

Program Change Request

APPROVED BY SENATE

03/04/2024

EP.24.073_FINAL

Approved by EP 02/26/2024

Date Submitted: 01/17/24 11:47 am

Viewing: **10KS0314MS : Evolution, Ecology, and Behavior, MS Biology, MS**

Last approved: 10/05/23 4:10 pm

Last edit: 02/22/24 2:29 pm

Changes proposed by: Allison O'Dwyer

Proposal Type:

In Workflow

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

Approval Path

1. 01/19/24 11:50 am
Donna Butler (dbutler): Approved for U Program Review
2. 01/19/24 3:40 pm
Brian Allan (ballan): Approved for SIB Head
3. 01/22/24 11:41 am
Stephen Downie (sdownie): Approved for KV Dean
4. 01/26/24 1:42 pm
Claire Stewart (clairest): Approved for University Librarian
5. 02/07/24 3:57 pm

Allison McKinney
(agrindly):

Approved for
Grad_College

6. 02/07/24 9:14 pm

Suzanne Lee
(suzannel):

Approved for
COTE Programs

7. 02/08/24 3:24 pm

Brooke Newell
(bsnewell):

Approved for
Provost

History

1. Jul 9, 2019 by
Deb Forgacs
(dforgacs)

2. Sep 6, 2022 by
Mary Lowry
(lowry)

3. Oct 1, 2023 by
Donna Butler
(dbutler)

4. Oct 5, 2023 by
Donna Butler
(dbutler)

Major (ex. Special Education)

This proposal is

for a:

Revision

Administration Details

Official Program Name	<u>Evolution, Ecology, and Behavior, MS</u> Biology, MS
Diploma Title	
Sponsor College	Liberal Arts & Sciences
Sponsor Department	Evolution Ecology Behavior
Sponsor Name	<u>Brian Allan, Associate Director for Academic Affairs School of Integrative Biology</u>

Sponsor Email ballan@illinois.edu

College Contact [Stephen R Downie, Associate Dean for Curricula and Academic Policy, College of Liberal Arts and Sciences](#)

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](#)
[Becky Fuller, Head and Professor Evolution, Ecology, and Behavior](#)
[Phil Anderson, Director of Graduate Studies and Professor, Evolution, Ecology, and Behavior](#)

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 Master of Science in Biology 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 EEB, MS proposal (Key 47) is related to the revision proposals for EEB, PhD (Key 555); Biology: Ecology, Ethology & Evolution, MS (Key 556); and Biology: Ecology, Ethology & Evolution, PhD (Key 557).

Program Justification

Provide a brief description of what changes are being made to the

1. The major name is changed from "Biology, MS" to "Evolution, Ecology, and Behavior, MS". There will be no concentrations. The total hours have not changed.
2. The program of study table is updated to embed degree program information as

program.

footnotes and links out to departmental resources are removed.

3. Newly approved EEB 599 Thesis Research is added.

4. The learning outcomes are revised.

5. CIP code is updated.

6. Additional requirements are added to present the MS thesis to the Department and to defend the thesis to a committee.

7. A newly required statistics or computational methods course is required as is attendance in EEB Colloquium (IB 546).

8. ANSC 448 and PATH 528 were removed from the courses outside the unit list.

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 ~~No~~

Why are these changes necessary?

1. This revision is needed so that the name of the graduate degree will match the Department through which it is offered. The Department of Evolution, Ecology, and Behavior (EEB) has gone through several name changes. It was 'Ecology, Ethology, and Evolution' for many years before being changed to 'Animal Biology' and then ultimately to 'Evolution, Ecology, and Behavior'. The departmental MS and PhD programs were listed under Biology: Ecology, Ethology, and Evolution throughout these changes in department name. The department name is now stable, and we seek to have the degree name reflect the department name. This will help avoid confusion at several levels. We seek to phase down and terminate the former Ecology, Ethology, and Evolution MS (Key 556) and PhD (Key 557) degree programs, and to change the current Biology, MS major (Key 47) and PhD major (Key 555) currently sponsored by EEB to correctly list Evolution, Ecology, and Behavior as the major, not Biology. This will update the major name and eliminate the concentration.

We propose to update the major from Biology (Key 47) to Evolution, Ecology, and Behavior so that students will earn an Evolution, Ecology, and Behavior, MS. We do not anticipate any negative impacts for students or other units on campus as this degree was formerly offered as an MS in Biology with a concentration in Ecology, Ethology and Evolution. The new degree will be sponsored by the same department. This revision clarifies the degree program mapping and brings the program into similar naming alignment with other departments within School of Integrative Biology. These correctly list the sponsoring department as the major, not as a concentration. For example, the Department of Plant Biology offers an MS in Plant Biology, and the Department of Entomology offer an MS in Entomology.

2. We revised the program of study table with all approved courses, required hours, and other requirements (as suggested by the Office of the Provost and Graduate College). This connects our formal degree requirements with departmental practices and increases student transparency. We also removed footnotes/extraneous language from the previous program description, which was several decades old.

