American tribes and how culture defines plant use. Attendees will learn about plant communities, habitat, and distribution, focusing on the ethnobotany of key species found in the Mojave and Colorado Deserts. In the afternoon, the class will identify edible plants found in Big Morongo Canyon Preserve. No plants will be harvested. Respectful gathering practices will be discussed as well as restrictions on collecting on federal lands and in the National Park.

**NEW!**

### Citizen Science: Rock Art Recording Workshops

Date/Time: [Saturday, March 16 one day](#)  
[Saturday-Sunday, March 23-24](#)  
[Saturday-Sunday, March 30-31](#)  
[Saturday-Sunday, April 20-21](#)  
[Saturday-Sunday, May 4-5](#)

To register:  
[click on the dates](#)

Meet at: Highway 247 & Rock Canyon, Lucerne Valley  
Fee: FREE  
Instructor: Daniel McCarthy, M.S., Anthropology  
Hike Level: Easy/Moderate



Do more than discover the mystery of the enigmatic symbols left behind by the Indigenous Peoples. Be part of a recording effort to document the petroglyph sites located within the Rodman Mountains Wilderness Area with Archaeologist Daniel McCarthy. McCarthy will lead participants on an ancient petroglyph site that needs mapping, recording and photographing several hundred petroglyphs that are over a thousand years old. While recording the participants will see a glimpse into the life of the Native Nations through petroglyphs preserved in stone. Each weekend field class will camp at the wilderness boundary and walk within a half mile to systematically document an important Native American archaeological site. The site is located on the edge of an ancient lava flow and cinder cone that make up a portion of the Rodman Mountains. Background discussions will include the people who made these images, how they were created, and their importance to those who created them and to us today. This is a great opportunity to participate in a recording project of petroglyphs. The recording effort will seek information about the seasonal patterns of movement across the landscape of the Native Peoples, their places of habitation, and the reason they traveled through and to this area. **Participants can sign up for one or multiple weekends.**



# Hikes With A Naturalist

**SIGN UP ONLINE**  
Click On Class Name

## Summit Monument Peak

Date/Time: Saturday, February 16, 8 am - late afternoon  
Meet at: Cottonwood Visitor Center  
Fee: \$35 JTNPA member, \$45 non member  
Instructor: Kevin Powell, Author, Photographer  
Hike Level: Strenuous/Extreme - 6.4 miles round trip



This strenuous, cross country hike takes you to the top of the seldom visited high point of the Hexie Mountains, Monument Mountain (elev. 4814'). The Hexie Mountains are a small range of west to east running mountains within the Park. They begin at the southern end of the sprawling Queen Valley along the Geology Tour Road and end near the Cottonwood Visitors Center. They are rugged and seldom visited. This 6.4 mile round trip hike follows the southeast ridge of the mountain up to the base of the rocky, cone shaped summit, where an easy rock scramble leads to the top. Along the route of ascent you may see bighorn sheep, a non-native game bird known as a chukar (similar to a quail) and a unique geologic feature in the form of a white quartz dike that has fragmented into a million little pieces. Once on top there is a commanding 360 degree view that includes the Cottonwood, Eagle and Pinto Mountains, and portions of the vast Pinto Basin. Total elevation gain is 1700'. Participants will need a high clearance vehicle for the 5 mile drive to the trail head. Car pooling will be necessary due to the very small parking area.



## Explore Ruby Lee Mill

Date/Time: Saturday, March 2, 7 am - late afternoon  
Meet at: Oasis Visitor Center  
Fee: \$35 JTNPA member, \$45 non member  
Instructor: Kevin Powell, Author, Photographer  
Hike Level: Moderate - 6 miles round trip



Tucked away in the remote Hexie Mountains is an old mining related mill site known as the Ruby Lee. Long abandoned and infrequently visited, this moderate, six mile hike will explore a classic desert wash, then, follow a barely discernible old mining road up to the actual mill site. Along the way the hiker will be treated to views of the vast Pinto Basin and the rugged Pinto and Coxcomb Mountains. If the wildflowers are blooming, the area could be ablaze with color and provide for good photography and birding opportunities. Once at the mill site, there will be a brief discussion of the mill's origin and history.

## Explore the Pinto Basin Sand Dunes

**NEW!**

Date/Time: Saturday, March 16, 8 am - late afternoon  
Meet at: Cottonwood Visitor Center  
Fee: \$35 JTNPA member, \$45 non member  
Instructor: Kevin Powell, Author, Photographer  
Hike Level: Easy to Moderate - 3 miles round trip



Located within the vast Pinto Basin and at the base of the impressive Pinto Mountain is a unique area known as the Pinto Basin Sand Dunes. Enjoy a slow paced, all cross country hike over lightly undulating sandy terrain to this, the largest set of "sand dunes" found within the Park. Once at the dunes, there will be a brief discussion of how the dunes were formed. This is a great place for desert wildflower viewing including the possibility of seeing the elegant and aromatic Desert Lily. Desert tortoise may also be seen as well as signs of the nocturnal desert kit fox.

## Discover Pine City

Date/Time: Sunday, March 24, 8 am - early afternoon  
Meet at: Oasis Visitor Center  
Fee: \$35 JTNPA member, \$45 non member  
Instructor: De Karlen, Naturalist, Desert Guide  
Hike Level: Easy to Moderate - 4.3 miles round trip



This hike is just the hike for those still a little intimidated by Joshua Tree's vastness: easy, informative, and just the right length. Beginning at the Pine City backcountry board, this trail is less traveled and one of Joshua Tree's nicest "hidden" treasures. It's an architectural confection of Joshua Tree's famous high desert plants, its human history, and monster artful boulders, leading to an expansive view of the low desert. We'll have lunch in a nearby pinyon pine burst of greenery and shade, then take an additional side-foray to the Desert Queen Mine, with a tale of its dramatic mining past.

## Hike Murray Canyon in Palm Springs

**NEW!**

Date/Time: Sunday, April 7, 8 am - mid-afternoon  
Meet at: Starbucks, 682 S Palm Canyon Dr., Palm Springs  
Fee: \$45 JTNPA member, \$55 non member  
Instructor: De Karlen, Naturalist, Desert Guide  
Hike Level: Moderate - 4 miles round trip



A beautiful, easy-to-moderate, 4-mile hike in the Indian Canyons of Palm Springs, also known as the Seven Sisters hike. This hike lies within the Santa Rosa and San Jacinto National Monument, co-managed by the Agua Caliente Band of Cahuilla Indians and the federal government. We'll travel on an ancient hunting and gathering trail, through native California Fan Palms, willows, wildflowers, and cacti, following Murray Creek through a series of seven ponds (Seven Sisters), ultimately reaching a 12-foot waterfall. The hike will include interpretation as well. Wear shoes you don't mind getting wet – and, bring a snack for resting in the shade by the waterfall. Enrollment includes entrance fee to the preserve.

