

# University of Minnesota

## Beekeeping in Northern Climates Syllabus

**Canvas site:** <https://canvas.umn.edu/courses/228443>

### **Course Instructors:**

Dr. Marla Spivak

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Dr. Katie Lee

### **Course Structure and Website:**

The course is available starting on January 16, 2021. New students can register at any time, navigate through the course at their own pace, and have access to all the materials for two years.

This course is offered entirely online through the University of Minnesota on a website on the platform called Canvas. The course begins with an overview of how to navigate the Canvas website and how to get help with any questions that might arise. All course materials, videos, links, and learning assessments are arranged in modules that are viewed sequentially. Once you have gone through all the modules and completed all the learning assessments, you will receive a personalized certificate with your name and date of completion. The course is open to the public and will not result in college credit.

There will be periodic updates to the course. When these changes occur, there will be an announcement on the course home page. If you would like to receive notifications about the new material and live Q&A sessions, update your Canvas notification settings: in the left-hand maroon menu bar click on "Account," then on "Notifications," and turn on notifications for "Announcement" (the bell should be green and lack a line through it). Or follow the instructions in Module 0.

### **Course Description:**

This course will help you get started in beekeeping. If you have no prior experience keeping bees in cold climates, *Beekeeping in Northern Climates* will teach you everything you need to know. The course modules cover honey bee biology, purchasing equipment and bees, hiving packages and nucs, best management practices for keeping bees in urban and rural settings, honey production, successful strategies for wintering colonies in cold climates, dividing colonies in spring to avoid swarms, introducing new queens to new divide colonies, troubleshooting common problems, and best management practices for controlling diseases and mites.

This online class is about 12 hours of instruction divided into modules. After reviewing the instructions for how to navigate the Canvas website, you can work through the course material at your own pace. You will have access to the materials for two years to allow you to review any module over two beekeeping seasons.

### **Course Evaluation:**

Upon completing the course, you will be asked to take a course evaluation survey. We will use this information to direct future course content.

### **Course Objectives:**

Upon completion of the course, students will be able to

- Purchase and start a colony of honey bees
- Understand the principles behind keeping a honey bee colony alive for two years
- Understand the biology underlying management practices
- Understand the time and cost involved with beekeeping

### **Course Content:**

#### Textbooks and Reading

The course does not require purchasing any textbooks. The manuals "*Beekeeping in Northern Climates, Second Edition*" and "*Honey Bee Diseases and Pests*" can be downloaded as PDFs from the course website. You will be assigned readings that correspond with the modules.

#### Opportunities to Ask Questions

There will be two types of opportunities to ask questions

1. The Discussion forum within the course. Instructors will respond to questions posted on the forum, once a week on Mondays. Each module ends with an optional prompt to ask questions.
2. Live Q&A sessions hosted by the UMN Bee Lab outreach team, the Bee Squad. The first session will take place at 6:00pm CST on February 2, 2021. See the [Zoom](#) option in your left-hand option menu in Canvas. If you would like to receive email notifications of the Q&A sessions, follow the directions in Module 0 on how to adjust your notification settings in Canvas. Otherwise, they will be in the course Announcements that can be viewed on the [Home](#) page or in the [Announcements](#).

#### Modules

Each module starts with an overview that contains the main points that you will learn, the relevant reading from the manual, and the videos and video length. The body of each module contains videos and other relevant content. Modules 2-9 end with a "Check your knowledge!"

quiz based on that module's videos and readings. There is no limit to the number of times you can take each quiz.