3. This includes adding the new EEB 599 rubric. This EEB rubric again brings EEB into alignment with other departmental program rubrics for thesis research such as PBIO and ENT, in place of using the BIOL rubric, which is used by students in the Program for Ecology, Evolution and Conservation Biology.

4. The learning outcomes have been revised to add clarifying language and to reflect current practices. These revisions expand on requirements (such as the statistics/analytical methods course) and better define the types of presentations, grants and research publications. Networking and citation management were removed as professional skills in favor of adding more pertinent skills such as teaching experience.

5. CIP code is updated from 260101 - Biology/Biological Sciences, General to 261310 - Ecology and Evolutionary Biology to reflect new degree specification. This new code is a better fit to describe the curriculum based on name. No other institutions in Illinois use this code, but it is closest in name to the new degree program.

6. Additional requirements are listed for the thesis defense to a committee and presentation to the Department as these are now standard practice for MS students.

7. A required statistical or computational course is added because these skills are beneficial to students in this research-based MS program and transferrable to future careers or professional schools. This course requirement is mirrored in the Evolution, Ecology, and Behavior, PhD program and other School of Integrative Biology departmental graduate programs. Attendance in IB 546 EEB Colloquium is now listed to bring formal requirements into alignment with current practices.

8. These 2 deactivated courses were removed, as these cross-listed courses are no longer offered by their outside units.

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

~~ANSC 448 - Math Modeling in Life Sciences~~

ANSC 542 - Applied Bioinformatics

ANSC 545 - Statistical Genomics

CPSC 431 - Plants and Global Change

CPSC 452 - Advanced Plant Genetics

CPSC 486 - Plant Growth and Development

CPSC 567 - Bioinformatics & Systems Biol

CPSC 588 - Plant Biochemistry

GEOL 484 - Paleoclimatology

GGIS 476 - Environmental Remote Sensing

GGIS 468 - Biological Modeling

MCB 435 - Evolution of Infectious Disease

NRES 516 - Ecosystem Biogeochemistry

~~PATH 528 - Multivariate Biostatistics~~

PSYC 433 - Evolutionary Neuroscience

CPSC 440 - Applied Statistical Methods I

CPSC 540 - Applied Statistical Methods II

NRES 421 - Quantitative Methods in NRES
NRES 593 - Statistical Methods in Ecology
NRES 595 - Ecol & Conservation techniques

Please attach any letters of support/acknowledgment for any Instructional Resources consider faculty, students, and/or other impacted units as appropriate.

[Approval of Program of Study PSYC.pdf](#)
[EEB Course Support BF.pdf](#)
[Approval of Program of Study ANSC.pdf](#)
[Approval of Program of Study CPSC.pdf](#)
[Approval of Program of Study GGIS.pdf](#)
[Approval of Program of Study GEOL.pdf](#)
[Approval of Program of Study MCB.pdf](#)
[Approval of Program of Study NRES.pdf](#)
[Approval of Program of Study PATH.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. Design and implement independent research which integrates and applies core knowledge of evolution, ecology and/or behavior. MS students take course work that is relevant to their studies and design/execute experiments in those areas.
2. Learn the rigorous statistical/analytical methods that typify their area of study. MS students are required to take a course in statistics and/or computational methods and apply those skills to their scientific studies.
3. Write and publish research. MS students present their work in the form of written manuscripts that can be submitted to scientific journals. A typical MS thesis involves 1-2 publishable studies.
4. Develop professional skills typical for researchers. Successful MS students learn how to use reference software and databases. They also learn about standards for the ethical practice of science. They often gain teaching and mentoring skills.
5. Apply for grants to support their independent research. MS students often apply for small grants from both internal and external sources.
6. Present research verbally at internal venues and at scientific conferences. MS students are required to present their work in a presentation (i.e., a talk) to the department.

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 [EEB MS Side by Side \(13\).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 Evolution, Ecology, and Behavior administers several graduate degree programs. Areas of training include the broadly defined disciplines of Animal Behavior, Biomechanics, Comparative Anatomy, Conservation Biology, Ecology, Evolution, Genetics/Genomics, and Physiology.

Admission

Acceptance for graduate study in the Department of Evolution, Ecology, and Behavior is based on the applicant's research potential and academic achievement. An undergraduate degree in the life sciences is the usual preparation, but students majoring in mathematics, computer science, or the physical and social sciences are also considered. Students should have taken courses in at least two of the following six areas: evolution, ecology, genetics, behavior, conservation, physiology/morphology. Students lacking one or more of these courses may be admitted with the provision that such deficiencies be completed in addition to the normal graduate course load. A grade point average of at least 3.0 (A = 4.0) for the last two years of undergraduate work in a four-year undergraduate degree program or the last three years of a five-year undergraduate program and for any graduate study is required or the candidate will have to petition for an exception. Considerable emphasis is placed on a student's interest and ability in research as demonstrated by previous work and letters of recommendation. Applications are typically only considered for fall admission unless special arrangements are made with the Department. A minimum paper-based Test of English as a Foreign Language (TOEFL) score of 613 (257 on the computer-based version, 103-104 on the internet-based version) is preferred for international applicants.

Financial Aid

Financial aid is available in the form of fellowships and teaching and research assistantships for qualified students.