**SIGN UP ONLINE**  
Click On Class Name

# Hikes With A Naturalist

## How Fit Do You Need To Be?

If you take part in a guided hike in Joshua Tree National Park, you will need to carry a backpack - with food, clothing, water and other essentials - that generally weighs up to 15 pounds. You will be exercising with either heat or cold, typical of the Mojave desert and elevation gain. And, you may need to scramble over large boulders along the route. To help you decide on which course is best for you, please take into account the "Hike Level" ratings and note that these ratings are only guidelines. What is labeled "strenuous" might be routine for a very fit visitor. For the most precise information about each activity or the effects of the desert environment, please call us at **760-367-5535**.

## Military Scholarships

Through a grant provided by the Marine Corps Air Ground Combat Center Officers' Spouses' Club, the Desert Institute offers a limited number of scholarships for our educational programs to active and retired Marines and their family members on the 29 Palms MCAGCC. For more information and qualification requirements, please call 760-367-5535.



## Teachers

Our credit courses are designed to meet the professional development needs of educators for career and salary advancement. Come for a weekend of inspiration, education and fun in Joshua Tree National Park! Course credit is offered through UC Riverside Extension. Teachers may apply for Professional Career Development through their school district.

<b>Rocks and Minerals of JTNP</b>	1.5 units
<b>Desert Invertebrates</b>	1 unit
<b>Flora of Joshua Tree National Park</b>	1.5 units
<b>Desert Tortoise Conservation Biology</b>	.5 unit
<b>Ecology of Joshua Tree National Park</b>	1.5 units
<b>Phenological Monitoring in JTNP</b>	1 unit



Photo by Claire Coignard





**SIGN UP ONLINE**  
Click On Class Name

## Salton Sea Photography Workshop

Date/Time: Saturday, February 2, 9 am - sunset  
Meet at: North Shore, Salton Sea  
Fee: \$85 JTNPA member, \$95 non member  
Instructor: Sandi Wheaton, Photographer, Instructor  
Hike Level: Easy/Moderate



The Salton Sea, California's largest lake, was formed by accident in 1905 by an engineering mishap during irrigation of the Imperial Valley. Over time, it has been a hotbed for sports fishing, a recreational area boasting more visitors than Yosemite, and an important wetland for migratory birds. Currently the sea is lined with dead fish and is shrinking fast, and its decaying ruins, plentiful birdlife, intriguing off-the-grid culture, and gorgeous light have made it something of a Mecca for photographers. Sandi Wheaton has been traveling to the Salton Sea annually to document its constantly changing landscape and knows exactly where the great places are for interesting photographs. In this workshop, you will explore the east shores and discover inspiring art sites like Leonard Knight's Salvation Mountain (featured in the movie "Into the Wild") and East Jesus sculpture garden, as well as spend time capturing beautiful natural landscapes and seascapes along the southeast shores of the Salton Sea. Be sure to bring rubber boots, as some of the best locations are muddy near the water's edge (but that's where the best photos are!). Please note that the Salton Sea is constantly changing, and some of the iconic structures that have been popular to photograph are rapidly disappearing – but new great photo locations are revealing themselves as well!

## Route 66 Photography Workshop

Date/Time: Saturday, February 9, 9 am - sunset  
Meet at: BLM Office in Needles  
Fee: \$85 JTNPA member, \$95 non member  
Instructor: Sandi Wheaton, Photographer, Instructor  
Hike Level: Easy/Moderate



Route 66 through the Mojave Desert provides for great photographic images. During this workshop, you will explore Route 66 from Needles to Amboy, capturing storied abandoned sites, iconic vintage landmarks and sweeping desert landscapes. Join photography instructor Sandi Wheaton, who drove and photographed the entire length of Route 66 in 2009. Sandi has been photographing this stretch of Route 66 for years, and will share her knowledge of the many great shooting locations along this historic stretch of highway. This workshop is an opportunity for you to improve your photography and add to your skill set. Sandi will be offering suggestions for taking advantage of each location.

The workshop will begin in Needles and it will end in Amboy with a sunset shoot. The driving distance is approximately 75 miles from Needles to Amboy.

## Winter Light:

### Photographing Desert Preserves

Date/Time: Saturday, February 16, 8 am - 4:30 pm  
Meet at: Whitewater Exit off of Highway 10  
Fee: \$85 JTNPA member, \$95 non member  
Instructor: Craig Fucile, Photography Instructor  
Hike Level: Moderate

**NEW!**



Join us for a day of photography in two special desert places off the beaten track: Whitewater Preserve and Thousand Palms Oasis Preserve. From the Whitewater River to McCallum pond in an oasis of California fan palms, you'll experience the beauty of water in the desert. Winter is an excellent season to photograph the low desert, with its cool temperatures, longer shadows and views of distant peaks.

The day consists of photographic field sessions, group instruction and one-on-one assistance from your instructor. Your questions will be answered! You'll learn tips and techniques for controlling sharpness, exposure, making panoramic photographs, and using lenses, along with creative exercises in photographing the desert landscape. Class begins in the morning close to the rugged cliffs of Whitewater Preserve. After lunch, we relocate to Thousand Palms Oasis Preserve for afternoon field sessions among stately palms. Hiking at each preserve is easy-to-moderate; we'll be walking on trails that are mainly level. Participants are encouraged to bring a tripod with their camera(s).

## HDR Photography in Joshua Tree National Park

Date/Time: Saturday, February 23, 3:30 pm - 9 pm  
Meet at: Oasis Visitor Center  
Fee: \$100 JTNPA member, \$110 non member  
Instructor: Scott Klinger, Professor, College of the Desert  
Hike Level: Easy



Forget what you know and think about HDR (High Dynamic Range) photography. This workshop will show you how you can create realistic and beautiful high dynamic range imagery. We've all seen over-processed images that are just too saturated and unnatural looking, but perfectly balanced HDR is stunning. During the workshop, Scott Klinger takes you through the shooting and processing workflow of HDR images, helping you to artistically and skillfully increase the dynamic range in your photography. Whether you're a professional photographer or an avid enthusiast, this workshop will guide you through every step of creating amazing HDR photographs from prep to post.

