

Term Information

Effective Term Autumn 2024
[Previous Value](#) Summer 2012

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Change to 5000-level
Change to 3 credit hours
Change in content of course to broaden focus beyond museum collections

What is the rationale for the proposed change(s)?

The current course (EEOB 6340), which primarily focuses on managing large data sets in museum collections and their applications in conservation biology and global change biology, has served as a valuable foundation for students. However, the rapidly changing landscape of scientific research and the increasing importance of open biodiversity data collected across broad spatial and temporal extents necessitate a reevaluation and expansion of the course content. In addition, changing to 5000-level will allow undergraduates to enroll in the course. Changes to credit hours reflect redesign of course content and delivery. Please see attached document for additional information.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?
None

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area	Evol, Ecology & Organismal Bio
Fiscal Unit/Academic Org	Evolution, Ecology & Org Bio - D0390
College/Academic Group	Arts and Sciences
Level/Career	Graduate, Undergraduate
Previous Value	Graduate
Course Number/Catalog	5360
Previous Value	6340
Course Title	Biodiversity Informatics
Transcript Abbreviation	Biodiv Informatics
Course Description	This course will provide students with the knowledge and practical skills to access, manage, analyze, and utilize biodiversity data for scientific research and conservation efforts. The course covers a comprehensive understanding of diverse biodiversity data sources and introduces a range of analytical, statistical, and computational tools essential for biodiversity data analysis.
Previous Value	Methods for managing large data sets and applications in modeling, conservation biology, and global change.
Semester Credit Hours/Units	Fixed: 3
Previous Value	Fixed: 4

Offering Information

Length Of Course	14 Week, 12 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites	EEOB 3410, or EEOB 3310.01, or EEOB 3310.02, or permission of instructor.
Previous Value	Prereq: Permission of instructor.
Exclusions	
Electronically Enforced	Yes
Previous Value	No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code	26.1303
Subsidy Level	Doctoral Course
Intended Rank	Senior, Masters, Doctoral

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Understand the importance of biodiversity informatics in conservation and ecological research.
 - Recognize the pivotal role of environmental data in advancing biodiversity studies.
- Be able to retrieve, manage, and analyze environmental data using various databases and tools.
 - Develop an understanding of diverse sources of biodiversity data.
- Understand the role of phylogenetics and trait-based ecology in biodiversity informatics.
 - Be able to analyze biodiversity data to answer ecological questions.
- Understand the complexity of biodiversity and be able to select most appropriate biodiversity metrics to answer specific research questions.
 - Develop data visualization and communication skills to effectively convey biodiversity information.

[Previous Value](#)

Content Topic List

- Primary occurrence data
- Development of information models
- Niche modeling
- Data standards and protocols
- Applications in conservation & climate change
- Database management systems
- Artificial Intelligence and Biodiversity
- Measuring multi-faceted biodiversity
- Traits and functional diversity
- Phylogenetic and genetic diversity

Previous Value

- *Primary occurrence data*
- *Development of information models*
- *Niche modeling*
- *Data standards and protocols*
- *Applications in conservation & climate change*
- *Database management systems*

Sought Concurrence

Yes

Previous Value

No

Attachments

- EEOB_5xxx_BiodiversityInformatics_Syllabus (002).docx: New Syllabus
(Syllabus. Owner: Hamilton, Ian M)
- BiodivInfoSyll_EEOB6349.pdf: Old Syllabus
(Syllabus. Owner: Hamilton, Ian M)
- EEOB Curriculum Maps Oct 2023.xlsx: curriculum maps
(Other Supporting Documentation. Owner: Hamilton, Ian M)
- EEOB_5xxx_BiodiversityInformatics_JustificationForRedesign.docx: justification
(Cover Letter. Owner: Hamilton, Ian M)
- concurrence_cse.pdf: Concurrence - CSE
(Concurrence. Owner: Hamilton, Ian M)
- concurrence_statistics.pdf: Concurrence - Stats
(Concurrence. Owner: Hamilton, Ian M)

Comments

- Concurrence requested from and obtained from CSE and Statistics *(by Hamilton, Ian M on 11/30/2023 08:39 AM)*