For additional details and requirements refer to the Department and the Graduate College Handbook.

Statement for
Programs of
Study Catalog

Evolution, Ecology, and Behavior, MS - Thesis Option

Course List

Code	Title	Hours
Thesis Hours Required—599 (min/max applied toward degree):		4-8
<u>EEB Colloquium (to be taken each semester of enrollment)</u>		<u>3</u>
<u>IB 546</u>	<u>Topics in Ecology & Evolution</u>	
<u>Thesis Research (4 hours min/12 hours max applied toward degree)</u>		<u>4-12</u>
<u>EEB 599</u>	<u>Thesis Research</u>	
<u>One course chosen from the following list of statistics and/or computational methods courses</u>		
<u>IB 476</u>	<u>Environmental Remote Sensing</u>	
<u>IB 501</u>	<u>Programming for Genomics</u>	

Code	Title	Hours
<u>IB 505</u>	<u>Bioinformatics & Systems Biol</u>	
<u>IB 506</u>	<u>Applied Bioinformatics</u>	
<u>IB 517</u>	<u>Analysis of Biological Data in R</u>	
<u>CPSC 440</u>	<u>Applied Statistical Methods I</u>	
<u>CPSC 540</u>	<u>Applied Statistical Methods II</u>	
<u>NRES 421</u>	<u>Quantitative Methods in NRES</u>	
<u>NRES 593</u>	<u>Statistical Methods in Ecology</u>	
<u>NRES 595</u>	<u>Advanced Quantitative Techniques for Ecology and Conservation</u>	

[Additional electives chosen from the following list to meet the 32-hour minimum](#)

<u>IB 401</u>	<u>Introduction to Entomology</u>
<u>IB 405</u>	<u>Evolution of Traits and Genomes</u>
<u>IB 407</u>	<u>Plant Diversity and Evolution</u>
<u>IB 411</u>	<u>Bioinspiration</u>
<u>IB 416</u>	<u>Population Genetics</u>
<u>IB 420</u>	<u>Plant Physiology</u>
<u>IB 421</u>	<u>Photosynthesis</u>
<u>IB 426</u>	<u>Env and Evol Physl of Animals</u>
<u>IB 431</u>	<u>Behavioral Ecology</u>
<u>IB 432</u>	<u>Genes and Behavior</u>
<u>IB 433</u>	<u>Insect Physiology</u>
<u>IB 435</u>	<u>Critical Evaluation of Herbal Remedies</u>
<u>IB 436</u>	<u>Evolutionary Neuroscience</u>
<u>IB 438</u>	<u>How Organisms Move</u>
<u>IB 439</u>	<u>Biogeography</u>
<u>IB 440</u>	<u>Plants and Global Change</u>
<u>IB 442</u>	<u>Evolution of Infectious Disease</u>
<u>IB 444</u>	<u>Insect Ecology</u>
<u>IB 451</u>	<u>Conservation Biology</u>
<u>IB 452</u>	<u>Ecosystem Ecology</u>
<u>IB 453</u>	<u>Community Ecology</u>
<u>IB 461</u>	<u>Ornithology</u>
<u>IB 462</u>	<u>Mammalogy</u>
<u>IB 463</u>	<u>Ichthyology</u>
<u>IB 464</u>	<u>Herpetology</u>
<u>IB 467</u>	<u>Principles of Systematics</u>
<u>IB 468</u>	<u>Insect Classification and Evol</u>
<u>IB 471</u>	<u>Fungal Diversity and Ecology</u>
<u>IB 472</u>	<u>Plant Molecular Biology</u>
<u>IB 473</u>	<u>Plant Genomics</u>
<u>IB 476</u>	<u>Environmental Remote Sensing</u>
<u>IB 478</u>	<u>Advanced Plant Genetics</u>
<u>IB 479</u>	<u>Plant Growth and Development</u>
<u>IB 481</u>	<u>Vector-borne Diseases</u>
<u>IB 482</u>	<u>Insect Pest Management</u>
<u>IB 484</u>	<u>Paleoclimatology</u>
<u>IB 490</u>	<u>Independent Study</u>
<u>IB 491</u>	<u>Biological Modeling</u>

Code	Title	Hours
IB 494	Theoretical Biology + Models	
IB 496	Special Courses	
IB 497	Science Communication	
IB 499	Discussions in Integrative Biology	
IB 501	Programming for Genomics	
IB 502	Biological Networks	
IB 504	Genomic Analysis of Insects	
IB 505	Bioinformatics & Systems Biol	
IB 506	Applied Bioinformatics	
IB 507	Statistical Genomics	
IB 512	Plant Metabolomics	
IB 513	Disc in Plant Physiology	
IB 516	Ecosystem Biogeochemistry	
IB 517	Analysis of Biological Data in R	
IB 524	Plant Biochemistry	
IB 526	Seminar in Entomology	
IB 531	Emerging Infectious Diseases	
IB 532	Sustainability & Global Change	
IB 533	Human Genome & Bioinformatics	
IB 534	Evolution and Medicine	
IB 535	Biology and Tech Innovation	
IB 536	Evolutionary Biology	
IB 542	Environmental Plant Physiology	
IB 546	Topics in Ecology & Evolution	
IB 590	Individual Topics	
IB 592	Career and Skill Development in Integrative Biology	
Total Hours		32

