Date Submitted: 03/17/24 6:43 pm

Viewing: 10KS0324PHD : Entomology, PhD

Last approved: 09/06/22 11:51 am

Last edit: 09/27/24 8:05 am

Changes proposed by: Allison O'Dwyer

Catalog Pages Using this Program	Entomology, PhD

Proposal Type:

In Workflow

1. **U Program Review**
2. **1361 Head**
3. **SIB Head**
4. **KV Dean**
5. **University Librarian**
6. **Grad_College**
7. **COTE Programs**
8. **Provost**
9. **Senate EPC**
10. Senate
11. U Senate Conf
12. Board of Trustees
13. IBHE
14. HLC
15. DOE
16. DMI

Approval Path

1. 03/21/24 4:40 pm
   Donna Butler (dbutler): Approved for U Program Review
2. 03/26/24 12:18 pm
   Brian Allan (ballan): Approved for 1361 Head
3. 03/26/24 12:19 pm
   Brian Allan (ballan): Approved for SIB Head
4. 05/01/24 1:23 pm
   Stephen Downie (sdownie): Approved for KV Dean
5. 05/02/24 12:38 pm

Claire Stewart (clairest): Approved for University Librarian
6. 09/11/24 3:07 pm Allison McKinney (agrindly): Approved for Grad_College
7. 09/11/24 3:45 pm Suzanne Lee (suzannel): Approved for COTE Programs
8. 09/13/24 10:29 am Brooke Newell (bsnewell): Approved for Provost

History

1. Jan 18, 2020 by Mary Lowry (lowry)
2. Sep 6, 2022 by Mary Lowry (lowry)

Major (ex. Special Education)

This proposal is for a:
Revision

Administration Details

Official Program Name	Entomology, PhD
Diploma Title	
Sponsor College	Liberal Arts & Sciences
Sponsor Department	Entomology
Sponsor Name	Brian Allan, Associate Director for Academic Affairs, School of Integrative Biology

Sponsor Email	ballan@illinois.edu
College Contact	Stephen R Downie, Associate Dean for Curr and Academic Policy, LAS
College Contact Email	sdownie@illinois.edu
College Budget Officer	
College Budget Officer Email	

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Allison O'Dwyer, Assistant Director for Academic Affairs, School of Integrative Biology
May Berenbaum, Head, Dept of Entomology, maybe@illinois.edu
Adam Dolezal, DGS, Dept of Entomology, adolezal@illinois.edu
Alex Harmon-Threatt, DGS, Dept of Entomology, aht@illinois.edu

Does this program have inter-departmental administration?

No

Proposal Title

Effective Catalog Term	Fall 2024

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Revise the Doctor of Philosophy in Entomology in the College of Liberal Arts and Sciences and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

This is related to Key 224, Entomology, MS revision.

Program Justification

Provide a brief description of what changes are being made to the program.	1. Adds a list of approved Statistics or Analytical courses and adds IB 526 Seminar in Entomology. 2. Replaces IB 427 with IB 433. 3. Adds full curriculum showing courses to POS table.

4. Removes the prescription exam requirement administered upon entry to the program.

5. Adds additional course options to the curriculum.

6. A teaching requirement is formally added.

7. New subheadings/categories are added to POS.

8. New minimum of 500-level courses is added.

9. The statement on GPA minimum for degree certification is removed.

10. The program features are changed.

No changes are made to the total hours required nor to the learning outcomes.

Did the program content change 25% or more in relation to the total credit hours, since the 2020-2021 catalog. (http://catalog.illinois.edu/archivedacademiccatalogs/2020-2021/)

Yes

Why are these changes necessary?

1. A list of approved Statistical or Analytical Skills courses is added for transparency. Attendance in IB 526 Seminar in Entomology is increased from 3 to 6 hours (most students take well beyond this as they register for each term enrolled). This increase will allow more seminar credit to count towards the degree.

2. IB 433 Insect Physiology replaces IB 427 Insect Physiology, an update necessitated by changes to the number of credit hours and learning outcomes for the course.

3. In order to fulfill a request from the Provost's Office for greater student accessibility and transparency on our academic catalog pages, all required courses are now listed and accurately total 64 or 96 hours.

4. The prescription exam is no longer required, thus the removal of this language corrects listed program requirements.

5. A broader range of courses is added to the required course list to afford students greater flexibility in their course scheduling as some of the required courses are offered infrequently due to instructor schedules. The expanded course offerings include courses that are regularly taken as elective credit by current Entomology, PhD students. The courses represent student learning outcomes that are aligned with current degree program learning outcomes and with the original course requirements.

