

## The Art and Science of Flintknapping

### Information

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**Date/ Time:** Friday, February 25, 7:00 pm – 9:00 pm  
Saturday, February 26, 8:00 am – 5:00 pm  
Sunday, February 27, 8:00 am – 12:00 noon

**Meet at:** [Desert Studies Center, Zzyzx](#) (click on link for a map of the meeting site)  
Zzyzx Road exit off of I 15, turn right and follow road to the Desert Studies Center.

**Instructors:** Jeanne Binning, Ph.D., Senior Cultural Resource Specialist, Caltrans  
Brian Barbier, M.A., Associate Curator of Anthropology, Santa Barbara Natural History Museum  
Charles (Chuck) Bouscaren, B.A., Freelance Archaeologist

### Overview

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This is a weekend learning experience for those who want to make stone tools using traditional techniques and/or want to understand the waste products of the flintknapping process. This anthropology class is a Field Class of the Joshua Tree National Park Association's Desert Institute.\* The class is taught by Jeanne Day Binning, Ph.D., Brian Barbier, M.A., and Charles (Chuck) Bouscaren, B.A. at the California State University Desert Studies Center (ZZYZX) near Baker, California. Students stay in a dormitory setting and five cafeteria-style meals are provided.\* The class may be taken for credit through the University of California, Riverside Extension Program. The class starts at 7:00 PM on Friday evening and ends at noon on Sunday. Most of the class time is spent doing hands-on activities; lectures occur on Friday and Saturday evenings. The class is limited to 18 students.

Planned activities include heat treatment of chert, basic percussion biface reduction (with hammerstone and billet), basic pressure flaking (including notching), the use of an atlatl, and the use of a single-stave "self-bow". Each participant has the opportunity to haft what he or she manufactures (arrow point, dart point, or knife). Ground-stone manufacture is also covered. Rock samples and different types of debitage are available for students to study during the class.

This hands-on course is based at the Desert Studies Center (of California State University, Fullerton) located within the Mojave Desert Preserve at Soda Springs (Zzyzx), less than a three-hour drive from Joshua Tree National Park. The course fee includes two nights' lodging at the Center (dormitory rooms and some couple rooms), and meals starting with breakfast Saturday and ending with lunch on Sunday. Upon enrollment, you will be sent additional detailed information about the Center and specifics on what to bring.

## Itinerary

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### ***Friday, February 25, 7 pm – 8:30 pm***

- Orientation
- Presentation of assignment for credit students.
- Introductory Lecture
- View material and debitage samples.
- Flintknapping demonstration.
- Start heat treatment.
- Optional video presentation (9:00 pm to 9:30 pm).

### ***Saturday, February 26, 8:00 am - 5:00 pm***

- Breakfast, 7:00 am
- 8:00 am: Spalling demonstration.
- Introduction of percussion biface reduction with hammerstone.
- Practice of percussion biface reduction with hammerstone.
- Introduction of Ishi-hold pressure flaking.
- Practice of pressure flaking.
- Basics of hafting including sinew, mastic, and hafting element preparation. There is a choice of arrow, dart, or knife.
- Lunch
- After lunch, open practice.
- Atlatl practice.
- Bow and arrow practice.
- 7pm Dinner
- 8 pm Meet in the classroom:
  - Presentation on pestle and bowl manufacture.
  - Presentation on Poi Pounder manufacture.

### ***Sunday, February 27, 8:00 am – 12:00 noon***

- Breakfast, 7:00 am
- 8:00 am: Remove heat-treated chert from oven and discuss changes.
- Percussion reduction of chert.
- Introduction of percussion biface reduction with antler billet.
- Approaches to notching.
- Blades, what are they and how are they made?
- Open practice of all techniques and completion of hafted tools.
- Lunch, 12 noon
- Clean-up knapping area.
- Clean- up rooms and depart.

## What you should bring to the class . . .

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### ***Required Class Materials***

- Gloves (There will also be gloves available at the class.)
- Long pants
- Shoes that completely cover the feet.

### ***Optional Equipment (All tools needed for knapping will be supplied for the duration of the class; however, if you have your own kit, bring it.)***

- Leather shammy
- Larger piece of leather that will cover lap when folded over at least once.
- Bastard file
- Camera

### ***The Essentials: Every stay at the Desert Studies Center . . .***

- Sleeping bag or bed clothes
- Pillows
- Toiletries
- Medications
- Towel and washcloth
- Toothbrush and toothpaste
- Hat
- Sunscreen
- Notebook and pencil/pen

## College Credit

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You may take this course for college credit. Upon successfully completing this class, you will receive 2 units of credit in Anthropology from the University of California, Riverside Extension Program. Your grade will be determined by your attendance and participation (60%) and the completion of an in-class, open exam. The exam will be finished during class and in collaboration with other students, teachers, class wall posters, and any other source of information at your disposal.

## 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.
- Stay with the group. If you get lost, stay put.
- Before leaving the class, check out with the Joshua Tree Desert Institute representative.
- Drink plenty of water. Potable water is available in the knapping area.

## Instructor Biographies

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### ***Jeanne Day Binning, Ph.D., Senior Cultural Resources Specialist, California Department of Transportation***

Dr. Binning has been a professional archaeologist for over 50 years. She is a specialist in the lifeways of hunters and gatherers of the western contiguous United States. Within the discipline of archaeology, Dr. Binning has focused on the economics of lithic technology including the manufacture and use of flaked-stone tools. She has been flintknapping for over 40 years and has received flintknapping instruction from Jeff Flenniken, Jacques Tixier, Jacques Pelegrin, Mark Newcomer, Errett Callahan, Gene Titmus, and Tim Dillard.

### ***Brian Barbier, M.A., Associate Curator of Anthropology, Santa Barbara Natural History Museum***

In addition to his new role at the museum, Brian is a Ph.D. Candidate at the University of California, Santa Barbara and the Coordinator of the Central Coast Information Center of the California Historical Resources Information System. Flintknapping and replicating traditional technologies have long been his passion, eventually leading him toward his current career path. Brian's dissertation research focuses on shell bead production and exchange, using experimental replication to understand the bead production traditions in the Chumash region.

### ***Charles (Chuck) Bouscaren, B.A.***

Mr. Bouscaren received his bachelor's degree in Anthropology from the University of California, Riverside and has been a professional archaeologist for over 30 years. He has participated in dozens of Archaeological projects in California and Arizona. He excavated the Manzanar National Historic Site; surveyed large areas of San Bernardino County including Fort Irwin, Silverwood Lake, and areas along the Colorado River; participated in pedestrian surveys and excavations in the Colorado Desert; recorded numerous historic and prehistoric archaeological sites; and conducted the analysis of flaked-stone and ground-stone artifacts in a laboratory setting.

## Suggested Reading

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1984 -- *Flintknapping: The Art of Making Stone Tools* by Paul Hellweg. Canyon Publishing Company.

1995 -- *Early Hunting Tools: An Introduction to Flintknapping* by Matt Gravelle. Pine Orchard.

### ***For the archaeologists:***

2013 -- An Introduction to Stone Artefact Analysis by Clarkson, Chris and Sue O'Connor. In *Archaeology in Practice: a Student Guide to Archaeological Analyses*, edited by Jane Balme and Alistair Paterson, pp. 151-206. Chichester: John Wiley & Sons.

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