Status: PENDING **PROGRAM REQUEST** Last Updated: Pfister, Jill Ann 08/23/2011

**Entomology Undergraduate Minor** 

Fiscal Unit/Academic Org

Administering College/Academic Group Co-adminstering College/Academic Group

Semester Conversion Designation

Entomology - D1130

Food, Agric & Environ Science

Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall

structure of program, minimal or no changes in program goals or content)

**Current Program/Plan Name Entomology Minor** 

**Entomology Undergraduate Minor Proposed Program/Plan Name** 

Program/Plan Code Abbreviation **ENTOMOL-MN** 

## **Credit Hour Explanation**

**Current Degree Title** 

| Program credit hour requirements                              |         | A) Number of credit hours in current program (Quarter credit hours) | B) Calculated result for 2/3rds of current (Semester credit hours) | C) Number of credit hours<br>required for proposed<br>program (Semester credit<br>hours) | D) Change in credit hours |
|---|---------|---|--|--|---------------------------|
| Total minimum credit hours required for completion of program |         | 20  | 13.3   | 12   | 1.3                       |
| Required credit hours offered by the unit                     |         |   | 13.3   | 12   | 1.3                       |
|   | Maximum | 25  | 16.7   | 13   | 3.7                       |
| Required credit hours offered outside of the unit             | Minimum | 0   | 0.0  | 0  | 0.0                       |
|   | Maximum | 0   | 0.0  | 0  | 0.0                       |
| Required prerequisite credit hours not included above Minimum |         | 0   | 0.0  | 0  | 0.0                       |
|   | Maximum | 0   | 0.0  | 0  | 0.0                       |

# **Program Learning Goals**

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

#### **Program Learning Goals**

- Students will acquire an understanding of insect biology at the molecular, cellular, organ, organismal, population, community, ecosystem, and biosphere levels and their interconnections to discover system-level phenomena.
- Students will understand the threats and ecosystem services attributed to insects and how these can shape scientific discovery, policy formation, and management decisions.
- Students will achieve an understanding of the history and the nature of science including hypothesis testing and critical thinking, and the ability to communicate these concepts.

#### Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

Is this a degree program (undergraduate, graduate, or professional) or major proposal? No

# Program Specializations/Sub-Plans

Status: PENDING PROGRAM REQUEST
Entomology Undergraduate Minor

ET Last Updated: Pfister,Jill Ann e Minor 08/23/2011

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

# **Pre-Major**

Does this Program have a Pre-Major? No

## **Attachments**

ProgramProposalEntomologyBS\_Minor(V4).pdf

(Program Proposal. Owner: Welty, Celeste)

Entomology Transition Plan.docx: Transition Plan

(Transition Policy. Owner: Pfister, Jill Ann)

## **Comments**

- Feedback sent to Assistant Dean Pfister. (by Vankeerbergen, Bernadette Chantal on 07/18/2011 03:40 PM)
- 1) The current program name should be ENTMLGY-MN (not ENTOMOL-MN) but this choice does not appear in the name box.
  - 2) the doc 'Entmlgy\_Minor.pdf' is outdated and needs to be removed but we have been unable to do this. (by Welty, Celeste on 06/14/2011 08:44 AM)

# **Workflow Information**

| Status             | User(s)   | Date/Time           | Step                   |
|--------------------|---|---------------------|------------------------|
| Submitted          | Welty,Celeste   | 02/04/2011 03:05 PM | Submitted for Approval |
| Approved           | Fisher,Susan Warwick  | 02/04/2011 04:27 PM | Unit Approval          |
| Revision Requested | Stokoe,Laurie Anne  | 02/08/2011 09:09 AM | College Approval       |
| Submitted          | Welty,Celeste   | 02/08/2011 09:47 AM | Submitted for Approval |
| Approved           | Fisher, Susan Warwick   | 02/08/2011 10:46 AM | Unit Approval          |
| Approved           | Stokoe,Laurie Anne  | 02/08/2011 02:44 PM | College Approval       |
| Revision Requested | Vankeerbergen,Bernadet te Chantal   | 02/22/2011 01:35 PM | ASCCAO Approval        |
| Submitted          | Welty,Celeste   | 06/14/2011 08:45 AM | Submitted for Approval |
| Approved           | Fisher, Susan Warwick   | 06/14/2011 11:36 AM | Unit Approval          |
| Approved           | Pfister,Jill Ann  | 06/15/2011 08:32 AM | College Approval       |
| Revision Requested | Vankeerbergen,Bernadet te Chantal   | 07/18/2011 03:43 PM | ASCCAO Approval        |
| Submitted          | Welty,Celeste   | 08/21/2011 10:21 PM | Submitted for Approval |
| Approved           | Fisher, Susan Warwick   | 08/22/2011 09:36 AM | Unit Approval          |
| Approved           | Pfister,Jill Ann  | 08/23/2011 06:38 AM | College Approval       |
|                    | Nolen,Dawn Jenkins,Mary Ellen Bigler  |                     |                        |
| Pending Approval   | Meyers,Catherine Anne<br>Vankeerbergen,Bernadet<br>te Chantal<br>Hanlin,Deborah Kay | 08/23/2011 06:38 AM | ASCCAO Approval        |

