**ENTOMOLOGY: INSECT BIOLOGY AND ECOLOGY, BSAG**

Requirements for Students Matriculating in or before Academic Year 2023-2024. Learn more about University Academic Regulation 3.1 (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>
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</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>3</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>3</td>
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<tr>
<td>ENGL 1213</td>
<td>Composition II</td>
<td>3</td>
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<tr>
<td>ENGL 1413</td>
<td>Critical Analysis and Writing II</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
<td>1</td>
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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select one of the following:</td>
<td>3</td>
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<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>3</td>
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<tr>
<td>HIST 1493</td>
<td>American History Since 1865 (DH)</td>
<td>3</td>
</tr>
<tr>
<td>POLS 1113</td>
<td>American Government</td>
<td>3</td>
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</tbody>
</table>

**Analytical & Quantitative Thought (A)**  
Select one of the following:  
- MATH 1483 Mathematical Functions and Their Uses (A)  
- MATH 1513 College Algebra (A)  
- MATH 1613 Trigonometry (A)  
- MATH 2103 Business Calculus (A)  

**Humanities (H)**  
Courses designated (H)  
Must include one Laboratory Science (L) course  
CHEM 1314 Chemistry I (LN)  
or CHEM 1215 Chemical Principles I (LN)  
Select four hours from the following:  
- BIOL 1113 Introductory Biology (N)  
- BIOL 1111 Introductory Biology Laboratory (LN)  
- BIOL 1114 Introductory Biology (LN)  

**Social & Behavioral Sciences (S)**  
Course designated (S)  

**Additional General Education**  
Courses designated (A), (H), (N), or (S)  

| Hours Subtotal | 40 |

**Diversity (D) & International Dimension (I)**  
May be completed in any part of the degree plan  
Select at least one Diversity (D) course  
Select at least one International Dimension (I) course

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>AG 1011</td>
<td>First Year Seminar</td>
<td>1</td>
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<tr>
<td>AGEC 1113</td>
<td>Introduction to Agricultural Economics (S)</td>
<td>3</td>
</tr>
<tr>
<td>ENTO 2993</td>
<td>Introduction to Entomology (LN)</td>
<td>3</td>
</tr>
<tr>
<td>STAT 2013</td>
<td>Elementary Statistics (A)</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>ANSI 1124</td>
<td>Introduction to the Animal Sciences</td>
<td>3</td>
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<tr>
<td>BIOC 2344</td>
<td>Chemistry and Applications of Biomolecules</td>
<td>3</td>
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<tr>
<td>ENVR 1113</td>
<td>Elements of Environmental Science</td>
<td>3</td>
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<tr>
<td>FDSC 1133</td>
<td>Fundamentals of Food Science</td>
<td>3</td>
</tr>
<tr>
<td>HORT 1013</td>
<td>Principles of Horticultural Science (LN)</td>
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<tr>
<td>LA 1013</td>
<td>Introduction to Landscape Architecture and Landscape Management</td>
<td>3</td>
</tr>
<tr>
<td>NREM 1014</td>
<td>Introduction to Natural History (LN)</td>
<td>3</td>
</tr>
<tr>
<td>NREM 1113</td>
<td>Elements of Forestry</td>
<td>3</td>
</tr>
<tr>
<td>NREM 2013</td>
<td>Ecology of Natural Resources</td>
<td>3</td>
</tr>
<tr>
<td>PLNT 1213</td>
<td>Introduction to Plant and Soil Systems</td>
<td>3</td>
</tr>
<tr>
<td>SOIL 2124</td>
<td>Fundamentals of Soil Science (N)</td>
<td>3</td>
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</tbody>
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**Written and Oral Communications**  
Select one of the following:  
- AGCM 3103 Written Communications in Agricultural Sciences and Natural Resources | 3 |
| AGCM 3203 | Oral Communications in Agricultural Sciences & Natural Resources | 3 |
| AGCM 3203 | Oral Communications in Agricultural Sciences & Natural Resources (S) | 3 |
| BCOM 3113 | Written Communication | 3 |
| BCOM 3443 | Business Communication for International Students | 3 |
| ENGL 3323 | Technical Writing | 3 |
| SPCH 2713 | Introduction to Speech Communication (S) | 3 |
| SPCH 3733 | Elements of Persuasion (S) | 3 |

| Hours Subtotal | 19 |

**Major Requirements**  
With approval from the advisor 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:  
- ENTO 3044 Insect Morphology and Physiology | 8 |
- ENTO 4464 Insect Biology and Classification | 8 |

**Additional Entomology**  
ENTO 4800 Entomology Practicum  
Any entomology or plant pathology course not taken as a core course  

**Related Courses**  
**Genetics:**  
Select one of the following:  
- BIOL 3023 General Genetics | 3 |
- PLNT 3554 Plant Genetics and Biotechnology | 3 |
ANSI 3423  Animal Genetics

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

Chemistry:
CHEM 1225  Chemical Principles II (LN) 1  5
  or CHEM 1515  Chemistry II (LN)
Select one of the following: 3
  BIOC 3653  Survey of Biochemistry
  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 3421  Horticultural Insects
  ENTO 3461  Insects in Forest Ecosystems
  ENPP 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  Plant-Environment Interactions
  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 & MICR 2132  Introduction to Microbiology
  SOIL 4213  Precision Agriculture
  SOIL 4363  Environmental Soil Science
  SOIL 4893  Environmental Soil Chemistry
  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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<tbody>
<tr>
<td>Electives</td>
<td>0</td>
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</table>
Select 0 hours or hours to complete required total for degree
| Total Hours    | 120 |
1 College & Departmental requirements that may be used to meet General Education 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 2029.