Other Requirements

Code	Course List Title	Hours
	Other requirements may overlap	
	Minimum hours required at the 500-level in IB or EEB.	12
	Courses taken "credit/no credit" may not be used toward degree requirements	
	Courses taken outside of the Schools must be approved in advance by the Program Director	
	Approval of research topic is required	
	Masters thesis deposit required	Yes
	Present the thesis in a verbal presentation to the department	Yes
	Defend the thesis to a committee	Yes
	Minimum GPA	3.0

Evolution, Ecology, and Behavior, MS - Non-Thesis Option

Code	Course List Title	Hours
	EEB Colloquium (to be taken each semester of enrollment)	3
	IB 546 Topics in Ecology & Evolution	
	One course chosen from the following list of statistics and/or computational methods courses	
	IB 476 Environmental Remote Sensing	

Code	Title	Hours
<u>IB 501</u>	<u>Programming for Genomics</u>	
<u>IB 505</u>	<u>Bioinformatics & Systems Biol</u>	
<u>IB 506</u>	<u>Applied Bioinformatics</u>	
<u>IB 517</u>	<u>Analysis of Biological Data in R</u>	
<u>CPSC 440</u>	<u>Applied Statistical Methods I</u>	
<u>CPSC 540</u>	<u>Applied Statistical Methods II</u>	
<u>NRES 421</u>	<u>Quantitative Methods in NRES</u>	
<u>NRES 593</u>	<u>Statistical Methods in Ecology</u>	
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<u>IB 420</u>	<u>Plant Physiology</u>
<u>IB 421</u>	<u>Photosynthesis</u>
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<u>IB 476</u>	<u>Environmental Remote Sensing</u>
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<u>IB 490</u>	<u>Independent Study</u>

Code	Title	Hours
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IB 494	Theoretical Biology + Models	
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IB 513	Disc in Plant Physiology	
IB 516	Ecosystem Biogeochemistry	
IB 517	Analysis of Biological Data in R	
IB 524	Plant Biochemistry	
IB 526	Seminar in Entomology	
IB 531	Emerging Infectious Diseases	
IB 532	Sustainability & Global Change	
IB 533	Human Genome & Bioinformatics	
IB 534	Evolution and Medicine	
IB 535	Biology and Tech Innovation	
IB 536	Evolutionary Biology	
IB 542	Environmental Plant Physiology	
IB 546	Topics in Ecology & Evolution	
IB 590	Individual Topics	
IB 592	Career and Skill Development in Integrative Biology	

Total Hours 32

Other Requirements

Course List		
Code	Title	Hours
Other requirements may overlap		
Minimum hours required at the 500-level in IB or EEB.		12
Courses taken "credit/no credit" may not be used toward degree requirements		
Courses taken outside of the Schools must be approved in advance by the Program Director		
Approval of research topic is required		
Minimum GPA		3.0

~~Thesis Option Other Requirements Non-Thesis Option Other Requirements~~

Course List		
Code	Title	Hours
Research/Project/Independent Study Hours (min/max applied toward degree) 4-8		
Total Hours		32

Corresponding Degree MS Master of Science

Program Features

Academic Level Graduate

Does this major have transcribed concentrations? No

What is the typical time to completion of this program?

3 years

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

32

What is the required GPA? 3.0

CIP Code 261310 ~~260101~~ - Ecology and Evolutionary Biology. ~~Biology/Biological Sciences, General.~~

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 changes in enrollment are expected.

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?

The program plans to continue the same level of support.

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)

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 is expected on faculty resources.

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.24.073

Attach Rollback/Approval Notices [ep24073_response_from_sponsor_20240222.pdf](#)

This proposal requires HLC inquiry No

DMI Documentation

Attach Final Approval Notices

Banner/Codebook Name MS: Biology -UIUC

Program Code: 10KS0314MS

Minor Code	Conc Code	Degree Code	MS	Major Code
0314				

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) (10/16/23 11:27 am): Rollback: Please see email dated 10-16-23

Mary Lowry (lowry) (12/01/23 10:39 am): Rollback: Please see email dated 12-1-23.

Stephen Downie (sdownie) (01/17/24 11:02 am): Rollback: Email to A. O'Dwyer and B. Allan on 1/17/24.

Brooke Newell (bsnewell) (02/15/24 1:21 pm): Added statement in "How does the unit intend to financially support this proposal" based on sponsor response to Senate EPC request.