# Program Proposal

Minor in Entomology

The Department of Entomology

College of Food, Agricultural and Environmental Sciences

Spring 2011



#### **Department of Entomology**

College of Food, Agriculture and Environmental Sciences 202 Kottman Hall 2021 Coffey Rd. Columbus, OH 43210

Phone (614) 292-8209

May 2011

OSU Office of Academic Affairs 203 Bricker Hall 190 North Oval Mall Columbus OH 43210

#### To whom it may concern:

This letter summarizes the status of our undergraduate minor program in Entomology. Our undergraduate program has three elements: the B.S. in Agriculture with a major in entomology, the minor in entomology, and entomology service courses for students in other majors such as Plant Health Management and Horticulture and Crop Science.

The objectives of a minor in Entomology are to provide insight into the role of insects in human affairs and in the environment. Students majoring in fields associated with food production will be interested in a minor in Entomology because of the critical role insects play as direct competitors with humans. Students in CFAES should consider a minor in entomology, especially those in animal sciences, pre-veterinary medicine, veterinary public health, crop science, turfgrass science, landscape horticulture, agricultural and extension education, and environmental science. A minor in entomology is also complementary to majors in evolution and ecology, zoology, and biology.

We developed a set of seven learning objectives for our undergraduate program, which we have used in developing our requirements and course plans and which have been key in developing a new capstone course. We are pleased that our entomology major and minor will benefit from improvements in a number of our undergraduate course offerings and in the development of an integrated curriculum.

#### Summary of changes in the undergraduate minor:

The entomology minor is undergoing some change related both to the semester conversion and to our move in 2010 from the College of Biological Sciences (CBS) to the College of Food, Agricultural and Environmental Sciences (CFAES). The entomology curriculum committee reviewed the major and minor programs in Entomology between November 2009 and February 2010. A summary of this review was presented to the entomology faculty and discussed in depth at a retreat on 10-11 March 2010. Details of the program were further developed by the curriculum committee between March and November 2010.

In both the quarter version of the entomology minor and the proposed semester version of the entomology minor, there is one required course and a choice of the remaining courses to meet the minimum number of credits. The key change is that in the quarter system the required course was a choice of three courses (the more biological Entomology 500, and the more applied Entomology 460 and 462), while in semesters the required course is only one, Entomology 3000 (the former 500), while the applied courses are among the choices for the remaining credit hours.

#### Summary of changes in undergraduate course offerings:

- 1. Most of our courses are one-quarter courses that are not part of a sequence, so the transition to semesters resulted in generally the same number of courses and the same names of courses. Most courses were 5 credits in the quarter system and will now be 3 credits in the semester system.
- 2. A review of individual courses found that there was duplication of introductory material in several courses that are sometimes taken by the same students. A plan was made to modularize several courses so that the introductory module could be taken just once.
- 3. We are offering a revised version of courses in applied entomology. Students majoring in Entomology, Horticulture and Crop Science, and Plant Health Management are required to take one of these courses. Instead of just two choices (Entomology 460 and 462) that are standard full-term courses, we are offering these in a modular format. The introductory module (4600) is a one-credit course that is a distance course. It is followed by any of 7 modules in general pest management, landscape entomology, agricultural entomology, urban entomology, human health entomology, forensic entomology, and veterinary entomology. Several of these are partial distance courses, with the lectures as the distance component and the labs as traditional in-person components.
- 4. Our service course for forestry majors, "Forest Entomology" (461) has been redesigned and combined with plant pathology material to become a co-listed course, "Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments" (Entomology/Plant Pathology 5110).
- 5 Several of our most popular courses are being converted to semesters with little change; these include General Entomology (500/3000), Social Insects (333/3330), and Honors Social Insects (H444/4440H), and Insect Biology (101/1101). We are retaining our three summer courses that are taught at Stone Lab (126/1260, 520/4200, 612/5120), which are most commonly taken by students outside of our major; these also are undergoing negligible change with the semester system.
- 6. We continue to offer Entomology 1101 (101), "Insect biology", which can be used to meet the general education biology requirement. We are proposing a new service course that is a variant of Entomology 101 that will be Entomology 1111, "Biology of Insects, Animals, and Fungi Affecting Buildings". We propose that this will be used to fulfill the general education biology requirement for students in the Construction Systems Management major.
- 7. Now that a two-course sequence in biology is no longer part of the general education requirement, we are changing our second course, Entomology 102 ("Insect Biology 2"), to 2101, "Insects and Human Affairs: Pests, Plagues, Poisons & Politics". This will be a distance course that could fill the general education requirement for Cultures & Ideas section of the Arts and Humanities.
- 8. We are shifting several elective courses that were at a 600 level to the 5000 level: Biological Control (5500), Insect Behavior (5420), and Aquatic Entomology (5120). We thus hope to attract more upper level undergraduates to these courses.
- 9. We are offering three new courses as electives for our majors, minors, and students from other majors. These are Introductory Beekeeping (2200), Pesticide Science (5800), and Field Insect Taxonomy (5130).