Original core courses:
IB 433 (formerly IB 427) Insect Physiology
IB 444 Insect Ecology
IB 468 Insect Classification and Evol
IB 482 Insect Pest Management
IB 504 Genomic Analysis of Insects

Admissible additional course options:
IB 416 Population Genetics
IB 426 Env and Evol Physl of Animals
IB 432 Genes and Behavior
IB 439 Biogeography
IB 452 Ecosystem Ecology
IB 453 Community Ecology
IB 481 Vector-borne Diseases
IB 501 Programming for Genomics
FSHN 480 Basic Toxicology
CPSC 437 Principles of Agroecology
MCB 435 Evolution of Infectious Disease
CHBE 571 Bioinformatics

6. A teaching requirement is formally added to bring the academic catalog into agreeance with a long-standing School of Integrative Biology requirement for graduate students to teach.

7. New subheadings/categories include those for the core curriculum, seminar, and

remaining hours requirements. These headings are added to further clarify requirements for students. The "remaining hours" subheading allows students to now take a broader ranger of courses in addition to the core curriculum courses.

8. A new miniumum of 12-hours of 500-level courses is added to bring the program into compliance with Graduate College requirements.

9. This GPA statement is redundant and thus removed. Now the other requirements table simply states the minimum GPA as 3.0.

10. The Computational Science & Engineering Concentration is formally added which was previoulsy approved and can be found in the academic catalog (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/).

Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?

No

Does this new program/proposed change result in the replacement of another program?

No

Does the program include other courses/subjects outside of the sponsoring department impacted by the creation/revision of this program?

Yes

Courses outside of the sponsoring department/ interdisciplinary departments

ANSC 446 - Population Genetics
CPSC 437 - Principles of Agroecology
CPSC 440 - Applied Statistical Methods I
FSHN 480 - Basic Toxicology
MCB 435 - Evolution of InfectiousDisease
NRES 421 - Quantitative Methods in NRES
NRES 454 - GIS in Natural Resource Mgmt
NRES 595 - Ecol & Conservation techniques
CHBE 571 - Bioinformatics

Please attach any letters of support/ acknowledgement for any Instructional

Department of Entomology_Course Request_Letter of Support.pdf
Approval of course substitutions__CHBE & STATS.pdf
Approval of course substitutions__NRES.pdf
Approval of course substitutions__CPSC.pdf

Resources consider faculty, students, and/or other impacted units as appropriate.	Approval of course substitutions__ANSC.pdf Approval of course substitutions__MCB.pdf Approval of course substitutions__FSHN.pdf

Program Regulation and Assessment

Plan to Assess and Improve Student Learning

Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

1. Synthesize and apply core knowledge related to the field of Entomology, particularly from the areas covered in the core courses and the advanced topic seminars.
2. Design and implement independent research, with the overarching goal to obtain mastery of relevant approaches for their area of research
3. Apply rigorous statistical/analytical methods that typify their area of study
4. Demonstrate effective communication skills
   a. Presentations
   b. Publications
5. Obtain teaching experience
6. Learn grant and fellowship application writing
7. Acquire other professional skills
   a. Data management
   b. Citation management
   c. Public Outreach/Science Communication
   d. Research and Professional Ethics

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

Program Description and Requirements
Attach Documents

Is the career/profession for graduates of this program regulated by the State of Illinois?

No

Program of Study

Baccalaureate degree requires at least 120 semester credit hours or 180 quarter credit hours and at least 40 semester credit hours (60 quarter credit hours) in upper division courses" (source: https://www.ibhe.org/assets/files/PublicAdminRules2017.pdf). For proposals for new bachelor's degrees, if this minimum is not explicitly met by specifically-required 300- and/or 400-level courses, please provide information on how the upper-division hours requirement will be satisfied.

Revised programs ENT PHD Side by Side.xlsx

Attach a revised Sample Sequence (for undergraduate program) or college-level forms.

Catalog Page Text - Overview Tab

Description of program for the catalog page. This is not official content, it is used to help build the new catalog page for the program. Can be edited in the catalog by the college or department.

The Department of Entomology offers graduate programs leading to the Master of Science and Doctor of Philosophy degrees. The program is designed to accommodate incoming students with a wide range of entomological expertise. The goal of the program is to provide students with a strong background in basic biology as it relates to insects and to equip them with the specialized intellectual and technical skills to pursue a career in research, teaching, and service in entomology and related biological disciplines.