**Class size limited to 12 participants, so sign up early!**

This class is a "late" addition, and is not on the printed catalog.

**SIGN UP ONLINE**  
Click On Class Name

## Joshua Tree Through the Lens

Date/Time: Saturday, March 2, 6:30 am - 5:30 pm  
Meet at: Joshua Tree Visitor Center  
Fee: \$85 JTNPA member, \$95 non member  
Instructor: Craig Fucile, Photography Instructor  
Hike Level: Moderate



Grab your camera and put on your hiking boots for this intensive all-day photo shoot in Joshua Tree National Park! Craig Fucile will guide the class in seeing the natural beauty of the park through the camera lens. The class will begin with a special "photographers only" session at Keys Ranch, focusing on how to capture the buildings and historic remnants at this remarkable homestead. Mid-morning the focus will shift to desert landscape. Fucile will share tips on how to record unique rock formations and vast views of the park. Participants are encouraged to bring a tripod with their camera.

This class will repeat again on **Sunday, March 3**. Please be sure that you enroll in the correct class.

## Capturing Joshua Tree Landscapes with Acrylics

Date/Time: Saturday, March 2, 8:30 am - 4 pm  
Meet at: Black Rock Nature Center, Yucca Valley  
Fee: \$85 JTNPA member, \$95 non member  
Instructor: Janis Commentz, Artist, Instructor  
Hike Level: Easy



Spend a day painting in beautiful Joshua Tree NP. Few destinations offer a landscape as unique as Joshua Tree National Park. In this one-day class, you will focus on observation, setting an intention for the day, and learning the process of acrylic landscape painting. Janis Commentz is known for her color-intense palette and loose brush strokes. The morning will begin with basic instruction on the process and introduction to materials. Topics include laying out your palette, color mixing, translating your observations into a painted image, tips for lights and darks, and planning a successful composition. Participants will move outdoors to observe, sketch, and learn what to look for in a potential landscape. Both group and individual instruction will help you develop your painting and explore new techniques.

The desert is a fragile environment and eco painting techniques will be used. Please note that the class will follow Leave No Trace

## Night Sky Photography

Date/Time: Saturday, March 9, 1 pm - 10 pm  
Sunday, March 10, 9:30 am - 12:30 pm  
Meet at: Oasis Visitor Center  
Fee: \$120 JTNPA member, \$130 non member  
Instructor: Dennis Mammana, M.S., Astronomy, Night Sky Photographer, Syndicated Columnist  
Hike Level: Easy



If you enjoy photography and are fascinated by the desert night sky, this two-session, hands-on workshop is for you! Dennis Mammana will teach participants how to use digital SLR cameras to create magnificent celestial portraits. The class will begin with tips for setting up and shooting the night sky. Saturday evening, weather permitting, participants will head into the part to try out their new knowledge under the real night sky with guidance from the instructor. The next day, Mammana will demonstrate how such night sky images can be brought from seemingly dull and drab to eye-popping with simple post-processing techniques. For the evening session you will need a DSLR that can be completely adjusted manually, a tripod and remote control, and a wide-angle or normal lens (f/2.8 or faster is best) that can be focused manually. Students should have a good working knowledge of their equipment prior to taking this class. **Class size limited to 12 participants.**





# Creative Arts Courses

**SIGN UP ONLINE**  
Click On Class Name

## Fine Art Photography in JTNP

Date/Time: Friday, March 22, 7 pm - 9 pm  
Saturday, March 23, 5 am - 9 pm  
Sunday, March 24, 5 am - 3 pm  
Meet at: Oasis Visitor Center  
Fee: \$170 JTNPA member, \$180 non member  
Instructor: Ralph Nordstrom, Photographer, Instructor  
Hike Level: Easy/Moderate



Immerse yourself in the wonders of Joshua Tree National Park and connect with the enchantment to be found there. And what better way to explore the essence of fine art photography than in such a spectacular location. Our class will explore three elements of fine art photography – the nature of art, the artistic process and how to grow as an artist. The weekend schedule includes two sunrise shoots, two morning shoots, one sunset shoot, one optional night sky shoot (when conditions permit). There will be three classroom sessions: an orientation Friday night, the discussion on “The Essence of Fine Art” Saturday and an opportunity to share your photographs Sunday afternoon. Our experience of this marvelous land will be enhanced by camping in the Lost Horse Campground, from Friday through Sunday. This is an “action packed” workshop, so, bring your camera equipment, camping equipment and enthusiasm and watch your creativity soar! Call 760-367-5535 for more information on the camping option.

## Keys Ranch Sunset and Nightscape Photography Workshop

Date/Time: Saturday, May 4, 6:30 pm - midnight  
Meet at: Oasis Visitor Center  
Fee: \$160 JTNPA member, \$170 non member  
Instructor: Scott Klinger, Nightscape Photography Instructor  
Hike Level: Easy



Most photographers put their camera away after sunset but today’s digital camera technology makes it easier than ever for photographers to take photographs of the night sky. And the night sky in Joshua Tree is beautiful. With long exposures, the camera will gather light from thousands of stars not visible to the naked eye. When we add light painting techniques of interesting foregrounds, you have an incredible and unique photograph to be proud of. This workshop will include classroom instruction about the night sky, necessary camera equipment, camera settings, focusing at night, light painting, field techniques, and an overview of post-processing. After everyone is comfortable with the concepts of night photography the class will go into the park and practice new skills during a unique private evening at Keys Ranch. This class is **limited to 8 participants**, so sign up early!

This class is for photographers of all abilities that are new to night photography and light painting techniques. **Photographers must be able to work their camera in full manual mode, in the dark!**

## Field Sketching for Non-Artists

**NEW!**

Date/Time: Saturday, May 4, 8:30 am - 3:30 pm  
Meet at: Joshua Tree Visitor Center  
Fee: \$85 JTNPA member, \$95 non member  
Instructor: Fran Calvert, Artist, Instructor  
Hike Level: Easy



Would you like to enjoy the beauty of Joshua Tree National Park more fully? Are you a person who “could never draw?” This class will teach you the basics of field sketching, focusing on using the simplest most light-weight tools, methods and materials to streamline the process for non-artists. You will learn how to focus your natural powers of observation to complete a finished sketch that is accurate in detail, scale, and proportion using easy-to-learn skills that you can practice anytime and anywhere. All materials are provided.

This class will take place at the beautiful and reserved Lost Horse Campground in the park.