Module	Topics
Module 0: Guide to Navigating the Course	<ul style="list-style-type: none"> <li>● Learn to navigate the online course on the Canvas website platform</li> <li>● Brief course overview and review of student expectations</li> <li>● Resources on how to ask for help</li> <li>● Canvas technology and support</li> <li>● Download the manuals</li> </ul>
Module 1: Welcome and Course Resources	<ul style="list-style-type: none"> <li>● Read the chapter "Introduction" in the manual</li> <li>● Meet the instructors</li> <li>● Learn how to help all bees</li> <li>● Be connected to resources to develop your beekeeping community</li> </ul>
Module 2: Basic Honey Bee Biology as it Pertains to Management Practices	<ul style="list-style-type: none"> <li>● Read the chapters "Basic Honey Bee Biology as it Pertains to Best Management Practices" and "Subspecies, or Races, of Honey Bees" in the manual</li> <li>● The colony as a superorganism</li> <li>● Biology and development of queens, workers, drones</li> <li>● Division of Labor</li> <li>● Colony Life Cycle</li> <li>● Swarms</li> <li>● Queen mating and egg fertilization</li> <li>● Races and stocks of honey bees</li> <li>● Bees and wasps</li> <li>● Check your biology knowledge</li> </ul>
Module 3: Equipment, the Apiary, and Buying Bees	<ul style="list-style-type: none"> <li>● Read the chapter "Equipment, the Apiary, and Buying Bees" in the manual</li> <li>● Beekeeping equipment</li> <li>● Supplementary feeding</li> <li>● Wintering supplies</li> <li>● Costs of keeping bees</li> <li>● Lighting a smoker</li> <li>● Stings</li> <li>● Where to put your colony: apiary sites and flowers</li> <li>● City ordinances</li> <li>● Check your equipment knowledge</li> </ul>
Module 4: Hiving Packages and Nucs	<ul style="list-style-type: none"> <li>● Read the chapter "Hiving Packages and Nucs" in the manual</li> <li>● How to hive a package, or a "nuc"</li> </ul>

	<ul style="list-style-type: none"> <li>• How and when to inspect your colony</li> <li>• Managing a colony without gloves</li> <li>• Check your “hiving” bees knowledge</li> </ul>
Module 5: Year One: Spring and Summer Management	<ul style="list-style-type: none"> <li>• Read the chapter “Year One: Spring and Summer Management” in the manual</li> <li>• Spring and summer management of a new colony</li> <li>• How and when to add a second brood box</li> <li>• How and when to add honey supers</li> <li>• Check your year one knowledge</li> </ul>
Module 6: Harvesting, Extracting and Bottling Honey	<ul style="list-style-type: none"> <li>• Read the chapter “Harvesting, Extracting, and Bottling Honey” in the manual</li> <li>• Harvesting honey</li> <li>• Extracting honey</li> <li>• Bottling honey</li> <li>• Equipment needs</li> <li>• Check your honey knowledge</li> </ul>
Module 7: Wintering Your Colony in a Northern Climate	<ul style="list-style-type: none"> <li>• Read the chapter “Wintering Honey Bee Colonies in Northern Climates” in the manual</li> <li>• Fall colony preparation</li> <li>• Food reserves</li> <li>• Protecting your colony from winter weather</li> <li>• Did you check for Varroa mites?</li> <li>• Check your wintering knowledge</li> </ul>
Module 8: Problems and How to Avoid Them	<ul style="list-style-type: none"> <li>• Read the manual sections on “Varroa Management” in the wintering chapter, “Colony Death” in the year two chapter, “Appendix B: Troubleshooting Queen Problems”; and the “Honey Bee Pests &amp; Diseases” manual.</li> <li>• Colony death</li> <li>• Replacing old combs</li> <li>• Varroa mite biology</li> <li>• Varroa mite management</li> <li>• Disease and Pests</li> <li>• Queen Problems</li> <li>• Finding the queen</li> <li>• Check your problem-solving knowledge</li> </ul>
Module 9: Year Two: Managing your Wintered Colony	<ul style="list-style-type: none"> <li>• Read the chapter “Year two: Management of Successfully Wintered Colonies” in the manual</li> <li>• First inspections in early spring</li> <li>• Dividing your colony: how and why</li> <li>• “Slow Release” method of introducing a queen</li> <li>• Supering to make honey</li> <li>• Preparing for another winter</li> </ul>

	<ul style="list-style-type: none"> <li>● Check your year two knowledge</li> </ul>
Module 10: The Two-Deep System	<ul style="list-style-type: none"> <li>● Read “Appendix A: The Two-Deep System” in the manual</li> <li>● Discussion about 2 vs 3 deeps</li> </ul>
Module 11: Course Conclusion	<ul style="list-style-type: none"> <li>● Thank you for taking the course</li> <li>● Links to Bee Clubs</li> <li>● Evaluations</li> <li>● Course certificate</li> </ul>

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