## Entomology: Insect Biology and Ecology, BSAG

### Requirements for Students Matriculating in or before Academic Year 2019-2020.

Learn more about University Academic Regulation 3.1 ([http://catalog.okstate.edu/university-academic-regulations/#matriculation](http://catalog.okstate.edu/university-academic-regulations/#matriculation)).

**Minimum Overall Grade Point Average:** 2.00  
**Total Hours:** 120

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1113</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>or ENGL 1313</td>
<td>Critical Analysis and Writing I</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1213</td>
<td>Composition II</td>
<td></td>
</tr>
<tr>
<td>ENGL 1413</td>
<td>Critical Analysis and Writing II</td>
<td></td>
</tr>
<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
<td></td>
</tr>
</tbody>
</table>

### American History & Government

Select one of the following: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1103</td>
<td>Survey of American History</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1483</td>
<td>American History to 1865 (H)</td>
<td></td>
</tr>
<tr>
<td>HIST 1493</td>
<td>American History Since 1865 (DH)</td>
<td></td>
</tr>
<tr>
<td>POLS 1113</td>
<td>American Government</td>
<td>3</td>
</tr>
</tbody>
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### Analytical & Quantitative Thought (A)

Select one of the following: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1483</td>
<td>Mathematical Functions and Their Uses (A)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1513</td>
<td>College Algebra (A)</td>
<td></td>
</tr>
<tr>
<td>MATH 1613</td>
<td>Trigonometry (A)</td>
<td></td>
</tr>
<tr>
<td>MATH 2103</td>
<td>Business Calculus (A)</td>
<td></td>
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### Humanities (H)

Courses designated (H) 6

### Natural Sciences (N)

Must include one Laboratory Science (L) course

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1114</td>
<td>Introductory Biology (LN)</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1314</td>
<td>Chemistry I (LN)</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM 1215</td>
<td>Chemical Principles I (LN)</td>
<td></td>
</tr>
</tbody>
</table>

### Social & Behavioral Sciences (S)

Course designated (S) 3

### Additional General Education

Courses designated (A), (H), (N), or (S) 8

**Hours Subtotal** 19

### Major Requirements

With approval from the adviser and the department head, a maximum of 30 hours of science courses from an accredited doctoral health program may be substituted for major requirements other than the ENTO core courses of eight hours.

#### Core Courses

Select 8 hours of the following: 8

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>ENTO 3044</td>
<td>Insect Morphology and Physiology</td>
<td></td>
</tr>
<tr>
<td>ENTO 4464</td>
<td>Insect Biology and Classification</td>
<td></td>
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</table>

#### Additional Entomology

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTO 4800</td>
<td>Entomology Practicum</td>
<td>3</td>
</tr>
</tbody>
</table>

Any entomology or plant pathology course not taken as a core course 12

### Related Courses

#### Genetics:

Select one of the following: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 3023</td>
<td>General Genetics</td>
<td></td>
</tr>
<tr>
<td>PLNT 3554</td>
<td>Plant Genetics and Biotechnology</td>
<td></td>
</tr>
<tr>
<td>ANSI 3423</td>
<td>Animal Genetics</td>
<td></td>
</tr>
</tbody>
</table>

#### Ecology:

Select one of the following: 3
BIOL 3034  General Ecology
NREM 4033  Ecology Of Invasive Species

Chemistry:
CHEM 1225  Chemical Principles II (LN) 5
or CHEM 1515  Chemistry II (LN)
Select one of the following: 3
BIOC 3653  Survey of Biochemistry
CHEM 3015  Survey of Organic Chemistry
CHEM 3053  Organic Chemistry I
Select 24 hours of the following: 24
BIOC 2344  Chemistry and Applications of Biomolecules
BIOC 3653  Survey of Biochemistry
BIOL 1604  Animal Biology
ENTO 2003  Insects and Society (N)
ENTO 2223  Insects in Global Public Health (N)
ENTO 3003  Livestock Entomology
ENTO 3021  Postharvest, Structural, and Urban Arthropod Pests
ENTO 3331  Insect Pests of Agronomic Crops
ENTO 3421  Horticultural Insects
ENTO 3461  Insects in Forest Ecosystems
ENTO 3501  Entomology for Educators
ENTO 3663  Turfgrass Integrated Pest Management
ENTO 4223  Ecological Methodology
ENTO 4400  Special Topics
ENTO 4484  Aquatic Entomology
ENTO 4733  Insect Behavior and Chemical Ecology
ENTO 4854  Medical and Veterinary Entomology
ENTO 4923  Applications of Biotechnology in Pest Management
HORT 3153  Turf Management
HORT 3084  Plant Propagation
NREM 2013  Ecology of Natural Resources
NREM 3063  Natural Resource Biometrics
NREM 3101  Forest Resource Field Studies
NREM 3613  Principles of Rangeland Management
PBIO 1404  Plant Biology (LN)
PBIO 4463  Plant Physiology
PLNT 2013  Applied Plant Science
PLNT 3554  Plant Genetics and Biotechnology
PLNT 4113  Advanced Weed Science
PLNT 4123  Plant-Environment Interactions
PLNT 4353  Plant Breeding
PLP 3343  Principles of Plant Pathology
MICR 2123  Introduction to Microbiology and Introduction to Microbiology Laboratory
SOIL 4213  Precision Agriculture
SOIL 4363  Environmental Soil Science
SOIL 4893  Soil Chemistry and Environmental Quality
BIOL 1604  Animal Biology
BIOL 3104  Invertebrate Zoology

BIOL 4104  General Parasitology
BIOL 4133  Evolution
MATH 2103  Business Calculus (A)
MATH 2144  Calculus I (A)
MATH 2153  Calculus II (A)
CHEM 3153  Organic Chemistry II
& CHEM 3112  and Organic Chemistry Laboratory
PHYS 1114  College Physics I (LN)
PHYS 1214  College Physics II (LN)
STAT 2331  SAS Programming
STAT 4013  Statistical Methods I (A)
STAT 4023  Statistical Methods II
STAT 4043  Applied Regression Analysis
BIOL 4133  Evolution

Foreign Language: Up to 10 credit hours of upper division foreign language may be substituted

<table>
<thead>
<tr>
<th>Hours Subtotal</th>
<th>61</th>
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Electives
Select 0 hours or hours to complete required total for degree 0

Total Hours 120

1 College & Departmental requirements that may be used to meet GE requirements.
2 If ENGL 3323 Technical Writing is substituted for ENGL 1213 Composition II above; hours in this block are reduced by 3.
3 If used as (S) course above, hours in this block reduced by 3.

Other Requirements
- A minimum of 40 semester credit hours and 100 grade points must be earned in courses numbered 3000 or above.
- A 2.00 GPA or higher in upper-division hours.

Additional State/OSU Requirements
- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2025.