Sincerely,

Susan Fisher

Chair, Department of Entomology

#### **Entomology Minor Program Rationale Statement**

1. The general objective of a minor in Entomology is to provide insight into the role of insects in human affairs and in the environment. Insects are the largest existing group of living organisms on Planet Earth and, while largely unappreciated, are arguably the most impactful. Insects are highly adaptable and can be found in virtually all terrestrial and fresh water habitats. Some have major adverse impacts on human activities: destroying crops and food supplies, transmitting diseases, or simply being annoyances. However, the vast majority of insects are considered beneficial: providing pollination services, being primary consumers of dead plants and animals, controlling their own kind (parasites and predators), and even serving as food. Insects have served as major scientific models in studies of genetics, behavior, physiology and population dynamics. Students minoring in entomology are exposed to many roles that insects play in the modern world.

Students in CFAES should consider a minor in entomology, especially those in animal sciences, preveterinary medicine, veterinary public health, crop science, turfgrass science, landscape horticulture, agricultural and extension education, and environmental science. A minor in entomology is also complementary to majors in evolution and ecology, zoology, and biology.

2. A set of seven broad learning objectives for the undergraduate program was developed in March 2010, and a curriculum map was made to show which objectives are being met by which courses. These were reduced to three objectives in April 2011. Most of the objectives were already being met by our existing curriculum, but it became apparent that our lack of a capstone course prevented us from fully meeting some of our objectives. This was resolved by developing two capstone courses: one in Current Topics in Entomology, Science and Society (Entomology 5601), and one in Plant Health Management that is cross-listed with Plant Pathology (5604). The capstone course will also serve as our third writing course. Although the capstones are designed for the entomology major, they will also be of interest to students minoring in entomology.

The undergraduate learning objectives are:

- 1. Students will acquire an understanding of insect biology at the molecular, cellular, organ, organismal, population, community, ecosystem, and biosphere levels and their interconnections to discover system-level phenomena.
- 2. Students will understand the threats and ecosystem services attributed to insects and how these can shape scientific discovery, policy formation, and management decisions.
- 3. Students will achieve an understanding of the history and the nature of science including hypothesis testing and critical thinking, and the ability to communicate these concepts.

#### Semester advising sheet:

#### **Minor in Entomology**

The objectives of a minor in Entomology are to provide insight into the role of insects in human affairs and in the environment. Students majoring in fields associated with food production will be interested in Entomology because of the critical role that insects play as direct competitors with humans. Students in CFAES should consider a minor in entomology, especially those in animal sciences, pre-veterinary medicine, veterinary public health, crop science, turfgrass science, landscape horticulture, and agricultural and extension education/teacher education.

#### **Minor Requirements**

The Entomology minor consists of a minimum of 12 credit hours chosen from the following list.