Photo by Don Chambers

**SIGN UP ONLINE**  
Click On Class Name

# Camping Programs

There is no better way to explore Joshua Tree National Park than from a base camp in the reserved Lost Horse Campground which is located in a secluded rock canyon with a beautiful view of Lost Horse Valley. This is not backpacking, where you have to carry all of your camping needs on your back, but, rather “car camping.” Car camping simply means that you load up all of your gear for the trip in your car, pull into your campsite, and set up your tent on a designated tent pad. This experience can be called “base camping” as well, just near your car, instead of say, a few thousand feet below Mt. Everest. When car camping, there’s no hiking or backpacking involved in getting to your site, so the weight of your gear, or how much you pack, is of little concern as long as it all fits in your car. There’s no need to skimp on any of the luxuries that will make your weekend comfy and unforgettable. That means you’re free to pack an air mattress, 2 coolers worth of food and drinks, and a whole bunch of cast iron to cook over the coals. You are going to cook over coals, right? Good. If not, bring along a propane stove. If you don’t have camping equipment, don’t worry. Contact us for a list of local outfitters who will rent you the basic needs for your camping weekend.



view from Lost Horse Campground



## Women’s “Get Away” Weekend

Date/Time: Saturday, March 30, 8 am - 5 pm  
Sunday, March 31, 8 am - 4 pm  
Meet at: Joshua Tree Visitor Center  
Fee: \$120 JTNPA member, \$130 non member  
Instructors: Pam Kersey, Camping and Hike Leader  
Robin Balch, Camping and Hike Leader  
Hike Level: Moderate



Spend a weekend with the Desert Institute at Joshua Tree National Park where you can go to unplug, to get away, to learn new skills and to enjoy the company of other course participants. Trade in your computer, cell phone, Instagrams, clocks, schedules and workplace jargon for an off-the-grid weekend with the girls — two days of pure unadulterated fun and education! Join Pam and Robin learning about camping, camp cooking, hiking and enjoying Joshua Tree National Park. This weekend of classes will be held at Lost Horse Campground, a beautiful, secluded location that is perfect for this program!



Photo by Fran Calvert

The Desert Institute offers a number of classes that have a camping “option” at Lost Horse Campground. It is a great location for our classes!

March 22-24 Fine Art Photography  
March 30-31 Women’s “Get-Away” Weekend  
April 13-14 Tracking in Joshua Tree National Park



# “Step On” Guides for Bus Tours



The Desert Institute can arrange for a professional, knowledgeable naturalist to join your bus tour for a visit to Joshua Tree National Park as a “step-on” guide. Our interpreters have specialized knowledge of the local geology, natural history, flora and fauna, archaeology and cultural history. Let us entertain and educate your guests, make their experience of the Joshua Tree National Park a more memorable event!

RATES: Effective January 1, 2019  
Our fees begin at \$310 for any tour up to 4 hours in length and \$40 per hour for each additional hour.

All rates are per naturalist. Large groups and multiple motor coaches may require more than one guide. To schedule a Motor Coach Tour, contact the Desert Institute at 760-367-5535 or [desertinstitute@joshuatree.org](mailto:desertinstitute@joshuatree.org).

Tour group operators pay park entrance fees. Please contact our office if you wish to include a guided hike or additional programs.

***“Our behalf of the Garden Conservancy, please accept our deepest thanks for all your help in making our trip to Joshua Tree National Park such a memorable experience! How lucky we were to visit the park when the blooms were so extraordinary.***

***We especially want to thank you for matching us with our guide extraordinaire, Darrell Shade. What can I say but WOW! Those fortunate enough to have experienced Joshua Tree with Darrell were impressed by his warm hospitality, his depth of knowledge, and his infectious enthusiasm for the park and its flora. Darrell thoroughly inspired and energized our group and made their trip to Joshua Tree one that will not be soon forgotten.***

***Again, Kevin, thank you for helping us make our trip to Joshua Tree a resounding success.”***

# Special Programs

If your group, large or small, is searching for a special Joshua Tree National Park experience tailored to your interests, the Desert Institute will design an educational class just for you. We’ll insure that the activity level and optional field component will perfectly match your needs for one-day or multi-day excursions.

## ***Day with a Desert Naturalist***

Learn the secrets of Joshua Tree National Park in an all-day field class with a desert naturalist. Groups will explore the unique landscape of the park focusing on an area of interest to them. Common topics to be covered are: geology, cultural history, flora, and ecology found in the vast valleys, rock mazes, desert cactus gardens, and Joshua tree forests. Most programs cover eight miles at a moderate pace with uneven terrain and moderate elevation gain. A sample day with a Desert Naturalist could include **Discover the Wonderland of Rocks**.

The Wonderland of Rocks is a large labyrinth of granite formations and meandering corridors. It’s an easy place to get lost, but it’s also full of secret, picture-postcard settings, panoramic vistas, and any number of natural surprises. Spend an enjoyable day hiking and scrambling through this rare place, feeling the rough texture of its timelessness underfoot and in the finger tips. More than just a day of outdoor adventure, this Desert Institute hike includes introductory instruction in how the Wonderland formed, why it looks the way it does, and how this unique environment helps support a diverse and interesting community of plants and animals. Come prepared to hike seven to ten miles, depending on conditions, with occasional stops for rest, lunch and teachable moments. The route is cross-country and requires some scrambling and rock-hopping, none of it extended or technical.



## ***Sunrise or Sunset Photographic Workshops with a Master Photographer***

Let us show you where and how to take stunning sunrise or sunset images in Joshua Tree National Park! We can create a customized program to spend four hours in the morning or evening photographing the iconic boulders and Joshua trees. This workshop is perfect for those photographers looking to improve on composition and creating unique and original imagery. Working with our instructors will help you make sense of the landscape and begin to understand how to make effective images in this truly bizarre and wonderful terrain. If you’re just a beginner, no problem! This workshop will provide you with beginning instruction in landscape photography, filter use, and sunset or sunrise silhouettes.



Photo Credit: Dion Wong

PROGRAM COST		
1 - 6 people	Half Day	\$300
1 - 6 people	Full Day	\$500
7 + people		call
Rates effective through December 2019		



# Joshua Tree National Park Association

Your support is critical to maintaining the beauty and integrity of Joshua Tree National Park's unique ecosystems. The Joshua Tree National Park Association has been the park's non-profit cooperating partner since 1962, with a mission to assist with natural and cultural resource preservation and educational activities of Joshua Tree National Park. Programs and projects that cannot be achieved through federal funds and personnel are made possible through the Joshua Tree National Park Association. We offer several ways for friends of Joshua Tree National Park to get involved and make a valuable contribution toward preserving this national treasure for future generations.

