**Graduate Program in Entomology: M.S. Plan B**

All M.S. students are required to take all four of the following entomology fundamentals courses (11 credits):

|  |  |  |  |
| --- | --- | --- | --- |
| Course | Title | Credits | Term |
| ENTMLGY 6210  | Evolution and Diversity of Insects | 4 | spring of odd years |
| ENTMLGY 6310  | Insect Physiology and Molecular Biology | 3 | autumn of odd years |
| ENTMLGY 6320  | Experimental Insect Physiology and Molecular Biology | 1 | autumn of odd years |
| ENTMLGY 6410  | Insect Ecology and Evolutionary Processes | 3 | autumn of even years |

All M.S. students are required to take all three of the following professional development courses (6 credits):

|  |  |  |  |
| --- | --- | --- | --- |
| Course | Title | Credits | Term |
| ENTMLGY 7910 | The Nature and Practice of Science | 2 | spring of even years |
| ENTMLGY 7920  | Presentation Skills for Scientists | 2 | spring of odd years |
| ENTMLGY 7930  | Scientific Writing and Grant Proposal Development | 2 | autumn of odd years |

All M.S. students are required to take all three of the following supplemental training courses, to instill an understanding of the breadth of the discipline of entomology, and to ensure that students can analyze and interpret data (minimum of 4 credits, plus research credits):

|  |  |  |  |
| --- | --- | --- | --- |
| Course | Title | Credits | Term |
| ENTMLGY 8000 | Entomology Seminar a  | 1 | autumn & spring |
| ENTMLGY 8800 | Research and Training Seminar b | 1 | autumn |
| (various; see Appendix 1) | One course in statistics or data analysis or experimental design (must be upper level [4xxx or higher]) | Minimum of 2 | (various) |

a Students are encouraged to enroll in Entomology Seminar every semester, but it is required only once.

b Students should enroll in Research and Training Seminar the first Autumn semester of their graduate program.

The final 9 credits are elective courses. Students may take elective courses from the approved list of electives offered by our unit, provided in Appendix 2 on page 2, or from the list of Systems Analysis courses, provided in Appendix 3 on page 2. We no longer offer our own course in Systems Analysis, but we strongly recommend that our students take a course (up to 4 credits) in Systems Analysis as offered by other departments, such as one of those shown in Appendix 3.

Note that petitions to the Graduate Studies Committee can be made to exclude or replace any required course if the student can provide evidence of a similar course taken at OSU or elsewhere.

The minimum total number of semester credit hours required for Entomology is 30

Total number of required course credits is 21

Number of credit hours for electives is 9

Guidelines for number of credit hours per term:

|  |  |  |  |
| --- | --- | --- | --- |
| Position | Term | Minimum required by Graduate School | Recommended by Dept. of Entomology |
| Graduate Teaching (GT) and Research Associates (GA) | autumn or spring  | 8 | 16 |
| summer  | 4 | 8 |
| Graduate Fellow | autumn or spring | 12 | 16 |
| summer | 6 | 8 |

A**ppendix 1: List of some choices for a course in statistics, data analysis, or experimental design\***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course # | Course Name | Credits | Term | Pre-requisite |
| STAT 5301 | Intermediate Data Analysis I | 4 | autumn, spring | Math 1075 or instructor permission |
| STAT 5302 | Intermediate Data Analysis II | 3 | autumn, spring | STAT 5299, 5301, or instructor permission |
| STAT 6450 | Applied Regression Analysis | 4 | autumn | STAT 6201, or equivalent |
| STAT 6530 | Introduction to Spatial Statistics | 2 | spring | STAT 6450, 6950, or GOEG 883.02; or instructor permission |
| STAT 6620 | Environmental Statistics | 2 | spring (?) | STAT 5302, 6450, 6910, or GEOG 683 or 833.01; or instructor permission |
| MOLGEN 5650 | Analysis and Interpretation of Biological Data | 3 | autumn | Math 1149 or 1150 or equiv. |
| HCS 5887 | Introduction to Experimental Design | 3 | autumn | HCS2260 or other GE data class; or grad standing |
| HCS 8887 | Techniques of Experimental Design | 4 | spring | MOLGEN 5650; and STAT 5301 or 5299 |
| PLNTPTH 8300 | Special Topics: statistics | 2 | spring | none |
| ENR 8780 | Quantitative Methods for Environment and Natural Resources | 3 | spring | STAT 5302 or equiv., and grad standing; or instructor permission |
| ANIMSCI 7000 | Applied Biometrics | 3 | autumn | STAT 5301 or equiv. |
| GEOG 5100 | Spatial Data Analysis | 3 | autumn | STAT 1450 or above |

\*note, enrollment in STAT 5760, Statistical Consulting Support, does not fulfill this requirement.

**Appendix 2: Electives offered by the Department of Entomology**

|  |  |  |  |
| --- | --- | --- | --- |
| Course | Title | Credits | Term |
| ENTMLGY 5001 | Entomological and Environmental Approaches to Fly Fishing | 3 | autumn |
| ENTMLGY 5060 | Practical Experiences in Plant Health: Insects & Diseases of Plants | 2 | summer |
| ENTMLGY 5110 | Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments | 3 | spring of odd years |
| ENTMLGY 5350.01 | Taxonomy and Behavior of Aquatic Invertebrates | 3 | Autumn of even years |
| ENTMLGY 5490 | Insect Behavior: Mechanisms and Function  | 3 | spring of odd years |
| ENTMLGY 5500 | Biological Control of Arthropod Pests | 3 | spring |
| ENTMLGY 5604 | Capstone Course: Problem-Based Studies in Plant Health | 2 | spring |
| ENTMLGY 5600 | Principles and Applications of Integrated Pest Management  | 3 | spring |
| ENTMLGY 5605 | Vector Biology and Vector Borne Diseases  | 3 | autumn |
| ENTMLGY 5608 | Turfgrass Insect and Mite Pests: Identification, Biology and Management | 2 | spring |
| ENTMLGY 5609 | Landscape Ornamental Plant Insect and Mite Pests – Identification, Biology and Management | 3 |  |
| ENTMLGY 5610  | Greenhouse Plant Health and Pest Management | 3 | autumn |
| ENTMLGY 5800 | Pesticide Science | 3 | autumn, spring |
| ENTMLGY 6193 | Individual Studies | 1-6 | autumn, spring, summer |
| ENTMLGY 6703 | Molecular Techniques and Data Analysis | 2 | spring of even years |

**Appendix 3: List of some choices for an elective course in systems analysis; others also possible.**

|  |  |  |  |
| --- | --- | --- | --- |
| Course # | Course Name | Credits | Term |
| GEOG 5226 | Spatial Simulation and Modeling in GIS | 3 | autumn |
| EEOB 7220 | Modeling in Evolutionary Ecology | 4 | autumn |
| VETPREV 8830 | Modeling Transmission Processes and Control of Infectious Diseases in Humans and Animals | 3 | autumn |
| PUBH-EPI 5421 | Mathematics of Infectious Disease Dynamics | 3 | spring |
| PLATNPATH 7002 | Plant Disease Epidemiology | 3 | spring |