| Required:                | Credit  | Hours |
|--------------------------|---|-------|
| ENTMLGY 3000             | General Entomology (prerequisite Bio 113 or H115)                               | 3     |
| Required, one of the fol | lowing (prerequisite for most is Entmlgy 1101 or 3000 or 4600):                 |       |
| ENTMLGY 4601             | General Insect Pest Management  | 2     |
| ENTMLGY 4602             | Urban Landscape and Greenhouse Entomology                                       | 2     |
| ENTMLGY 4603             | Agricultural Entomology   | 2     |
| ENTMLGY 4604             | Urban Entomology: Structural & Nuisance Pests                                   | 2     |
| ENTMLGY 4606             | Forensic Entomology   | 2     |
| ENTMLGY 4607             | Veterinary Entomology   | 2     |
| ENTMLGY 5110             | Ecology and Management of Pathogens and Insects Affecting Trees in Forest       |       |
|                          | and Urban Environments (prerequisite Bio 101 or Entmlgy 1101)                   | 3     |
| ENTMLGY 5605             | Human Health Entomology   | 2     |
| Required Electives, 6-7  | credit hours from courses above or below:                                       |       |
| ENTMLGY 2101             | Insects and Human Affairs: Pests, Plagues, Poisons & Politics                   | 3     |
| ENTMLGY 2200             | Beekeeping  | 3     |
| ENTMLGY 3330             | Social Insects (prerequisite Bio 101 or 113 or H115 or Entmlgy 1101)            | 3     |
| ENTMLGY 4440H            | Social Insects (honors) (prerequisite Bio 101 or 113 or H115 or Entmlgy 1101)   | 3     |
| ENTMLGY 4191             | Internship Experience in Entomology (prerequisite Entmlgy 3000)                 | 1-2   |
| ENTMLGY 4200             | Insect Biology for Teachers (prerequisite Junior rank or above)                 | 2     |
| ENTMLGY 4999             | Research with Distinction   | 1-3   |
| ENTMLGY 4999H            | Research with Distinction (honors)  | 1-3   |
| ENTMLGY 5120             | Aquatic Insect Biology and Ecology (prerequisite 9 semester cr hrs of Bio.Sci., |       |
|                          | at least Junior standing, GPA min. 2.5)   | 3-4   |
| ENTMLGY 5130             | Field Insect Taxonomy (prerequisite Entmlgy 1101 or 3000 or 4600)               | 3     |
| ENTMLGY 5420             | Insect Behavior: Mechanisms & Function (prerequisite Bio 114 or Entmlgy 300     | 0) 3  |
| ENTMLGY 5500             | Biological Control of Arthropod Pests (prerequisite Entmlgy 1101 or 3000        |       |
|                          | or 4600)  | 3     |
| ENTMLGY 5600             | Principles and Applications of Integrated Pest Management (prerequisite         |       |
|                          | Entmlgy 1101 or 3000 or 4600)   | 3     |
| ENTMLGY 5601             | Current Topics in Entomology, Science and Society (prerequisite Senior status)  | 3     |
| ENTMLGY 5604             | Capstone Course: Problem-Based Studies in Plant Health (prerequisite            |       |
|                          | Junior or Senior status)  | 2     |
| ENTMLGY 5623             | Insect Morphology (prerequisite Entmlgy 1101 or 3000 or 4600)                   | 2     |
| ENTMLGY 5800             | Pesticide Science (prerequisite Bio 101 or Entmlgy 1101)                        | 3     |

- 1. The minor is not available to student majoring in Plant Health Management.
- 2. A minimum overall GPA for courses comprising the minor shall be 2.00.
- 3. A minor should be declared at the time a student accumulates 60 hours.
- 4. A maximum of one course may overlap between the minor and the Gen. Ed. (Writing, literature, Arts, Natural Sciences, Historical Study, Social Sciences, Culture and Ideas, Contemporary Issues).
- 5. Courses taken on a pass/non pass basis may not be applied to the minor.

#### **Current advising sheet for the quarter system:**

## **ENTOMOLOGY MINOR (183)**

College of Food, Agricultural, and Environmental Sciences Faculty Advisers:

Glen Needham, Ph.D., Aronoff Lab, 318 W. 12<sup>th</sup> Ave, Room 490 614-688-3026 / needham.1@osu.edu

David Shetlar, Ph.D., Rothenbuhler Bee Lab, 2501 Carmack Road 614-292-3762 / shetlar.1@osu.edu

Insects are the largest existing group of living organisms on Planet Earth and, while largely unappreciated, are arguably the most impactful. Insects are highly adaptable and can be found in virtually all terrestrial and fresh water habitats. Some have major adverse impacts on human activities: destroying crops and food supplies, transmitting diseases, or simply being annoyances. However, the vast majority of insects are considered beneficial: providing pollination services, being primary consumers of dead plants and animals, controlling their own kind (parasites and predators), and even serving as food. Insects have served as major scientific models in studies of genetics, behavior, physiology and population dynamics.

The objectives of a minor in Entomology are to provide insight into the role of insects in human affairs and in the environment. Students majoring in fields associated with food production will be interested in Entomology because of the critical role insects play as direct competitors with humans. Students in CFAES should consider a minor in entomology, especially those in animal sciences, pre-veterinary medicine, veterinary public health, crop science, turf grass science, landscape horticulture and agricultural and extension education/teacher education.