## MEMBERSHIP

As a member of the Joshua Tree National Park Association, you will help the park achieve its education, interpretive and research goals. Your membership supports education materials for students, the park's library and historical collection, and scientific research.

Membership benefits include:

- 15% off merchandise at Joshua Tree National Park Association Visitor Center bookstores
- \$10 off Desert Institute classes
- Invitations to special events
- Reciprocal discounts at association bookstores at most other National Parks
- Membership sticker to show your support
- **Keys Views** newsletter

Additional premiums come with our appreciation for your support at Supporting, Patron, Contributing, Sustaining and Benefactor levels. Full details are available on our website and membership brochure, or by calling our office at 760-367-5535.

## VISITOR CENTER BOOKSTORES

Joshua Tree National Park Association operates bookstores in each of the Park's four Visitor Centers. Sales in our stores account for a significant portion of the Association's revenues, and our non-profit mission means that proceeds from our sales support natural and cultural resource preservation and educational activities of Joshua Tree National Park.



Joshua Tree Visitor Center



Oasis of Mara Visitor Center



Cottonwood Visitor Center



Black Rock Visitor Center



# Desert Institute Instructors

MISHA ASKREN is an outings leader for the Sierra Club and is an instructor in the Wilderness Travel Course. He leads trips that are "off-trail" in the wilderness in the Sierras, the San Gabriel Mountains and in Joshua Tree.

ROBIN BALCH, is a Desert Institute "lead" volunteer. She has hiked several portions of the Pacific Coast Trail and has been a Forest Service Fire Lookout. Her hiking and camping skills make her a great co-instructor for the Women's "Get-Away" Weekend.

KRISTIN H. BERRY, Ph.D., is Supervisory Research Wildlife Biologist at the Western Ecological Research Center of the United States Geological Survey, and current board member of the Desert Tortoise Council. Dr. Berry has published over fifty scientific journal articles about desert tortoises, as well as numerous technical reports, magazine articles and books. She has organized and instructed a great variety of scientific symposia and workshops, and made research presentations to many different professional groups such as the Desert Tortoise Council.

FRAN CALVERT has lived near Joshua Tree National Park for nine years. She enjoys sketching, riding horses, hiking, and backpacking year-round in the park. She is a retired technical writer with a B.A. in fine arts and art history from Columbia University. She has been a Desert Institute volunteer since 2014.

DAVID CHAPPELL, Ph.D., Astronomy, Associate Professor of Physics & Astronomy, University of La Verne, has taught astronomy and physics since 2000. Chappell's research interests include star formation, galaxy evolution, and computational astrophysics. His interest in archaeo-astronomy has led him to study in Mexico, Guatemala, Honduras, the Shetland Islands, and the Kingdom of Tonga.

JANIS COMMENTZ is a southern California native who grew up near the coast and began drawing and painting early in life. As the daughter of an artist, she was surrounded by art materials and enjoyed trips to galleries and museums, as well as seasonal trips to Laguna Beach and Carmel. Janis moved to the Mojave Desert in 1977 to teach high school art and English. At the University of Redlands, she earned a B.A. in art and English and studied with John Nava, well-known for his tapestries at the Cathedral of Our Lady of the Angels in Los Angeles. She holds an M.A. in Education from California State University at San Bernardino and teaches youth art classes at the 29 Palms Art Gallery and has facilitated life drawing in Joshua Tree for eight years.

KELLY CRAWFORD is the founder/CEO of Joshua Tree Excursions. He served honorably in the U.S. Army National Guard and the United States Marine Corps for 23 years. The bulk of his time in the service was spent with the USMC as an Explosive Ordnance Disposal (EOD) Technician. Kelly has travelled extensively around the world exploring and discovering the hidden wonders of our amazing environment. He lives by the motto that, "Life is a journey and not a destination." He possess a wealth of leadership experience, is an avid outdoorsman and an expert in survival, navigation and backcountry expeditions.

PAUL DELANEY, Ph.D., is a tenured professor of biology at Copper Mountain College in Joshua Tree. He is the USFWS-authorized tortoise biologist for the CMC translocation area, and has been monitoring the tortoise population at the 85 acre preserve on campus since 2007. A field biologist since 1977, Delaney has conducted zoological research in California, Mexico, Central America and the Caribbean, and published over two dozen scientific papers.

PAUL DELEY obtained his Ph.D. in Invertebrate Zoology at Ghent University, Belgium in 1994 and moved to Riverside in 2000 to joined the Department of Nematology at UCR as a faculty member. His research focuses on ecology, diversity and systematics of nematodes in arid ecosystems, using methods that combine light microscopy observations with DNA sequence analyses. His current teaching duties include annual upper division undergraduate courses at UCR on the subjects of Invertebrate Zoology and Biology of Nematodes, and his past teaching also included subjects such as Soil Ecology, Arthropod Diversity, and Theoretical Systematics. He is an avid nature photographer with particular interest in macro photography as a tool for exploring biodiversity of Southern Californian deserts and ranges.

CRAIG FUCILE, B.A., Physical Geography, teaches photography for University of California, Riverside Extension. A long time instructor, Fucile has taught numerous photography workshops in western landscapes that he enjoys photographing including: Joshua Tree, Death Valley, Eastern Mojave, Owens Valley, Grand Canyon, Bryce Canyon, Anza-Borrego, Kings Canyon and Sequoia. He received the Fall 2010 Instructor Excellence Award from UC Riverside Extension and the 2007 Distinguished Instructor Award from UC Irvine Extension. Craig was a Fall 2017 Artist in Residence for Angeles National Forest and San Gabriel Mountains National Monument.

MONICA GORMAN holds a Ph.D in Biology and a J.D. She has spent most of the last 20 years teaching a wide range of biology courses at colleges in the Bay Area and Los Angeles, although she took time off from teaching to earn her J.D., work as a biotechnology patent lawyer, and travel. She moved to Joshua Tree in 2011 and currently teaches at Los Angeles City College and the Twentynine Palms Marine Base. She is an avid desert enthusiast and spends most of her free time exploring and hiking in Joshua Tree National Park.

