



### **Twin Cities Campus**

## **Insect Science Minor**

*Entomology*

### **College of Food, Agricultural and Natural Resource Sciences**

- Program Type: Undergraduate free-standing minor
- Requirements for this program are current for Fall 2020
- Required credits in this minor: 16

This minor provides strong background in entomological principles and theory for career preparedness for graduate programs and exciting professions in natural resources and conservation of pollinators and other insects, medicine, plant health, and protection related to agriculture, horticulture, forestry, greenhouse and nursery management, or teaching biology in secondary education institutions. For more information, contact Insect Science Minor Advisor - Matt Petersen (pet03207@umn.edu).

## **Program Delivery**

This program is available:

- via classroom (the majority of instruction is face-to-face)

## **Minor Requirements**

### **Minor Core Requirement**

[ENT 1005](#) - Insect Biology with Lab [BIOL] (4.0 cr)

### **Electives**

Courses are listed under suggested areas of concentration. However, you may take from any or all categories to complete 12 credits. Take 12 or more credit(s) from the following:

#### **Conservation & Environmental Assessment**

Develop the skills needed for the identification and management of invasive and native insects in forests, prairies, aquatic systems, and other habitats. Learn how insects are used as biological indicators of ecosystem health. Careers options include forest health specialist, ecologist, pest management specialist, agronomist, natural resource manager, or water quality specialist. Take 0 (zero) or more courses from following.

- [ENT 2920](#) *{Inactive}* (1.0 - 4.0 cr)
- or [ENT 3294](#) - Directed Research in Entomology (1.0 - 4.0 cr)
- or [ENT 3925](#) *{Inactive}* (3.0 cr)
- or [ENT 4096](#) *{Inactive}* (1.0 - 3.0 cr)
- or [ENT 4251](#) - Forest and Shade Tree Entomology (3.0 cr)
- or [ENT 5011](#) - Insect Structure and Function (4.0 cr)
- or [ENT 5021](#) - Insect Biodiversity and Evolution (4.0 cr)
- or [ENT 5041](#) - Insect Ecology (3.0 cr)
- or [ENT 5051](#) - Scientific Illustration of Insects (3.0 cr)
- or [ENT 5126](#) - Spatial and Temporal Analysis of Ecological Data (3.0 cr)
- or [ENT 5341](#) - Biological Control of Insects and Weeds (3.0 cr)
- or [ENT 4361](#) - Aquatic Insects (3.0 cr)
- or [ESPM 1012H](#) - Environmental Science and Society [ENV] (3.0 cr)
- or [ESPM 3480](#) *{Inactive}* (1.0 - 4.0 cr)
- or [HSEM 2637H](#) - Small but Impactful: Insects and the Environment [ENV] (3.0 cr)

#### **Medicine & Global Health**

Develop a strong background in the epidemiology of arthropod-vector-borne diseases of humans and other animals while enhancing your marketable skills for careers in veterinary science or public health. Take 0 (zero) or more courses from following.

- [CFAN 3334](#) - Parasites and Pestilence [GP] (3.0 cr)
- or [ENT 1021](#) - An Introduction to Forensic Entomology (3.0 cr)
- or [ENT 2884](#) - The Six-legged Conquerors: How insects have shaped human history [HIS] (3.0 cr)
- or [ENT 2920](#) *{Inactive}* (1.0 - 4.0 cr)
- or [ENT 3275](#) - Insect-transmitted diseases of humans (3.0 cr)
- or [ENT 3294](#) - Directed Research in Entomology (1.0 - 4.0 cr)
- or [ENT 4096](#) *{Inactive}* (1.0 - 3.0 cr)
- or [ENT 5011](#) - Insect Structure and Function (4.0 cr)
- or [ENT 4361](#) - Aquatic Insects (3.0 cr)

#### **Agriculture & Plant Protection**

Learn the fundamentals of insect-plant interactions within agricultural and natural environments while developing a strong background in integrated pest management, including pesticide application and biological control strategies.



Enhance your marketable skills for careers as a forest health specialist, crop consultant, grounds manager, pest management specialist, agronomist, and greenhouse or nursery technician. Take 0 (zero) or more courses from following.

•[CFAN 2333](#) - Insects, Microbes, and Plants: Ecology of Pest Management [TS] (3.0 cr)

or ENT 2920 *{Inactive}* (1.0 - 4.0 cr)

or [ENT 3211](#) - Insect Pest Management (3.0 cr)

or [ENT 3294](#) - Directed Research in Entomology (1.0 - 4.0 cr)

or [ENT 4021](#) - Honey Bees and Insect Societies (3.0 cr)

or ENT 4096 *{Inactive}* (1.0 - 3.0 cr)

or [ENT 4251](#) - Forest and Shade Tree Entomology (3.0 cr)

or [ENT 5011](#) - Insect Structure and Function (4.0 cr)

or [ENT 5041](#) - Insect Ecology (3.0 cr)

or [ENT 5126](#) - Spatial and Temporal Analysis of Ecological Data (3.0 cr)

or [ENT 5341](#) - Biological Control of Insects and Weeds (3.0 cr)

or ESPM 3480 *{Inactive}* (1.0 - 4.0 cr)

or [HSEM 2637H](#) - Small but Impactful: Insects and the Environment [ENV] (3.0 cr)

•**Pollinator Ecology**

Develop your understanding of the important role insects play in plant reproduction while learning how to safeguard pollinator populations through knowledge local and landscape practices. Take 0 (zero) or more courses from following.

•ENT 2920 *{Inactive}* (1.0 - 4.0 cr)

or [ENT 3294](#) - Directed Research in Entomology (1.0 - 4.0 cr)

or [ENT 4021](#) - Honey Bees and Insect Societies (3.0 cr)

or ENT 4096 *{Inactive}* (1.0 - 3.0 cr)

or ESPM 3480 *{Inactive}* (1.0 - 4.0 cr)