

# **New Mexico's Native Bees:**

## **Exploring Ecosystem Services, Ecology, and Identification**

### **Course Overview:**

This course provides a comprehensive overview of native bees, focusing on their critical role in ecosystems, population dynamics, species identification, and methods for observing them in their natural habitats. Through lectures, field studies, and hands-on time in a laboratory with a microscope, students will gain a deeper understanding of the significance of native bees and develop practical skills for recognizing and appreciating these essential pollinators.

### **Course Objectives:**

1. Understand the importance of native bees in ecosystem health and biodiversity.
2. Explore the ecological functions and behaviors of native bees within their respective habitats.
3. Examine current science surrounding bee population dynamics and factors influencing native bee communities.
4. Learn techniques for identifying common native bee species, including how to distinguish between the bee families.
5. Develop skills for observing native bees in various wild environments.

### **Course Outline:**

#### **Day 1, July 15:**

Lecture: Introduction to Wild Bees and their Natural History and Population Dynamics

Field: How to use a net to catch a bee, how to pin bee specimens, and how to use a microscope.

Evening session: Lecture by Melanie Kirby

#### **Day 2, July 16:**

Lecture: Overview of bee morphology.

Field: Field trip to the Caja to practice collecting bees

Evening session: Lecture by Olivia Carril on citizen science projects about native bees.

#### **Day 3, July 17:**

Field: All day field trip to Rio Grande in Taos

Evening session: Lecture by Kaitlin Hasse

Day 4, July 18:

Lecture: Identifying bee families

Field: Afternoon spent pinning and identifying bees

Evening session: Lecture by Kevin Floyd

Day 5, July 19:

Lecture: Identifying common genera

Field: Santa Fe Ski Basin

Evening: Pack and depart.

**Prerequisites:**

None. This course is open to students from diverse academic backgrounds with an interest in ecology, conservation, entomology, or environmental science.

**Textbook:**

Required: "Bees in Your Backyard" by Joseph Wilson and Olivia Carril

Optional: "Common Bees of Western North America" by Olivia Carril and Joseph Wilson

Note: Field trips and outdoor activities are weather-dependent and subject to change. Students should come prepared for outdoor excursions with appropriate clothing, footwear, and equipment.

This course is designed for the serious student who would like to learn more about how to identify native bees, with the goal of sharing that knowledge and expertise with others. The expectation is that students will come away with a small collection of native bees and will take what they have learned and present it to their local native plants chapter (perhaps in collaboration with other students from their area).

**Course cost:**

Course cost varies depending on level of commitment desired:

**1) Master Melittologist: \$325.00**

Oregon State University has an excellent and intensive course designed for the budding Melittologists (one who studies wild bees). Volunteers who sign up for the course benefit from multiple online courses, the option of an intensive in person training in the mountains of Western Oregon in 2025, field days with trained experts, and open lab times for students to use high quality microscopes to identify their bees. Through the efforts of Master

Melittologists in Oregon, the number of bee species recorded for the state of Oregon has nearly doubled, and the number of plants known to be visited by bees has grown even more. This citizen science program has been up and running for over five years now, and they are expanding to only one other state: New Mexico! 2024 is the inaugural year for the Master Melittologist program in New Mexico, and the instructor/student ratio is as low as it will ever be. The cost for the program includes all instruction (including this course put on by the Native Plant Society of New Mexico), course materials, a t-shirt, as well as a net, pins, and boxes for storing bees.

<https://extension.oregonstate.edu/master-melittologist>

**Additional costs:**

Bees in your Backyard textbook: \$30.00

**2) This course only: \$150.00**

If you intend to only attend this course, and not join the Master Melittologist program, the cost is: \$150 . Course materials must be purchased separately. Nets can be borrowed for the week or purchased (see below).

**Additional costs:**

- a. Net: \$40.00 (can be borrowed for the week for free)
- b. Pins: \$7.00/100 pins
- c. Field box: \$10.00
- d. Bees in your Backyard textbook: \$30.00

**Housing and Meals:**

Housing will be available through the Institute for American Indian Arts (IAIA). Rooms cost \$65 per night and are double occupancy, so if there is another participant you feel comfortable sharing a room with, let us know. The rooms include bed linens and towels and each room has it's own bathroom.

We are hoping to arrange for meals in the Café at IAIA and to have pricing information soon.