ALESSANDRO GRIPPO, Ph.D., Geological Sciences, University of Southern California, has done research and taught geology, oceanography, stratigraphy, environmental geology and field classes at Santa Monica College and several California State University campuses. Alessandro has a keen interest for the geology of the American southwest and loves being out there exploring, learning, and sharing his passion for Earth and its history.



# Desert Institute Instructors

DE KARLEN is a Certified Interpretative Guide, who works as a naturalist hiking and desert guide with Desert Adventures in both the Colorado and Mojave deserts. Previously, Ms. Karlen worked as an Interpretative Park Ranger in Yosemite National Park, so she truly enjoys sharing knowledge about the wonders and processes of our natural world.

PAM KERSEY, Ed.D., MSN, RN, is the Dean of Science, Math and Engineering and a Health Education Professor at Cuyamaca College in San Diego. She volunteers as an archaeological site steward, for the Desert Institute at Joshua Tree and has also volunteered as a camp nurse. She has camped, backpacked, and hiked for many years including summits over 14,000 feet 5 times. She has taught outdoor classes for women, and enjoys helping others learn how to safely appreciate camping and hiking.

SCOTT KLINGER received his first camera at the age of 7, a Kodak Instamatic, which he used to serially photograph naval warships in the San Diego Bay during the late 80's. Since then he has been exhibiting his work at galleries and film festivals for over ten years. His work is in the permanent collection of the Kiyosato Museum of Photographic Art and his most recent film *The Lover Who Doesn't Forget* was screened at the 66th Festival de Cannes and his film *Memento Mori* won Best Experimental Film at the Hollywood Reel Independent Film Festival. Scott holds degrees from UCLA and UC Irvine.

TOR LACY, M.S., is a tenured instructor at Cerritos College teaching: Physical Geology, Introduction to Earth Science, Geology of the Western National Parks and Monuments, Natural History of Southern California and Field Methods of the Earth Sciences.

EDWARD LARUE, JR., M.S., specializes in California desert biota as field investigator and scientist for Circle Mountain Biological Consultants, Inc. In 2005 he authored the Copper Mountain College Habitat Conservation Plan (HCP), and in 2008, he implemented the federal and state permits for the HCP. In 2007 he organized and coordinated a multi-agency effort by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game, National Park Service (JTNP), BLM and San Bernardino County to establish a tortoise conservation area in the Morongo Basin. LaRue has received numerous awards for his conservation work with desert tortoises.

KURT LEUSCHNER, M.S., Wildlife Ecology, is a Professor of Natural Resources at College of the Desert. Leuschner's specialties include: ornithology, entomology, and desert ecology. He has led hundreds of field trips both locally and as far afield as Africa. He teaches natural history courses for the Bureau of Land Management, UCR Extension, the Desert Institute, the Living Desert, California State Parks, Riverside County Parks, and many other conservation organizations.

JIM LOWERY is a nationally known tracker and author of *The Tracker's Field Guide*. He has taught tracking to thousands of students, including many special trainings for field biologists, universities, naturalists, and park rangers. Some of his specialized field workshops have focused on tracking individual species

including bighorn sheep, badgers, mountain lions, elk and black bears.

DENNIS MAMMANA, M.S., Astronomy, has delivered the wonder and mystery of the cosmos to audiences for more than four decades. A nationally syndicated astronomy columnist with Creators Syndicate and author of six books on popular astronomy, Mammana is also an accomplished night sky photographer. He is one of only six U.S. photographers invited to join TWAN—The World at Night—an international team of the most highly-acclaimed sky photographers on the planet. Mammana shoots the heavens from around the world, but mostly from his desert home in Borrego Springs.

DANIEL MCCARTHY, M.S., Anthropology, has worked at Anza-Borrego Desert State Park, Joshua Tree National Park, and throughout southern California compiling photographic inventories of the rock art of this region. His research interests include desert archaeology, aboriginal trail systems, and rock art. McCarthy also conducts southern California Native American cultural awareness classes providing information about native plant uses, rock art, and material culture.

RALPH NORDSTROM's philosophy on photographic workshops is simple: they are successful when the attendees return home with a few great photographs and feeling that they have expanded what he likes to call their "Creative Vocabulary"; that is, their ability to express themselves through their photography. Explore his gallery at [ralphnordstromphotography.com](http://ralphnordstromphotography.com).

KEVIN POWELL was intrigued at an early age by the quiet complexity of this desert playground. Local author and photographer, Kevin Powell has spent forty-six years hiking, rock climbing, photographing and exploring within Joshua Tree National Park. His first book, *Classic Day Hikes of Joshua Tree Park*, is available at the Joshua Tree Visitor Centers.

TED REEVES, B.A., Biology taught science at Chaffey High School in Ontario, CA for thirty-seven years. He has led field trips in southern California, Yosemite, Yellowstone, the Tetons, Grand Canyon and Hawaii. He is presently teaching for University of the Pacific and believes that a relevant Natural History class requires an outdoor experience.

ALLAN SCHOENHERR, Ph.D., Professor of Ecology Emeritus, Fullerton College, is an expert on California flora and fauna, as exemplified by two major books he has authored, *A Natural History of California* and *A Natural History of the Islands of California*. Schoenherr has been doing research, traveling, and photographing the southwestern desert for many years. In addition to teaching ecology at several universities, he has led many field courses throughout the deserts of California.

DARRELL SHADE is a retired high school teacher and recognized botanist/desert naturalist for Joshua Tree National Park. Shade has a deep love for the desert and its enormous variety of plant and animal life as well as being a master teacher. He has worked closely

# Desert Institute Instructors

with Joshua Tree National Park botanists over the last 20 years and keeps up on all the new floral discoveries being made in the park.

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. Now semi-retired, he taught geology, physical oceanography and physics for twenty-eight years at Citrus College, Glendora, CA, part of which time he was also an Adjunct Professor at USC teaching Field Geology. 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 7th edition and co-author of *Joshua Tree National Park Geology*.

MICHAEL VAMSTAD, M.S., Ecology, Evolution and Organismal Biology began working at Joshua Tree National Park as a restoration ecologist in 2004, and transitioned to wildlife ecologist in 2007. He received his undergraduate degree in field biology and for eight years worked on many bird research projects in California, Arizona, Rhode Island, Guam and Baja California, Mexico. While working for JTNP, he attended graduate school at the University of California, Riverside. In 2009, Michael received his M.S. in Ecology with a thesis on small mammal and vegetation responses from wildfire.