COURSE CHANGE REQUEST
5360 - Status: PENDING

Last Updated: Vankeerbergen, Bernadette
Chantal
12/01/2023

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Hamilton, Ian M	11/30/2023 08:39 AM	Submitted for Approval
Approved	Hamilton, Ian M	11/30/2023 08:39 AM	Unit Approval
Approved	Vankeerbergen, Bernadette Chantal	12/01/2023 12:00 PM	College Approval
Pending Approval	Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Hilty, Michael Neff, Jennifer Vankeerbergen, Bernadette Chantal Steele, Rachel Lea	12/01/2023 12:00 PM	ASCCAO Approval

Syllabus
EEOB 5360: Biodiversity Informatics
Autumn 2024

FACULTY INSTRUCTOR:

Dr. Marta Jarzyna jarzyna.1@osu.edu

Office: 420 Aronoff

Office hours: TBD

COURSE DESCRIPTION: This course will provide students with the knowledge and practical skills to access, manage, analyze, and utilize biodiversity data for scientific research and conservation efforts. The course covers a comprehensive understanding of diverse biodiversity data sources and introduces a range of analytical, statistical, and computational tools essential for biodiversity data analysis.

Prerequisites: EEOB 3410, EEOB 3310, or permission of instructor.

COURSE LEARNING OBJECTIVES: The student who successfully completes this course will:

- Understand the importance of biodiversity informatics in conservation and ecological research.
- Recognize the pivotal role of environmental data in advancing biodiversity studies.
- Be able to retrieve, manage, and analyze environmental data using various databases and tools.
- Develop an understanding of diverse sources of biodiversity data.
- Understand the role of phylogenetics and trait-based ecology in biodiversity informatics.
- Be able to analyze biodiversity data to answer ecological questions.
- Understand the complexity of biodiversity and be able to select most appropriate biodiversity metrics to answer specific research questions.
- Develop data visualization and communication skills to effectively convey biodiversity information.

HOW THIS COURSE WORKS

FORMAT OF INSTRUCTION: Lecture + hands on exercises during the lecture hour

MODE OF DELIVERY: This course is taught entirely in person.

NUMBER OF CONTACT HOURS PER WEEK: 3 hours, 1.5h twice a week

CREDIT HOURS AND WORK EXPECTATIONS: This course has two lectures per week. This is a 3-credit-hour course. During an average week, you will read assigned papers for each of the two lectures and submit their summaries to Carmen, and complete in-class assignments during the lecture hour. In addition, you will complete a semester-long research project.

GRADING

The grades for the course will be based on three components: readings, in-class assignments, and semester-long project.

READINGS. Prior to most lectures, students will read the assigned peer-reviewed articles and submit a short summary of those articles via Carmen. The articles will focus on the major conceptual and theoretical aspects of the field. The articles' summaries must be submitted by 11:59 p.m. the day before the lecture to receive any points. Total points for reading assignments = 250 (25%).

IN-CLASS ASSIGNMENTS. Most lectures will elaborate on and present a broader perspective on the peer-reviewed readings and will include a short computational assignment related to those readings and the

theme of the lecture. Those assignments will be due at the end of a lecture period or within 24h of lecture. Total points for in-class assignments = 250 (25%).

SEMESTER-LONG PROJECT. Each student will work on an individual project for the course. In this project, the student will identify a particular research question within the broader Biodiversity Informatics field. Using the tools and resources covered in class, the student will aggregate and analyze existing biodiversity data to address this question. Project evaluation will be based on both the content and the application and documentation of the diverse informatic tools utilized. Total points for semester-long project = 500 (50%).

HOW YOUR GRADE IS CALCULATED:

ASSIGNMENT CATEGORY	POINTS
Pre-lecture readings: Summaries	250
In-lecture assignments	250
Semester-long project	500
TOTAL	1000

The following scale will be used to determine your grade:

$\geq 93\%$ = A 90-92.99% = A- 87-89.99% = B+ 83-86.99% = B 80-82.99% = B-
 77-79.99% = C+ 73-76.99% = C 70-72.99% = C- 67-69.99% = D+ 60-66.99% = D
 $\leq 60\%$ = E