Key below:
 Red Text = Edits or removals made
 Green Text = Proposed new courses/hours

Biology, MS: Ecology, Ethology, & Evolution (Current Program of Study) - Thesis		
Code	Title	Hours
	BIOL 599 Thesis Hours Required – 599 (min/max applied toward degree):	4 to 8
Total Hours		32
Other Requirements and Conditions		
	Other requirements may overlap	
	Minimum 500-level Hours Required Overall	12
	Courses taken "credit/no credit" may not be used toward degree requirements	
	Courses taken outside of the Schools must be approved in advance by the Program Director	
	Approval of research topic required	
	Minimum GPA	3

Evolution, Ecology, and Behavior, MS -Thesis Option (proposed revisions)		
Code	Title	Hours
IB 546	Topics in Ecology & Evolution. EEB Colloquium (to be taken each semester of enrollment)	3
EEB 599	Thesis Research (4 hours min/12 hours max applied toward degree)	4 to 12
	One course chosen from the following list of statistics and/or computational methods courses IB 476, IB 501, IB 505, IB 506, IB 517, CPSC 440, CPSC 540, NRES 421, NRES 593, NRES 595	
	Additional electives chosen from the following list to meet the 32-hour minimum IB 401, IB 405, IB 407, IB 411, IB 416, IB 420, IB 421, IB 426, IB 431, IB 432, IB 433, IB 435, IB 436, IB 438, IB 439, IB 440, IB 442, IB 444, IB 451, IB 452, IB 453, IB 461, IB 462, IB 463, IB 464, IB 467, IB 468, IB 471, IB 472, IB 473, IB 476, IB 478, IB 479, IB 481, IB 482, IB 484, IB 490, IB 491, IB 494, IB 496, IB 497, IB 499, IB 501, IB 502, IB 504, IB 505, IB 506, IB 507, IB 512, IB 513, IB 516, IB 517, IB 524, IB 526, IB 531, IB 532, IB 533, IB 534, IB 535, IB 536, IB 542, IB 546, IB 590, IB 592	
Total Hours		32
Other Requirements and Conditions		
	Other requirements may overlap	
	Minimum hours required at the 500-level in IB or EEB	12
	Masters thesis deposit required	Yes
	Present the thesis in a verbal presentation to the Department	Yes
	Defend the thesis to a committee	Yes
	Minimum GPA	3

Biology, MS: Ecology, Ethology, & Evolution (Current Program of Study) - Non-Thesis		
Code	Title	Hours
	Research/Project/Independent Study Hours (min/max applied toward degree)	4 to 8
Total Hours		32
Other Requirements and Conditions		
	Other requirements may overlap	
	Minimum 500-level Hours Required Overall	12
	Courses taken "credit/no credit" may not be used toward degree requirements	
	Courses taken outside of the Schools must be approved in advance by the Program Director	
	Approval of research topic required	
	Minimum GPA	3

Evolution, Ecology, and Behavior, MS -Non-Thesis Option (proposed revisions)		
Code	Title	Hours
IB 546	Topics in Ecology & Evolution. EEB Colloquium (to be taken each semester of enrollment)	3
	One course chosen from the following list of statistics and/or computational methods courses IB 476, IB 501, IB 505, IB 506, IB 517, CPSC 440, CPSC 540, NRES 421, NRES 593, NRES 595	
	Additional electives chosen from the following list to meet the 32-hour minimum IB 401, IB 405, IB 407, IB 411, IB 416, IB 420, IB 421, IB 426, IB 431, IB 432, IB 433, IB 435, IB 436, IB 438, IB 439, IB 440, IB 442, IB 444, IB 451, IB 452, IB 453, IB 461, IB 462, IB 463, IB 464, IB 467, IB 468, IB 471, IB 472, IB 473, IB 476, IB 478, IB 479, IB 481, IB 482, IB 484, IB 490, IB 491, IB 494, IB 496, IB 497, IB 499, IB 501, IB 502, IB 504, IB 505, IB 506, IB 507, IB 512, IB 513, IB 516, IB 517, IB 524, IB 526, IB 531, IB 532, IB 533, IB 534, IB 535, IB 536, IB 542, IB 546, IB 590, IB 592	
Total Hours		32
Other Requirements and Conditions		
	Other requirements may overlap	
	Minimum hours required at the 500-level in IB or EEB	12
	Minimum GPA	3

RE: Approval Needed -- Revision to EEB MS & PhD degree programs

Rowland, Raymond <rowland7@illinois.edu>

Thu 10/5/2023 10:40 AM

To: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>

Liz,

Thanks for the letter. I approve adding the PATH course to your degree program.
Let me know if you need an official letter from me.

RAYMOND (BOB) ROWLAND*Professor and Head*

Department of Pathobiology
College of Veterinary Medicine Administration
University of Illinois at Urbana-Champaign
2001 South Lincoln Ave. | M/C 002
Urbana, IL 61802
217-300-1115 | rowland7@illinois.edu
vetmed.illinois.edu/path



Under the Illinois Freedom of Information Act any written communication to or from university employees regarding university business is a public record and may be subject to public disclosure.

From: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>
Sent: Thursday, October 5, 2023 9:51 AM
To: Rowland, Raymond <rowland7@illinois.edu>
Cc: Fuller, Becky Claire <rcfuller@illinois.edu>
Subject: Approval Needed -- Revision to EEB MS & PhD degree programs

Dear Dr. Rowland,

I am writing on behalf of the **Department of Evolution, Ecology, and Behavior (EEB)** to request approval to add the following as approved courses in the proposed revision to the Evolution, Ecology, and Behavior, MS and PhD degree programs.

Please see the attached letter from Dr. Becky Fuller, Head, EEB.