MARY WALLS is currently a California Regional Environmental Education Community (CREEC) Network Coordinator for Region 10 (Riverside, Inyo, Mono, & San Bernardino counties). She has been in education for fifteen years. She has taught World Language & English Language Arts, she has been an Instructional Coach, a Director for a CaMSP (California Math Science Partnership) grant, BTSa mentor, International Baccalaureate PYP Coordinator, and Professional Developer. In addition to these roles, she creates educational programming for The Incredible Edible Community Garden. Her passions include Action-driven Inquiry, PBL, NGSS, STEM, STEAM, Environmental Literacy, and creative school culture. She has conducted school and district trainings and workshops in northern and southern California. At home, she wrangles three daughters and a filmmaker husband.

SANDI WHEATON is a freelance tour director and photography instructor based in Canada. After being downsized from General Motors in 2009, she took a life-changing drive across America on historic Route 66, creating three photography projects and an award-winning travel blog. One of Sandi's greatest passions and long-term photography projects is the ecologically-troubled Salton Sea in southern California. She has been visiting and photographing the Salton Sea since 2004, sharing the work through several solo exhibitions over the years. A true globetrotter, Sandi leads week-long photography tours in Iceland and California, has taught Forensic Photography at the University of Windsor, and teaches "Moviemaking Made Fun" on a cruise ship.



All Desert Institute programs have been reviewed by the NPS for potential environmental impacts and approved as being compliant with National Park standards.



# Class Registration Form

You may register for a course by phone, fax, mail, or online at [joshuatree.org](http://joshuatree.org). Before participating in any of the field activities provided by the Desert Institute, and as a condition to being accepted for such activities, you must sign, for yourself and, if applicable, for your minor child who is a participant, a waiver and release of claims, including of negligence, arising from your or the minor's enrollment or participation.

NAME(S) \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE, ZIP CODE \_\_\_\_\_

PHONE \_\_\_\_\_ CELL PHONE \_\_\_\_\_

EMAIL ADDRESS \_\_\_\_\_

- Check here if you would like to receive Desert Institute information and updates on merchandise, lectures, classes, and custom-designed programming via email. We do not share your contact information without your prior approval.

## Membership Information

**Current** JTNPA membership qualifies me for a \$10 discount on every Desert Institute class

- I am a current member of JTNPA!  
 I would like to renew my membership or join

DATE	CLASS NAME	FEE	CREDIT FEE	TOTAL
			Membership Fee (Optional)	\$25
			Total Enclosed	

**Make checks payable to: Joshua Tree National Park Association  
 74485 National Park Dr., Twentynine Palms, CA, 92277**

How did you hear about us? \_\_\_\_\_

PAYMENT BY:  CHECK  AMERICAN EXPRESS  DISCOVER  MASTERCARD  VISA

Name on Credit Card \_\_\_\_\_ Security V-Code \_\_\_\_\_

Credit Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_

Authorized Signature \_\_\_\_\_

# General Information

## CHILDREN AND PETS

Our courses are designed for adults. An adult must accompany children under 16; the minimum age is 14. Pets are not permitted on courses, on National Park trails, or unattended in vehicles.

## ACADEMIC CREDIT

Credit is available from University of California, Riverside Extension. Optional credit courses are marked by the symbol found on page 3. The number of units are listed with each class. Credit fees are listed separately from noncredit fees. Credit units are based on a quarter system. Credit students may be required to successfully complete assignments or exams. Teachers may apply for Professional Career Development through their school district.

## CAMPING AND PARK INFORMATION

Most campgrounds are first come, first served. Reservations are available for Black Rock and Indian Cove from October through May. Camping and fees for overnight courses held at Lost Horse Campground are included in registration. For other courses campsites may be reserved online through [recreation.gov](http://recreation.gov). Campground fees will apply. Participants are responsible for their own accommodations and food. Visit the park website at [nps.gov/jotr](http://nps.gov/jotr) for more camping information.

## WEATHER, CLOTHING, AND EQUIPMENT

Courses are held rain or shine. We reserve the right to change the course itinerary due to weather or other conditions. Students should be prepared for a variety of desert weather conditions, including cold and windy days. Appropriate clothing, footwear, and sun protection are very important. Clothing and equipment needs will be identified in your course information packet. Be prepared - bring plenty of water!



## REGISTRATION

You may register by phone, fax, mail, or on-line at [joshuatree.org](http://joshuatree.org). Please register early, our classes have limited sizes. You may also register using the registration form found on page 24.

## COURSE INFORMATION PACKET

Upon receipt of your registration, we will send you a course itinerary, map, enrollment confirmation/entrance fee waiver, and information on clothing and equipment needs. Local lodging and camping information is available upon request.

## CANCELLATION POLICY

If you need to cancel, notify us at least seven days prior to the start of the course and we will process your request minus a \$25 cancellation fee. **No refunds, transfers, or credits will be granted if cancellation occurs within the seven day period.** Please note that we cannot make any exceptions to this refund policy for any reason, including but not limited to medical reasons, illness, travel delays, personal situations, emergencies, or weather. This program depends on registration for its funding. While inconvenient, please understand that this policy enables us to sustain our programs even with last minute cancellations.

## WAIVER AND RELEASE OF CLAIMS

Before participating in any of the field activities provided by the Desert Institute, and as a condition to being accepted for such activities, you must sign, for yourself and for your minor child who is a participant, a waiver and release of claims, including of negligence, arising from your or the minor's enrollment or participation. Your information is confidential. Participants must provide their own health and accident insurance. Please obtain a doctor's clearance if you have any condition that may impact your ability to participate in a class.