COURSE SCHEDULE

Week	Date	Class #	Broad Theme	Topic	Assignment
1	TBD	1	General Overview	<ul style="list-style-type: none"> Course overview: What is Biodiversity Informatics Importance of biodiversity data 	Paper readings
	TBD	2	Environmental Informatics	<ul style="list-style-type: none"> Intro to Environmental Informatics 	Paper readings
2	TBD	3	Environmental Informatics	<ul style="list-style-type: none"> Ground-based environmental data in biodiversity studies Remotely-sensed environmental data in biodiversity studies Accessing and downloading environmental data 	In-class assignment
	TBD	4	Environmental Informatics	<ul style="list-style-type: none"> Modeled climate data (Worldclim, CHELSA) Past climate estimate and future projections 	Paper readings
3	TBD	5	Biodiversity occurrence data	<ul style="list-style-type: none"> Biodiversity occurrence data repositories (GBIF, iNaturalist, eBird) Importance of citizen science initiatives Accessing and downloading biodiversity data 	In-class assignment
	TBD	6	Biodiversity occurrence data	<ul style="list-style-type: none"> Modeling ecological niches using species occurrence data 	Paper readings
4	TBD	7	Biodiversity occurrence data	<ul style="list-style-type: none"> Species distribution modeling I 	Paper readings
	TBD	8	Biodiversity occurrence data	<ul style="list-style-type: none"> Species distribution modeling II 	In-class assignment

5	TBD	9	Biodiversity occurrence data	<ul style="list-style-type: none"> Measuring spatiotemporal changes in species abundances and distributions 	In-class assignment
	TBD	10	Museum collections	<ul style="list-style-type: none"> Importance of museum collections to biodiversity studies OSU's Museum of Biological Diversity 	Paper readings
6	TBD	11	Museum collections	<ul style="list-style-type: none"> Efforts to digitize biodiversity specimens (iDigBio) 	N/A
	TBD	12	Phylogenetic and genetic diversity	<ul style="list-style-type: none"> Phylogenetics and its role in biodiversity studies Building the tree of life 	Paper readings
7	TBD	13	Phylogenetic and genetic diversity	<ul style="list-style-type: none"> Genomic data resources (e.g., GenBank) Accessing and downloading GenBank data 	In-class assignment
	TBD	14	Phylogenetic and genetic diversity	<ul style="list-style-type: none"> Phenotypic data resources (e.g., MorphoBank) 	Paper readings
8	TBD	15	Traits and functional diversity	<ul style="list-style-type: none"> Traits and their role in biodiversity studies What is a functional trait and how to choose which ones to use? 	Paper readings
	TBD	16	Traits and functional diversity	<ul style="list-style-type: none"> Trait databases and trait development efforts (e.g., TRY, EltonTraits) Accessing and downloading trait data 	In-class assignment
9	TBD	17	Measuring multi-faceted biodiversity	<ul style="list-style-type: none"> Quantifying taxonomic diversity (Species Richness, Species Evenness) 	Paper readings, In-class assignment
	TBD	18	Measuring multi-faceted biodiversity	<ul style="list-style-type: none"> Quantifying phylogenetic diversity (Faith's phylogenetic diversity, Mean Phylogenetic Distance) 	Paper readings, In-class assignment
10	TBD	19	Measuring multi-faceted biodiversity	<ul style="list-style-type: none"> Quantifying functional diversity (Functional Richness, Functional Dispersion, Functional Evenness, Functional Originality) 	Paper readings, In-class assignment
	TBD	20	Measuring multi-faceted biodiversity	<ul style="list-style-type: none"> Measuring spatiotemporal changes in taxonomic, phylogenetic, and functional diversity 	In-class assignment
11	TBD	21	Artificial Intelligence and Biodiversity	<ul style="list-style-type: none"> Harnessing AI for biodiversity studies 	Paper readings
	TBD	22	Artificial Intelligence and Biodiversity	<ul style="list-style-type: none"> AI for detecting species occurrence Algorithms for camera traps, acoustics 	In-class assignment
12	TBD	23	Artificial Intelligence and Biodiversity	<ul style="list-style-type: none"> AI for harvesting trait information from images 	In-class assignment
	TBD	24	Biodiversity Informatics for Conservation	<ul style="list-style-type: none"> Conservation planning and prioritization 	Paper readings
13	TBD	25	Student Presentations	<ul style="list-style-type: none"> Semester-long project presentations 	N/A
	TBD	26	Student Presentations	<ul style="list-style-type: none"> Semester-long project presentations 	N/A
14	TBD	27	Student Presentations	<ul style="list-style-type: none"> Semester-long project presentations 	N/A
	TBD	28	Student Presentations	<ul style="list-style-type: none"> Semester-long project presentations 	N/A