# The Entomology minor consists of a minimum of 20 credit hours chosen from the following list.

| Required: 4-5 hours Credit Hours                              |                       |
|---|-----------------------|
| ENTOMOL 500 General Entomology                                | 5                     |
| or 460 Economic Entomology and Insect Pest Management         | 5                     |
| or 462 Economic Entomology for Turf, Ornamentals, Greenhouse  | 4                     |
| Required Electives: 15-16 hours                               |                       |
| ENTOMOL 333 Social Insects                                    | 5                     |
| ENTOMOL 444H Social Insects (honors)                          | 5                     |
| ENTOMOL 460 Economic Entomology & Insect Pest Management      | 5                     |
| ENTOMOL 461 Forest Entomology                                 | 5                     |
| ENTOMOL 462 Economic Entomology for Turf, Ornamentals & Green | houses 4              |
| ENTOMOL 489 Internship in Entomology                          | 3-5                   |
| ENTOMOL 550 Comparative Endocrinology                         | 3                     |
| ENTOMOL 611 Field Entomology                                  | 5                     |
| ENTOMOL 612 Aquatic Entomology                                | 5 (Stone Lab, Summer) |
| ENTOMOL 623 Insect Morphology                                 | 5                     |
| ENTOMOL 631 Insect Physiology (requires Chem 251, 254)        | 5                     |
| ENTOMOL 641 Insect Ecology                                    | 5                     |
| ENTOMOL 642 Insect Behavior                                   | 5                     |
| ENTOMOL 660 Advanced Economic Entomology                      | 5                     |
| ENTOMOL 661 Medical Entomology                                | 5                     |
| ENTOMOL 664 Host Plant Resistance to Insects                  | 3                     |
| ENTOMOL 670 General Acarology                                 | 4                     |
| ENTOMOL 693 Individual Studies                                | 1-5                   |
| ENTOMOL 694 Insect Biodiversity Analysis                      | 4                     |
| ENTOMOL 694 Group Studies                                     | 1-5                   |
| ENTOMOL 699 Undergraduate Research in Entomology              | 1-5                   |

Be sure to check prerequisites especially for the 5xx and above courses. Check the entomology web site and course bulletin for updated information and further details. Research is one option for those especially interested in entomology and graduate education.

1-5

#### **Restrictions and General Information**

ENTOMOL 783H Honors Research

- 1. This minor is not available to students majoring in Plant Health Management.
- 2. A minimum overall CPHR for courses comprising the minor shall be 2.0.
- 3. A minor should be declared at the time a student accumulates 90 hours.
- 4. A maximum of five credit hours may overlap between the minor and the GEC (foundations, natural sciences, arts and humanities and social sciences).
- 5. Courses taken on a pass/non pass basis may not be applied to the minor.