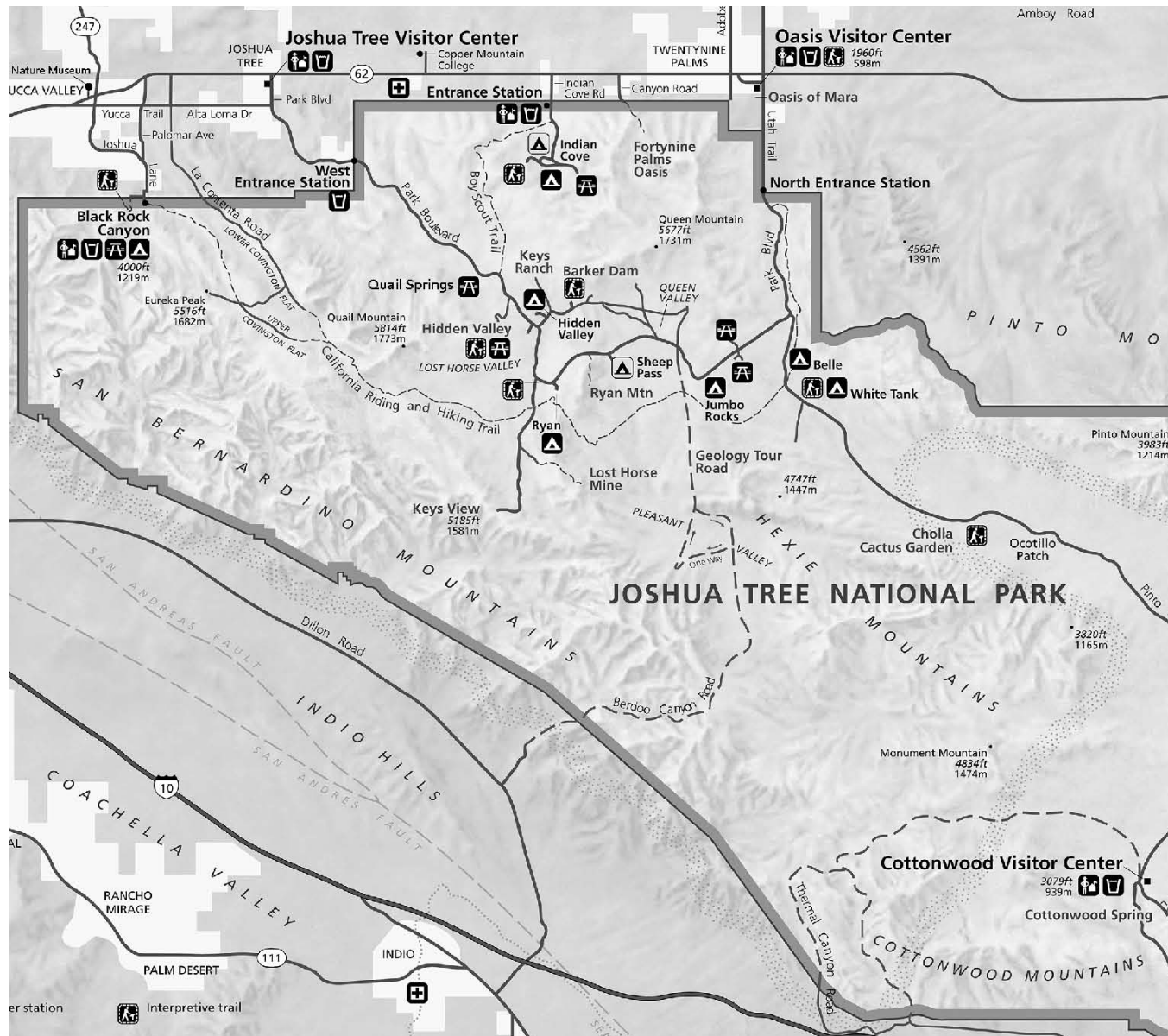
## DISCOUNTS

There is a \$10 discount per class for **JTNPA, OSHER or PINE members**, including those who join when they register. PINE organizations are listed on this page. Discounts may not be combined.

## SAFETY, INSURANCE AND PHYSICAL FITNESS

Every effort is made to ensure safety on Desert Institute courses. However, participants are responsible for their own safety and accident insurance. JTNPA does not accept responsibility for lost, stolen, or damaged property or any bodily injury incurred during the courses. You must sign a liability waiver in order to participate in the courses. Participants must be in good physical condition for courses/activities in a desert that may be hot, dry, windy, and sometimes surprisingly cold.





**From Los Angeles:** Take Interstate 10 East to Highway 62 to Yucca Valley, Joshua Tree or Twentynine Palms. You may enter Joshua Tree National Park through the North Entrance, Utah Trail, Twentynine Palms (south from 62); West Entrance, Park Blvd., Joshua Tree (south from 62); or the South Entrance at Cottonwood (take Interstate 10, Exit 168 north).

**Big Morongo Canyon Preserve,** Morongo Valley. Turn southeast off Highway 62 onto East Drive. Turn left into the Preserve.

**Black Rock Visitor Center,** at Black Rock Canyon Campground, Yucca Valley. From Highway 62, take Joshua Lane going south, right turn at intersection onto San Marino Drive; turn left onto Black Rock Canyon Road; turn right into the visitor center parking lot.

**Cottonwood Visitor Center.** Take Exit 168 north off Interstate 10 and turn right into the visitor center parking lot.

**Copper Mountain College,** Joshua Tree. From Highway 62, take Rotary Way north and turn left into college parking lot.


**Joshua Tree Visitor Center,** Joshua Tree. From Highway 62, take Park Blvd. south and turn right into visitor center.

**Oasis Visitor Center,** Twentynine Palms. Turn south off Highway 62 onto National Park Drive and turn right into visitor center.

**Pilot Travel Center,** North Palm Springs. From Interstate 10 take exit 120 south and turn left into Pilot Travel Center parking lot.

**Travel directions to other class locations can be found in the downloadable course outline for each class on our website.**



Many of our multi-day classes offer a camping option with the instructor and other participants. Look for the  icon to take advantage of this option. If you would prefer to stay in a convenient motel or a bed and breakfast, please contact us for a complete list of lodging in the Joshua Tree Gateway Communities.





## Volunteer Opportunities

Combine your passion for the Joshua Tree National Park and education by joining the Desert Institute volunteer team.

We are recruiting candidates for the following program:

### Field Class Representatives training to be held on

**JANUARY 26 - 27, 2019**

Please call 760-367-5539 for more information on volunteer programs with the Desert Institute.

Photo by Richard Arnold





**Desert Institute at Joshua Tree National Park**  
**74485 National Park Dr.**  
**Twentynine Palms, CA 92277**  
**760-367-5535**  
**joshuatree.org**

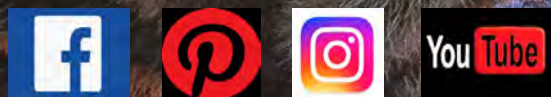
Non-Profit Org.  
U.S. POSTAGE  
**PAID**  
PERMIT NO. 5  
29 PALMS, CA

Address Service Requested

**The Joshua Tree National Park Association is a not-for-profit organization formed to assist with preservation, education, historical and scientific programs for the benefit of Joshua Tree National Park and its visitors.**



**Join The Adventure**



**Follow us and share images and ideas!**

**Photo by Sue Beauchamp**  
Image taken during the class  
"Fine Art Photography in Joshua Tree National Park"