We look forward to hearing from you.

Best wishes,

Liz

Liz Barnabe

Office Manager

Department of Evolution, Ecology, and Behavior (EEB)

Program of Ecology, Evolution, and Conservation Biology (PEEC)

School of Integrative Biology

University of Illinois

RE: Approval Needed -- Revision to EEB MS & PhD degree programs

Schooley, Robert Lee <schooley@illinois.edu>

Thu 10/5/2023 11:42 AM

To: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>; Fuller, Becky Claire <rcfuller@illinois.edu>

Dear Becky,

The Department of Natural Resources and Environmental Sciences supports the inclusion of four of our courses (NRES 421, 516, 593, 595) in your revised MS and PhD programs in Evolution, Ecology, and Behavior. Thanks for reaching out for our review.

Best of luck with the curriculum revision.

Bob

ROBERT L. SCHOOLEY*Professor and Head*

Department of Natural Resources and Environmental Sciences
College of Agricultural, Consumer and Environmental Sciences
University of Illinois Urbana-Champaign
W-503 Turner Hall | M/C 047
Urbana, IL 61801
217.244.2729 | schooley@illinois.edu
nres.illinois.edu



From: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>
Sent: Thursday, October 5, 2023 11:12 AM
To: Schooley, Robert Lee <schooley@illinois.edu>
Subject: Approval Needed -- Revision to EEB MS & PhD degree programs

A Friendly Reminder . . .

Dear Dr. Schooley,

I am writing on behalf of the **Department of Evolution, Ecology, and Behavior (EEB)** to request approval to add the following as approved courses in the proposed revision to the Evolution, Ecology, and Behavior, MS and PhD degree programs.

Please see the attached letter from Dr. Becky Fuller, Head, EEB.

We look forward to hearing from you.

Best wishes,

Liz

Liz Barnabe

Office Manager

Department of Evolution, Ecology, and Behavior (EEB)

Program of Ecology, Evolution, and Conservation Biology (PEEC)

School of Integrative Biology

University of Illinois



COLLEGE OF LIBERAL ARTS & SCIENCES

School of Molecular & Cellular Biology
MCB Instructional Program
127 Burrill Hall, MC-119
407 S. Goodwin Ave.
Urbana, IL 61801

2 October 2023

Rebecca Fuller, PhD
Head, Department of Evolution, Ecology, and Behavior
rcfuller@illinois.edu

Dear Professor Fuller,

Thank you for your message regarding your proposed revision to your MS and PhD degree programs. The School of Molecular and Cellular Biology, is supportive of your proposal and agrees to welcome a small number of students (1-2) into MCB 435: Evolution of Infectious Disease each academic year.

Best of luck with your revised degree programs!

All the best,

Melissa Michael

Melissa Michael
Associate Director for Curriculum & Instruction

mmichae@illinois.edu
217-244-6238

CC: Milan Bagchi, Director, School of Molecular and Cellular Biology

Re: Approval Needed -- Revision to EEB MS & PhD degree programs

Lundstrom, Craig Campbell <lundstro@illinois.edu>

Thu 10/5/2023 11:19 AM

To: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>

Hi Liz

Sorry I forgot to respond to this the first time it came. We would be happy to have our class listed on the SIB (DEEB) course list. No negative impacts seen. If you need an official letter, let me know but with this email you get our approval

Craig
Craig Lundstrom
Department Head, ESEC
Dept of Earth Science & Environmental Change
3030 Natural History Building
University of Illinois Urbana Champaign
1301 W Green St, NHB
Urbana, IL 61801
lundstro@illinois.edu
(217) 898-5644 (cell)
(217) 244-6293

On Oct 5, 2023, at 11:10 AM, Barnabe, Elizabeth Ann <barnabe2@illinois.edu> wrote:

<EEB_Course_Support_Letter to Heads__BF.pdf>

RE: Approval Needed -- Revision to EEB MS & PhD degree programs

Cidell, Julie L <jcidell@illinois.edu>

Tue 10/3/2023 8:42 AM

To: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>

Yes, I approve of our courses being part of the proposed revision.

--Julie Cidell

Professor and Department Head
Department of Geography & GIS
University of Illinois at Urbana-Champaign
1301 W. Green St., MC-150
Urbana, IL 61820
217-244-4665

From: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>
Sent: Monday, October 02, 2023 9:39 AM
To: Cidell, Julie L <jcidell@illinois.edu>
Subject: Approval Needed -- Revision to EEB MS & PhD degree programs

Dear Dr. Cidell,

I am writing on behalf of the ***Department of Evolution, Ecology, and Behavior (EEB)*** to request approval to add the following as approved courses in the proposed revision to the Evolution, Ecology, and Behavior, MS and PhD degree programs.

Please see the attached letter from Dr. Becky Fuller, Head, EEB.

We look forward to hearing from you.

Best wishes,

Liz

Liz Barnabe

Office Manager

Department of Evolution, Ecology, and Behavior (EEB)

Program of Ecology, Evolution, and Conservation Biology (PEEC)

School of Integrative Biology

University of Illinois

RE: Approval Needed -- Revision to EEB MS & PhD degree programs

Davis, Adam <asdavis1@illinois.edu>

Mon 10/2/2023 11:58 AM

To: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>

Cc: Fuller, Becky Claire <rcfuller@illinois.edu>

Hi Liz,

We support adding the CPSC courses listed as approved courses for the EEB MS & PhD programs.