Major areas of specialization within the department include systematics, evolutionary biology, molecular genetics, genomics, chemical ecology, disease ecology, invasion biology, toxicology, pollinator health, social insect biology, insect-microbe interactions, conservation biology, and integrated pest management.

Admission
The Graduate Record Examination (GRE) general test scores are not required by our Department but can be submitted if they will support your application. A minimum Test of English as a Foreign Language (TOEFL) score of 550 (paper-based test), 213 (computer-based test), or 79 (internet-based test), or an International English Language Testing System (IELTS) score of 6.5, is required. Previous training in entomology is unnecessary. It is recommended that students who intend to study for advanced degrees in entomology gain a thorough grounding in the physical and biological sciences, mathematics, and the liberal arts. Spring admission is possible for special circumstances.

Graduate Teaching Experience
Although teaching is not a general Graduate College requirement, experience in teaching is considered an important part of the graduate experience in this program and serving as a teaching assistant for at least two semesters is required.

Financial Aid
Graduate student awards are available, including teaching and research assistantships. In addition, fellowships, and traineeships are offered by the Graduate College and the School of Integrative Biology. A single application to the department is sufficient for consideration for all awards currently available.

A candidate for the Ph.D. degree should be conversant with entomological aspects of ecology, genetics, systematics, physiology, and integrated pest management. The candidate must demonstrate professional competence in a specialized area by presenting an acceptable thesis based on original research designed in consultation with a faculty adviser and approved by a graduate faculty thesis committee.

For additional details and requirements refer to the department's Graduate Handbook and the Graduate College Handbook.

Statement for Programs of **Entering with approved M.S./M.A. degree**

Study Catalog degreeOther Requirements

Grad Other Degree Requirements

Requirement	Description
Other requirements may overlap	
Prescription Exam Required (administered upon entrance into program)	Yes
Preliminary Exam Required	Yes
Final Exam/Dissertation Defense Required	Yes
Dissertation Deposit Required	Yes
The grade point average required for degree certification is 3.0 (A = 4.0).	
Minimum GPA:	3.0

Course List

Code	Title	Hours
Select 0-20 hours from the following:		0-20
IB 427	Course IB 427 Not Found	
ENT 599	Thesis Research (maximum of 55 hours applied toward degree)	55
Core curriculum minimum 9 hours		9
One of the following Statistical or Analytical Skills courses:		
IB 494	Theoretical Biology + Models	
IB 501	Programming for Genomics	
IB 517	Analysis of Biological Data in R	
CHBE 571	Bioinformatics	
CPSC 440	Applied Statistical Methods I	
NRES 421	Quantitative Methods in NRES	
NRES 454	GIS in Natural Resource Mgmt	
NRES 595	Advanced Quantitative Techniques for Ecology and Conservation	
Seminar: must register for every term enrolled (6 hours minimum)		
IB 526	Seminar in Entomology	
Statistics course		4
Remaining hours to total 64 hours from the following list of courses:		
Additional courses from the list below may be required in consultation with your advisor. The first five courses are most recommended.		
IB 433	Insect Physiology	
IB 444	Insect Ecology	
IB 468	Insect Classification and Evol	
IB 482	Insect Pest Management	
IB 504	Genomic Analysis of Insects	
IB 416	Population Genetics	
IB 426	Env and Evol Physl of Animals	
IB 432	Genes and Behavior	
IB 439	Biogeography	
IB 452	Ecosystem Ecology	
IB 453	Community Ecology	
IB 481	Vector-borne Diseases	
IB 501	Programming for Genomics	
IB 517	Analysis of Biological Data in R	
IB 526	Seminar in Entomology	
FSHN 480	Basic Toxicology	
CPSC 437	Principles of Agroecology	

Code	Title	Hours
MCB 435	Evolution of Infectious Disease	
CHBE 571	Bioinformatics	
Total Hours		64