Finals	TBD	No Final Exam
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OTHER COURSE POLICIES

ACADEMIC MISCONDUCT POLICY

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

STATEMENT ABOUT DISABILITY SERVICES

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are isolating while waiting for a COVID-19 test result, please let me know immediately. Those testing positive for COVID-19 should refer to the [Safe and Healthy Buckeyes site](#) for resources. Beyond five days of the required COVID-19 isolation period, I may rely on Student Life Disability Services to establish further reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

STATEMENT ON RELIGIOUS ACCOMMODATIONS

It is Ohio State's policy to reasonably accommodate the sincerely held religious beliefs and practices of all students. The policy permits a student to be absent for up to three days each academic semester for reasons of faith or religious or spiritual belief.

Students planning to use religious beliefs or practices accommodations for course requirements must inform the instructor in writing no later than 14 days after the course begins. The instructor is then responsible for scheduling an alternative time and date for the course requirement, which may be before or after the original time and date of the course requirement. These alternative accommodations will remain confidential. It is the student's responsibility to ensure that all course assignments are completed.

MENTAL HEALTH STATEMENT

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling [614-292-5766](tel:614-292-5766). CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at [614-292-5766](tel:614-292-5766) and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

STATEMENT ON TITLE IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected

categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu.

EEOB 6340
Biodiversity Informatics – 4 credit hours
Syllabus

Instructor: Norman F. Johnson
1220 Museum of Biological Diversity
Phone: 292-6595
E-mail: johnson.2@osu.edu

Our understanding of the distribution of plants, fungi, and animals around the world is based on data from observations and the specimens stored in the world's natural history collections. These data not only document geographic distributions, but also seasonal phenology, migration patterns, history through time, and the biological associations that make up ecological communities. Much of this information is not collated in a single place, but is distributed through the published literature and collection catalogs. Electronic access to these resources is increasingly available, and the tools for storage, dissemination, and analysis of these data are the scope of the subject of biodiversity informatics.

Learning Goals: In this course I am seeking to integrate tools, standards, and protocols from the rapidly evolving field of information technologies with the data and research questions of biodiversity studies. The focus will be on the areas of systematics and evolution, but the topics covered are also applicable to many aspects of ecology and conservation. This will not be a course in computer science, programming or web page authoring. Rather, the goal is to illustrate how these subjects, skills, and tools apply to biodiversity science, both in theory and practice. Specific goals are:

- learning and application of the principles of information modeling
- familiarity with the theory, design, and use of relevant information technologies, particularly relational databases
- familiarity with the scope and standards associated with the data domains of primary species occurrence, taxonomic names, characters, and literature
- ability to find and use cutting edge web-based resources for biodiversity studies
- apply these skills to develop a comprehensive review of available information for organisms, communities, or biological phenomena (e.g., fungal-ant symbioses) of their own choosing

Class Format: This course will rely heavily on the principles of active learning by students. Class periods will include traditional lecture-style segments, but these will be liberally interspersed with discussions, small-group work, peer-teaching, and student presentations.

Grading scheme

The grades for the course will be based on three components. There will be two exams: a midterm and a final. These will deal with the major conceptual and theoretical aspects of the field. Each student will work on an individual project for the course. In this project, the student will identify a particular group of organisms (e.g., triggerfish), a type of ecological community (e.g., North American tundra), or another type of biological phenomenon (e.g., fungal-ant symbioses). For this subject, the student will use the electronic tools and resources discussed in order to aggregate the available information into a comprehensive review. Grading of this project will be based on both its content and the application and documentation of the breadth of tools used. The final grading component, the Weekly Points, will be

based on questions associated with class readings, in-class quizzes, one-minute essays, and class participation.