Thanks,

ADAM DAVIS*Professor and Head (he/him)*

Department of Crop Sciences
College of Agricultural, Consumer and Environmental Sciences
AW-115 Turner Hall | 1102 S Goodwin Ave. | M/C 066
Urbana, IL 61801
217-333-9654 | asdavis1@illinois.edu
cropsciences.illinois.edu



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From: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>
Sent: Monday, October 2, 2023 9:36 AM
To: Davis, Adam <asdavis1@illinois.edu>
Cc: Fuller, Becky Claire <rcfuller@illinois.edu>
Subject: Approval Needed -- Revision to EEB MS & PhD degree programs

Dear Dr. Davis,

I am writing on behalf of the **Department of Evolution, Ecology, and Behavior (EEB)** to request approval to add the following as approved courses in the proposed revision to the Evolution, Ecology, and Behavior, MS and PhD degree programs.

Please see the attached letter from Dr. Becky Fuller, Head, EEB.

We look forward to hearing from you.

Best wishes,

Liz

Liz Barnabe

Office Manager

Department of Evolution, Ecology, and Behavior (EEB)

Program of Ecology, Evolution, and Conservation Biology (PEEC)

School of Integrative Biology

University of Illinois

RE: Approval Needed -- Revision to EEB MS & PhD degree programs

Johnson, Rodney W <rwjohn@illinois.edu>

Mon 10/2/2023 1:52 PM

To: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>

Cc: Fuller, Becky Claire <rcfuller@illinois.edu>; Rodriguez Zas, Sandra Luisa <rodrgzzs@illinois.edu>

On behalf of ANSC, I approve. Thank you.

Rodney W. Johnson

Professor and Head, Department of Animal Sciences

University of Illinois at Urbana-Champaign

From: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>**Sent:** Monday, October 2, 2023 9:35 AM**To:** Johnson, Rodney W <rwjohn@illinois.edu>**Cc:** Fuller, Becky Claire <rcfuller@illinois.edu>**Subject:** Approval Needed -- Revision to EEB MS & PhD degree programs

Dear Dr. Johnson,

I am writing on behalf of the **Department of Evolution, Ecology, and Behavior (EEB)** to request approval to add the following as approved courses in the proposed revision to the Evolution, Ecology, and Behavior, MS and PhD degree programs.

Please see the attached letter from Dr. Becky Fuller, Head, EEB.

We look forward to hearing from you.

Best wishes,

Liz

Liz Barnabe*Office Manager**Department of Evolution, Ecology, and Behavior (EEB)**Program of Ecology, Evolution, and Conservation Biology (PEEC)**School of Integrative Biology**University of Illinois*

9/30/23

ANSC Department Head, Rodney Johnson
CPSC Department Head, Adam Davis
GEOL Department Head Craig Lundstrom
GGIS Department Head, Julie Cidell
MCB Director, Milan Bagchi
NRES Department Head, Robert Schooley
PATH Department Head, Bob Rowland
PSYC Department Head, Diane Beck

Dear Colleagues,

I am writing on behalf of the Department of Evolution, Ecology, and Behavior to request approval to add the following as approved courses in the proposed revision to the Evolution, Ecology, and Behavior, MS and PhD degree programs.

These are courses that closely align with the areas of evolution, ecology, behavior, ecology genetics/genomics, statistics, and computational biology for the life sciences. Many of these courses are already cross-listed with an IB rubric. In our program revision, we have added a requirement that students take course in statistics or computational biology, which has required us to expand the approved course list for our program.

Our MS and PhD programs are expected to enroll ~25 per year spread out over 70 elective courses. We would expect ~1-2 students to enroll in the course(s) controlled by your unit listed below.

Thank you for replying to this request to acknowledge that these courses may be added to our degree programs.

Sincerely,



Becky Fuller
Department Head, Evolution, Ecology, and Behavior

ANSC 446/IB 416 Population Genetics
ANSC 448/IB 487 Math Modeling in Life Sciences
ANSC 542/IB 506 Applied Bioinformatics
ANSC 545/IB 507 Statistical Genomics

CPSC 431/IB 440 Plants and Global Change
CPSC 440 Applied Statistical Methods I
CPSC 452/IB 478 Advanced Plant Genetics
CPSC 486/IB 479 Plant Growth and Development
CPSC 540 Applied Statistical Methods II
CPSC 567/IB 505 Bioinformatics & Systems Biol
CPSC 588 /IB 524 Plant Biochemistry
GEOL 484/IB 484 Paleoclimatology
GGIS 468/IB 491 Biological Modeling
GGIS 476/IB 476 Applied GIS to Environ Studies
MCB 435/IB 442 Evolution of Infectious Disease
NRES 421 Quantitative Methods in NRES
NRES 516/IB 516 Ecosystem Biogeochemistry
NRES 593 Statistical Methods in Ecology
NRES 595 Advanced Quantitative Techniques for Ecology and Conservation
PATH 528/IB 508 Multivariate Biostatistics
PSYC 433/IB 436 Evolutionary Neuroscience

Re: Approval Needed -- Revision to EEB MS & PhD degree programs**Benjamin, Aaron S** <asbenjam@illinois.edu>

Mon 10/2/2023 10:47 AM

To: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>

Cc: Fuller, Becky Claire <rcfuller@illinois.edu>

Hi Liz,

Since the course is already cross-listed, I think that is fine. Do note, however, that 400-level Psychology classes fill up quickly and are often overbooked. It doesn't sound like you8 will be sending a lot of students our way, though, so I suspect it will work out.