# List of semester courses in Entomology: Proposed courses in OSU's new Dept. of Entomology in CFAES

| New                                 | Old                      | Credit                   | With | Title  | Pre-requisites  | Ta                             | arget stude                    | ents   |
|-------------------------------------|--------------------------|--------------------------|------|--|---|--------------------------------|--------------------------------|--|
| number<br>(ENTMLGY)                 | num-<br>ber<br>(ENTOMOL) | hours<br>(sem-<br>ester) | lab? |  | ·   | Ento-<br>mology<br>majors      | Ento-<br>mology<br>minors      | other  |
|                                     |                          |                          |      | UNDERGRADUATE COU  | RSES  |                                |                                |  |
| 1101                                | 101                      | 4                        | yes  | Insect biology   | none  | no                             | no                             | alternative for<br>all majors that<br>require Bio101 |
| 1111                                | (101)                    | 4                        | yes  | Biology of insects, animals & fungi affecting buildings  | none  | no                             | no                             | Const. mgmt.   |
| 1260                                | 126                      | 2                        | yes  | Introductory insect field biology [StoneLab]   | none  | no                             | no                             | any  |
| 2101                                | 102                      | 3                        | no   | Insects and human affairs: Pests, plagues, poisons & politics [distance]                               | none  | optional<br>(cultural<br>GEC?) | optional<br>(cultural<br>GEC?) | optional<br>(cultural<br>GEC?)                       |
| 2200                                | -                        | 3                        | yes  | Beekeeping   | none  | optional                       | optional                       | optional   |
| 3000                                | 500                      | 3                        | yes  | General Entomology   | Bio 113 or H115   | required                       | required                       | optional   |
| 3330                                | 333                      | 3                        | no   | Social Insects   | Bio 101 or 113 or H115<br>or Entmlgy 1101   | optional                       | optional                       | optional   |
| 4191                                | (489)                    | 1-2                      | no   | Internship Experience in Entomology  | Entmlgy 3000  | required                       | optional                       | optional   |
| 4193                                | 693                      | 1-3                      |      | Individual Studies   | -   | -                              | -                              | -  |
| 4194<br>4200                        | 294<br>520               | 1-3                      | yes  | Group Studies Insect Biology for Teachers [Stone Lab]  | junior rank or above  | optional                       | optional                       | teachers;<br>education<br>majors                     |
| 4440H                               | H444                     | 3 & 3                    | no   | Social Insects (honors)  | Bio 101 or 113 or H115<br>or Entmlgy 1101   | optional                       | optional                       | optional   |
| 4600                                | 460,<br>462              | 1                        | no   | Introductory Insect Science  | Bio 101 (not open if credit<br>for Entmlgy 1101 or 3000)                              | no                             | no                             | required for<br>HCS, PHM<br>(& Ani.Sci.?)            |
| 4601                                | 460                      | 2                        | yes  | General Insect Pest Management   | Entmlgy 1101 or 3000  | one                            | one                            | one required   |
| 4602                                | 462                      | 2                        | yes  | Urban Landscape & Greenhouse Entomology  | or 4600   | required (or<br>5110 or        | required<br>(or 5110           | for majors in HCS, PHM                               |
| 4603                                | (460)                    | 2                        | yes  | Agricultural Entomology  |   | 5605);                         | or 5605);                      | (& Ani.Sci.?);                                       |
| 4604                                | -                        | 2                        | yes  | Urban Entomology: Structural & Nuisance Pests  |   | additional ones                | addition<br>al ones            | additional ones                                      |
| 4606                                | -                        | 2                        | yes  | Forensic Entomology  |   | optional                       | optional                       | optional   |
| 4607                                | -                        | 2                        | yes  | Veterinary Entomology  |   |                                |                                |  |
| 4999                                | 699                      | 1-3<br>1-3               | -    | Research with Distinction  | Permission of instructor  | encouraged                     | optional                       | optional   |
| 4999H                               | 699                      | 1-3                      | -    | Research with Distinction (honors)  COMBINED UNDERGRADUATE & GRA                                       | Permission of instructor  | encouraged                     | optional                       | optional   |
| 5110                                | 461+                     | 3                        | Inc  |  |   | antional                       | antional                       | required for   |
| (cross-list<br>Plant Path.)         | 401+                     | 3                        | no   | Ecology and Management of<br>Pathogens and Insects Affecting Trees<br>in Forest and Urban Environments | Bio 101 or Entmlgy 1101   | optional                       | optional                       | required for forestry majors                         |
| 5120                                | 612                      | 3-4                      | yes  | Aquatic Insect Biology and Ecology<br>[Stone Lab]  | 15 qtr-cr hrs of Bio.Sci., at least junior standing, GPA min. 2.5, or per. instructor | optional                       | optional                       | optional   |
| 5130                                | -                        | 3                        | yes  | Field Insect Taxonomy  | Entmlgy 1101 or 3000 or 4600  | Required,<br>MS & PhD          | optional                       | optional   |
| 5420                                | 642                      | 3                        | no   | Insect Behavior: Mechanisms & Function   | Bio 114 or Entmlgy 3000   | optional                       | optional                       | optional   |
| 5500                                | 650                      | 3                        | no   | Biological Control of Arthropod Pests  | Entmlgy 1101 or 3000 or 4600  | optional                       | optional                       | optional   |
| 5600                                | 660                      | 3                        | no   | Principles and Applications of<br>Integrated Pest Management   | Entmlgy 1101 or 3000 or 4600  | optional                       | optional                       | optional   |
| 5601                                | -                        | 3                        | no   | Current Topics in Entomology, Science and Society  | Senior status   | Required<br>(or 5604)          | optional                       | optional   |
| 5604<br>(cross-list<br>Plant Path.) | -                        | 2                        | no   | Capstone Course: Problem-Based<br>Studies in Plant Health  | Junior or Senior status   | Required<br>(or 5601)          | optional                       | optional   |
| 5605                                | -                        | 2                        | yes  | Human Health Entomology  | Entmlgy 1101 or 3000 or 4600  |                                |                                |  |
| 5623                                | 623                      | 2                        | yes  | Insect Morphology  | Entmlgy 1101 or 3000 or 4600  | optional                       | optional                       | optional   |
| 5800                                | -                        | 3                        | no   | Pesticide Science  | Bio 101 or Entmlgy 1101   | optional                       | optional                       | optional   |