Midterm	100 points
Personal Project	100 points
Weekly Points	140 points
Project	100 points
Final	100 points
Total	540 points

Grading Scheme:

A:	>93%	C+:	77-79%	D:	63-65%
A-:	90-93%	C:	73-76%	E:	<63%
B+:	87-89%	C-:	70-72%		
B:	83-86%	D+:	65-69%		
B-:	80-82%				

Readings: As yet, there is no textbook for this dynamic and rapidly changing field. Readings will be based on published papers and documentation available on-line. They will include:

Chapman, A.D. 2005. Principles of data quality, version 1.0. Report for the Global Biodiversity Information Facility, Copenhagen. [Http://www.gbif.org/prog/digit/data_quality](http://www.gbif.org/prog/digit/data_quality).

Dallwitz, M.J. 1980. A general system for coding taxonomic descriptions. *Taxon* 29:41–46.

Dallwitz, M.J., T.A. Paine and E.J. Zurcher. 2000. Principles of interactive keys. [Http://www.deltaintkey.com/](http://www.deltaintkey.com/)

Guralnik, R.P. and D. Neufeld. 2005. Challenges building online GIS services to support global biodiversity mapping and analysis: lessons from the Mountain and Plains Database and Informatics project. *Biodiversity Informatics* 2:57–69.

Johnson, N.F. 2007. Biodiversity informatics. *Annual Review of Entomology* 52:421–438.

Lampe, K.H. and D. Striebling. 2005. How to digitize large insect collections: preliminary results of the DIG project. In *African Biodiversity: Molecules, Organisms, Ecosystems*, ed. B.A. Huber, B.J. Sinclair, K.H. Lampe, pp. 385–393. New York: Springer Science/Business Media. 443 pp.

Martínez-Meyer, E. 2005. Climate change and biodiversity: some considerations in forecasting shifts in species' potential distributions. *Biodiversity Informatics* 2:42–55.

Neale, S., M.R. Pullan and M.F. Watson. 2007. Online biodiversity resources – principles for usability. *Biodiversity Informatics* 4:27–36.

Soberón, J. and A.T. Peterson. 2004. Biodiversity informatics: managing and applying primary biodiversity data. *Philosophical Transactions of the Royal Society of London B* 359:698–698.

Soberón, J. and A.T. Peterson. 2005. Interpretation of models of fundamental ecological niches and species' distributional areas. *Biodiversity Informatics* 2:1–10.

Schedule

Week	Topics
1	Scope of the field of biodiversity informatics; fundamental structure of primary species occurrence data; information modeling; development of a model of primary species occurrence data
2	Databases and relational theory; implementation of information models in RDBMS; SQL (structured query language); stored procedures, functions, and packages; customizing output; translation of primary species occurrence information model into relational format
3	Data acquisition: work flows, data quality assurance and fitness for use, identifiers, specimen vouchers in modern biology, OCR applications of specimen labels/sheets
4	Data presentation and dissemination: integration of databases and web dissemination of results; HyperText Markup Language; eXtended Markup Language; RDF; web services, dynamic content, Web 2.0, Javascript
5	Data integration: the DiGIR and TAPIR protocols; data standards: TDWG vocabularies, the DarwinCore; global integration: GUIDs and LSIDs; Global Biodiversity Information Facility; FishNet, MaNIS, VertNet
6	Midterm Exam; development of course projects; georeferencing, BioGeomancer; niche modelling; geographic information systems
7	Taxonomic data: development of an information model for taxonomy and systematics; the Taxonomic Concept Schema; authority files
8	Data aggregators: Species 2000, uBio, Integrated Taxonomic Information System; codes of biological nomenclature and informatics: bacteria, Index Fungorum, IPNI, ZooBank, Catalog of Life
9	Character data: development of information model for qualitative, meristic, and quantitative data; DeLTA and SDD standards, taxon x char matrices, neXML; scientific applications including ScratchPads, vSysLab; molecular data: NCBI, Barcode of Life
10	Applications to identification systems: Lucid and other interactive/multientry keys; the Electronic Field Guide Project
11	Citizen Science, application to quarantine and invasive species, eBird project, Flickr, BugGuide.
12	Ontologies and character data: zebrafish anatomical ontology, teleost ontology; application and integration with gene ontologies; OBO
13	Literature data: bibliographic information; library data standards; NLM. Semantic markup and enhancements: Taxpub schema; the journal ZooKeys; automated data acquisition and markup: GoldenGate
14	Bringing it all together: screen scraping, Species Profile Model, Invasive Species Profile; Fauna Europaea, Virtual Herbarium, Atlas of Living Australia, Encyclopedia of Life

Academic Misconduct:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the Committee on Academic Misconduct (Faculty Rule 335-5-487). For additional information, see the University's Code of Student Conduct (http://studentaffairs.osu.edu/resource_csc.asp).