--aaron

Aaron S. Benjamin

Professor and Acting Head, Department of Psychology, University of Illinois Urbana-Champaign

Editor, *Journal of Experimental Psychology: Learning, Memory, and Cognition*<https://publish.illinois.edu/benjaminlab/>

From: Beck, Diane M <dmbbeck@illinois.edu>**Sent:** Monday, October 2, 2023 10:44 AM**To:** Barnabe, Elizabeth Ann <barnabe2@illinois.edu>**Cc:** Fuller, Becky Claire <rcfuller@illinois.edu>; Benjamin, Aaron S <asbenjam@illinois.edu>**Subject:** Re: Approval Needed -- Revision to EEB MS & PhD degree programs

Liz and Becky,

I am on sabbatical this year, so I am forwarding this to our Acting Head, Aaron Benjamin (cc'ed).

Diane

DIANE M BECK*Professor*

Department of Psychology

College of Liberal Arts and Sciences Administration

University of Illinois at Urbana-Champaign

The Beckman Institute

405 N. Mathews Ave | M/C 251

Urbana, IL 61801

217.244.1118 | dmbbeck@illinois.eduwww.psych.illinois.edu

Under the Illinois Freedom of Information Act any written communication to or from university employees regarding university business is a public record and may be subject to public disclosure.

From: Barnabe, Elizabeth Ann <barnabe2@illinois.edu>
Sent: Monday, October 2, 2023 9:42 AM
To: Beck, Diane M <dmbeck@illinois.edu>
Cc: Fuller, Becky Claire <rcfuller@illinois.edu>
Subject: Approval Needed -- Revision to EEB MS & PhD degree programs

Dear Dr. Beck,

I am writing on behalf of the **Department of Evolution, Ecology, and Behavior (EEB)** to request approval to add the following as approved courses in the proposed revision to the Evolution, Ecology, and Behavior, MS and PhD degree programs.

Please see the attached letter from Dr. Becky Fuller, Head, EEB.

We look forward to hearing from you.

Best wishes,

Liz

Liz Barnabe

Office Manager

Department of Evolution, Ecology, and Behavior (EEB)

Program of Ecology, Evolution, and Conservation Biology (PEEC)

School of Integrative Biology

University of Illinois

10KS0314MS : Evolution, Ecology, and Behavior, MS
10KS0314PHD : Evolution, Ecology, and Behavior, PhD
EP.24.073 and EP.24.074 (New EEB Degrees)

Program Revisions

Response to Education Policy Subcommittee's Comments

Two missing items that need to be added in CIM-P:

1. How does the unit intend to financially support this proposal? We understand that this is a revision of a current program, so you can simply state that the program plans to continue the same level of support.

Please add the following sentence to this section: "The program plans to continue the same level of support."

2. Estimated Annual Number of Degrees Awarded. Please provide these estimates for all degree programs. Also, can you share how many are currently enrolled in the program? In the elimination proposals (EP.24.075 and EP.24.076), you have some numbers for the concentration but I wasn't sure if that was the entire enrollment.

Estimated Annual Number of Degree Awarded

EEB, MS: 1 degree

EEB, PhD: 5 degrees

Current Enrollment

EEB, MS: 1 student

EEB, PhD: 21 students

Questions that the committee has related to your proposal

1. Beyond the colloquium, there are no required courses, just electives. We would like to hear more about the philosophy behind this and how students will be advised through the program.

Our program is incredibly broad. We range from people studying the physics of biomechanics to the genomics (and computer programming) required to analyze large - omics data sets, to field biologists studying organisms in nature, to neuro-ethologists studying the underlying neurological mechanisms of animal behavior, to eco-immunologists studying how ecology and evolution affect pandemics. Our students study a wide-range of topics and disciplines. There is no 'one size fits all' set of courses that works for our students. Required courses can sometimes result in students having a sub-optimal course selection.

We also employ a flexible model of graduate student education where we frequently offer reading groups and seminars focused on important topics. These fall under the IB496 or

IB546 rubrics. Graduate students also attend workshops at the IGB and other institutes as needed.

Students are required to have yearly meetings with their committees where one of the topics is 'coursework'. The department head and Director of Graduate Studies also monitor student course loads.

2. The MCB letter of support says they will let a small number of students (1-2/yr) into MCB 435. Similarly, PSYC letter notes that seats fill up quickly and seats may or may not be available. Is this sufficient?

Only a small number of students take these courses. The current situation is sufficient.