# CAA 10 of 14

|                     |                          |                          |      |   |  |  | 10 OT                     | 14       |
|---------------------|--------------------------|--------------------------|------|---|--|--|---------------------------|----------|
| New                 | Old                      | Old Credit               |      | Title   | Pre-requisites   | Target students  |                           |          |
| number<br>(ENTMLGY) | num-<br>ber<br>(ENTOMOL) | hours<br>(sem-<br>ester) | lab? |   |  | Ento-<br>mology<br>majors  | Ento-<br>mology<br>minors | other    |
|                     |                          |                          |      | GRADUATE COURS  | ES   |  |                           |          |
| 6193                | 693                      | 1-3                      | -    | Individual studies  | -  | -  | -                         | -        |
| 6194                | 694                      | 1-3                      | -    | Group studies   | -  | -  | -                         | -        |
| 6310                | 631                      | 3                        | no   | Insect physiology and molecular biology                         | CHEM 231 or 251 or<br>H251, and Ent 3000                               | required<br>for PhD<br>and MS  | optional                  | optional |
| 6410                | 641                      | 3                        | no   | Insect ecology & evolutionary processes                         | EEOB 503.01 or 503.03 or permission                                    | required<br>for PhD<br>and MS  | optional                  | optional |
| 6701                | -                        | 2                        | yes  | Biodiversity analysis for ecosystem sustainability & resilience | Ent 3000 and 5130 or permission  | All 4<br>required<br>for PhD;<br>at least 2<br>of these<br>4<br>required | optional                  | optional |
| 6702                | -                        | 2                        | yes  | Entomological techniques and data analysis                      | Ent 1101 or 3000 or<br>4600  |  | optional                  | optional |
| 6703                | (632)                    | 2                        | yes  | Molecular techniques and data analysis                          | Mol Gen 500 or H500 or permission                                      |  | optional                  | optional |
| 6704                | (645)                    | 2                        | yes  | Systems analysis from molecules to ecosystems                   | Calculus (Math 151 or 161 or 140 or 117); statistics (Stat 135 or 528) | for MS.  | optional                  | optional |
| 7890                | 795                      | 1-2                      | no   | Special topics in entomology                                    |  | optional   | optional                  | optional |
| 7910                | 790                      | 2                        | no   | The nature and practice of science                              |  | At least 2   | optional                  | optional |
| 7920                | -                        | 2                        | no   | Presentation skills for scientists                              |  | of these   | optional                  | optional |
| 7930                | -                        | 2                        | no   | Scientific writing and grant proposal development               |  | required for MS  | optional                  | optional |
| 7940                | -                        | 2                        | no   | Interdisciplinary research, teamwork, and leadership            |  | and PhD  | optional                  | optional |
| 8000                | 800                      | 1                        | no   | Entomology seminar  |  | optional   | optional                  | optional |
| 8800                | 880                      | 1                        | no   | Research and training seminar                                   |  | Required in first year   | optional                  | optional |
| 8999                | 999                      | 1-15                     |      | Research in entomology  |  | required for<br>MS plan A<br>and PhD                                     | optional                  | optional |

**Note:** we are hopeful that in EEOB, courses formerly in Entomology, such as medical ent. (661), insect systematics & diversity (621), comparative endocrinology (550), general acarology (670), cladistic methods (626), and Acarology, will still be offered.

17th draft, 8/19/2011

#### Transition policy:

Given that the Department of Entomology offers only one minor in the quarter system and will offer only one minor in the semester system, it is likely that most students who start in this minor will continue to pursue this minor during the transition. Most students that are currently juniors or seniors with a minor in Entomology are likely to complete their degree under the quarter system with the previous requirements defined by the College of Biological Sciences. Most students that are currently freshmen or sophomores with a minor in Entomology are likely to complete their degree under the semester system with the new requirements in the CFAES as defined in this document. The required number of credit hours for the minor will be reduced from 20 (quarter) to 12 (semester), and credits for courses taken under quarters will be adjusted accordingly using a conversion factor of 0.67. Courses that are a one-for-one switch from quarter to semester versions should be relatively easy to incorporate into a student's program. If the course plan had included quarter courses that are dropped or significantly altered during the conversion, or semester versions that will not be available before the student's projected graduation date, then suitable semester alternatives will be substituted. The substitutions will be based on course content and meeting the needs of the student's career path and time to graduation.

In general, transition students are being encouraged to complete the quarter system general education categories that have no or few options (e.g. most sciences, social science) before the conversion. They are also being encouraged to take required courses in the minor for the same reason. The categories with the most options (some semester general education categories and electives in the minor) are likely to provide the most flexibility in course choice and scheduling under semesters.

The University Pledge to Undergraduate Students (copied below) will be followed by the faculty advisors in Entomology. Advisors will encourage their advisees to be proactive in getting help with scheduling courses before and after the conversion to make sure progress toward graduation is not impeded as long as the students follow a course of action that promotes progress. The course of action includes but is not limited to: a timely declaration of major and minor, taking courses in proper sequence, taking and successfully completing a sufficient number of hours each term, and maintaining a grade point average above 2.0 in the major and minor. Transition students (those who start under quarters and will finish under semesters) will receive information regarding the semester conversion via their academic advisors. This is intended to keep them informed of the process, the progress being made in undergraduate programs and course approval, as well as what they should be doing to make the transition as seamless as possible.

#### University Pledge to Undergraduate Students:

In planning and implementing its conversion from quarters to semesters for summer 2012, The Ohio State University is committed to protecting the academic progress of students. Students should find that the shift from quarters to semesters does not disrupt progress toward their degrees if they

- 1. decide on their major and degree within a time compatible with four-year graduation;
- 2. meet the standards for progress defined by their academic unit and continue to complete appropriate course loads successfully; and
- 3. actively develop and follow academic plans in consultation with their academic advisors.

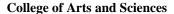
Students completing a quarter-plus-semester degree program will receive approximately the same amount of instruction, and the changes to the calendar and to courses should only improve the quality of programs. Full-time tuition (general and instructional fees) for an academic year under semesters will not cost more than what tuition would have cost for that same year under quarters, and the change should not adversely affect students' financial aid.