Entering with approved B.S./B.A. degree

~~degree~~

Course List

Code	Title	Hours
~~Select 20 hours from the following:~~		~~20~~
~~IB 427~~	~~Course IB 427 Not Found~~	
ENT 599	Thesis Research (maximum of 69 hours applied toward degree)	69
Core curriculum minimum 20 hours		20
Select at least 11 hours from the following courses:		
IB 433	Insect Physiology	
IB 444	Insect Ecology	
IB 468	Insect Classification and Evol	
IB 482	Insect Pest Management	
IB 504	Genomic Analysis of Insects	
One of the following Statistical or Analytical Skills courses:		
IB 494	Theoretical Biology + Models	
IB 501	Programming for Genomics	
IB 517	Analysis of Biological Data in R	
CHBE 571	Bioinformatics	
CPSC 440	Applied Statistical Methods I	
NRES 421	Quantitative Methods in NRES	
NRES 454	GIS in Natural Resource Mgmt	
NRES 595	Advanced Quantitative Techniques for Ecology and Conservation	
Seminar: must register for every term enrolled (6 hours minimum)		
IB 526	Seminar in Entomology	
~~Statistics course~~		~~4~~
Remaining hours to total 96 hours from the following list of courses:		
The first five courses are most recommended.		
IB 433	Insect Physiology	
IB 444	Insect Ecology	
IB 468	Insect Classification and Evol	
IB 482	Insect Pest Management	
IB 504	Genomic Analysis of Insects	
IB 416	Population Genetics	
IB 426	Env and Evol Physl of Animals	
IB 432	Genes and Behavior	
IB 439	Biogeography	
IB 452	Ecosystem Ecology	
IB 453	Community Ecology	
IB 481	Vector-borne Diseases	
IB 501	Programming for Genomics	
IB 517	Analysis of Biological Data in R	
IB 526	Seminar in Entomology	
FSHN 480	Basic Toxicology	

Code	Title	Hours
CPSC 437	Principles of Agroecology	
MCB 435	Evolution of Infectious Disease	
CHBE 571	Bioinformatics	
Total Hours		96

Other Requirements

Grad Other Degree Requirements

Requirement	Description
Other requirements may overlap	
~~Prescription Exam Required (administered upon entrance into program)~~	~~Yes~~
Preliminary Exam Required	Yes
Teaching required?	Yes (2 semester min)
Final Exam/Dissertation Defense Required	Yes
Dissertation Deposit Required	Yes
~~The grade point average required for degree certification is 3.0 (A = 4.0).~~	
Minimum 500-level Hours Required Overall:	12
Minimum GPA:	3.0

Corresponding Degree	PhD Doctor of Philosophy

Program Features

Academic Level	Graduate
Does this major have transcripted concentrations?	Yes ~~No~~
Will you admit to the concentration directly?	No
Is a concentration required for graduation?	No

What is the typical time to completion of this program?

5 years

What are the minimum Total Credit Hours required for this program?

64

What is the required GPA?	3.0
CIP Code	260702 - Entomology.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

Delivery Method

This program is available:

On Campus - Students are required to be on campus, they may take some online courses.

Admission Requirements

Desired Effective Admissions Term

Is this revision a change to the admission status of the program?

No

Provide a brief narrative description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students.

Describe how this revision or phase down/elimination will impact enrollment and degrees awarded. If this is an elimination/phase down proposal include the plans for the students left in the program.

No impact is expected on enrollment or degrees awarded.

Estimated Annual Number of Degrees Awarded

Year One Estimate	5th Year Estimate (or when fully implemented)

What is the matriculation term for this program? Fall

Budget

Are there budgetary implications for this revision? No

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

No

Additional Budget Information

Attach File(s)

Financial Resources

How does the unit intend to financially support this proposal?

Will the unit need to seek campus or other external resources?

No

Attach letters of support

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts necessary)

Chem/Life Sciences Differential

Are you seeking a change in the tuition rate or differential for this program?

No

Is this program requesting self-supporting status?

No

Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

No impact on faculty resources is expected.

Library Resources

Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.

Library collections, resources and services are sufficient to support this program.

EP Documentation

EP Control Number	EP.25.017
Attach Rollback/ Approval Notices	
This proposal requires HLC inquiry	No

DMI Documentation

Attach Final Approval Notices	
Banner/Codebook Name	PHD:Entomology -UIUC
Program Code:	10KS0324PHD

Minor Code	Conc Code	Degree Code	PHD	Major Code
0324				

Senate Approval Date	
Senate Conference Approval Date	
BOT Approval Date	
IBHE Approval Date	
HLC Approval Date	
DOE Approval Date	
Effective Date:	
Attached Document Justification for this request	
Program Reviewer Comments	**Mary Lowry (lowry) (02/29/24 10:01 am):** Rollback: Please see email dated 2-29-24 **Mary Lowry (lowry) (03/13/24 10:14 am):** Rollback: Please see email dated 3-13-24

Key: 449