To ensure that the conversion will not harm students' progress, academic units will continue to provide intentional, purposeful advising. Academic advisors will understand how the changes in courses and curricula may affect students' degree programs, will know where and how programs can be flexible, and will be prepared to assist students in planning their remaining semesters to graduation. Good planning around a student's major will be particularly important, and the university will provide that support to students who begin their academic career under quarters and complete it under semesters.

Students will vary considerably in their academic progress, and each student's plan for completing degree requirements will need to be determined individually. Every student will be responsible for getting and using the advice essential to assure progress toward his or her degree. Advising is a joint endeavor, and we are confident that students and their advisors, working together, can develop effective plans leading to timely graduation as the university converts to semesters.

# **Entomology Transition Plan**

The Entomology minor is extremely flexible so transition from quarters to semesters should be very easy. For those students who have already taken Entomology 460 or 462 assuming it would meet the one required course we will count that course in the minor and expect the remaining number of hours from the list of electives for the minor. Through advising we will encourage students to take Entomology 3000 also but not require it. For any new students entering the minor we expect them to follow the minor as approved for semesters.





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September 2, 2011

To: W. Randy Smith, Vice Provost, Office of Academic Affairs

From: Terry L. Gustafson, Special Assistant to the Executive Dean for Semester Conversion

Re: Program Proposals from Arts and Sciences

Arts and Sciences is pleased to submit the following programs to the Office of Academic Affairs for conversion from quarters to semesters. The vote for approval of the programs at the full CCI was unanimous.

| Program Name                 | Academic Plan | Conversion  | CCI       | Last Revision |
|------------------------------|---------------|-------------|-----------|---------------|
|                              | Code          | Designation | Approval  |               |
| Aging Minor                  | AGING-MN      | Converted   | 8/18/2011 | Prior to 2006 |
| Associate of Arts            | ASSOC-AA      | Converted   | 9/2/2011  | Prior to 2006 |
| Capital Program              |               | Converted   | 8/24/2011 | Prior to 2006 |
| Entomology Minor             | ENTOMOL-MN    | Converted   | 8/26/2011 | Prior to 2006 |
| Legal Foundations of Society | LEGFNTN-MN    | Converted   | 8/18/2011 | Prior to 2006 |
| Minor                        |               |             |           |               |
| Survey Research Minor        | SURVEYR-MN    | Converted   | 8/18/2011 | 2/20/2008     |

College of Arts and Sciences Transition Policy: The College of Arts and Sciences is committed to the principles outlined in the university's Pledge to Undergraduate Students. Each unit has a plan on how best to assist its majors and minors through the transition. And the Arts and Sciences Academic Advising Services will advise students on how to transition their GE program. Dual advising is the existing process used in Arts and Sciences and will continue under semesters.

Additional Notes on the Submitted Program:

Note that the Aging Minor, the Capital Program, the Legal Foundations of Society Minor, and the Survey Research Minor are not new programs. The program codes were not in curriculum.osu.edu, so the programs were entered as new.

The following comments are recommended by CCI for CAA to consider:

#### Aging Minor:

- On the PACER table, numbers in Column C should probably be 14, 3, 7, 7, 11.
- The third goal is ungrammatical. It appears both on the PACER form and on pg 4 of the PDF.

- On the PACER form, the question as to whether this is a degree program should be marked No.
- In the comments under "Assessment practices" (bottom of Page 1 & top of Page 2 of the PACER form) and "Rationale for proposed program changes", suggestion to point out that communications and the social and behavioral sciences are within ASC, so that students attracted from these programs are coming from within ASC
- Pg 3 of 5, section 8, "Rationale": In the first sentence of the 3rd paragraph, "at" should be replaced by "from," to read, "moving ... from the College of Arts and Sciences."
- In the Transition Policy -- a student has to complete at least 2 elective courses in the quarter-version of the program, and will have to complete at least 2 elective courses in the semester-version. Why does the transition policy present the option of the student completing 1 or 2 electives? Why not require completion of 2 elective courses, in any combination of quarter and semester versions?
- On the semester advising sheet, it might be clearer, instead of "Electives: (minimum of 4 semester credits)," to say "Electives (4-5 semester credits)." This will alert students that the statement that the major requires a minimum of 14 hours takes precedence.
- Are there significant prerequisites for any of the required core courses or the electives, other than the single required course? If so, a general note should be added on the advising sheet, as we've requested for other minors.

## The Capital Program:

• The Capital Program is officially a Course of Study, not a minor. The program is a collaboration between the Colleges of Business and Arts and Sciences. A letter of support from the College of Business is attached.

#### *Legal Foundations of Society Minor:*

• A student who is already underway in the minor might have chosen quarter courses that do not fulfill the 6 hours (or more) at 3000-level-plus needed under semesters; CCI assumes advisors will use their discretion in such cases.

#### Survey Research Minor:

• There are two "x"'s in the Faculty Advisor's letter should perhaps be replaced with the correct dates.