Disability Services:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the course instructor as soon as possible of their needs. The Office for Disability Services is located in room 150 Pomerene Hall, 1760 Neil Avenue; telephone 614-292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu>.

Justification for redesign of EEOB 6340 Biodiversity Informatics course

The proposal to revise and upgrade the existing course EEOB 6340 to EEOB 5xxx is a well-considered and beneficial initiative, aiming to adapt the curriculum to the evolving needs and demands of the field. The current course (EEOB 6340), which primarily focuses on managing large data sets in museum collections and their applications in conservation biology and global change biology, has served as a valuable foundation for students. However, the rapidly changing landscape of scientific research and the increasing importance of open biodiversity data collected across broad spatial and temporal extents necessitate a reevaluation and expansion of the course content.

The redesign of EEOB 6340 would involve broadening the course's scope. The new offering will encompass a comprehensive exploration of the access and utilization of open biodiversity data derived from various databases, such as GBIF, iNaturalist, eBird, Morphobank, GenBank, and others. This enhancement is both critical and timely, given the increasing importance of harnessing and analyzing large-scale biodiversity data in today's data-driven scientific landscape. Furthermore, these biodiversity data encompass diverse types, including occurrences, genetic information, functional measurements, and more, necessitating a wide array of techniques for their effective utilization. The course will place a strong emphasis on providing students with various analytical, statistical, and computational tools essential for working with these diverse data and addressing complex biodiversity issues. Students will thus gain an invaluable skill set and practical experience that will prepare them for the demands of STEM career pathways. As such, the course should be of interest to both undergraduate and graduate students across departmental units.

Furthermore, changing the course's catalogue number to a 5000-level designation will allow undergraduate students to enroll for credit, ultimately increasing the overall enrollment. Our goal is to offer the course every 4th semester and enroll 35-40 students per offering, ensuring that a significant number of students will benefit from this revamped curriculum. Consistency in offering the course will also ensure that it becomes a regular and expected part of the curriculum, making it easier for students to plan their academic path.

Hamilton, Ian

From: Sivilotti, Paul
Sent: Wednesday, November 29, 2023 6:33 PM
To: Hamilton, Ian; Zhang, Yuan; Arora, Anish; Kaizar, Elly
Cc: Lee, Yoonkyung
Subject: RE: Concurrence request: EEOB 5360

Hi Ian—

The CSE curriculum committee has reviewed the syllabus for the proposed course change to EEOB 5360.

I'm pleased to extend CSE's concurrence for this request.

Best wishes,
--paul

From: Hamilton, Ian <hamilton.598@osu.edu>
Sent: Wednesday, November 22, 2023 11:28 AM
To: Zhang, Yuan <yzhanghf@stat.osu.edu>; Arora, Anish <anish@cse.ohio-state.edu>; Kaizar, Elly <kaizar.1@osu.edu>; Sivilotti, Paul <paolo@cse.ohio-state.edu>
Cc: Lee, Yoonkyung <yklee@stat.osu.edu>
Subject: Re: Concurrence request: EEOB 5360

Thanks!
Ian

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From: Zhang, Yuan <yzhanghf@stat.osu.edu>
Sent: Tuesday, November 21, 2023 9:53:59 PM
To: Arora, Anish <anish@cse.ohio-state.edu>; Kaizar, Elly <kaizar.1@osu.edu>; Hamilton, Ian <hamilton.598@osu.edu>; Sivilotti, Paul <paolo@cse.ohio-state.edu>
Cc: Lee, Yoonkyung <yklee@stat.osu.edu>
Subject: Re: Concurrence request: EEOB 5360

Dear Ian et al,

After some discussion this afternoon, our department is pleased to give our concurrence to this request.

Best regards,
Curriculum Committee, Department of Statistics
Yoonkyung Lee and Yuan Zhang

From: Arora, Anish <anish@cse.ohio-state.edu>
Sent: Tuesday, November 21, 2023 19:03
To: Kaizar, Elly <kaizar.1@osu.edu>; Hamilton, Ian <hamilton.598@osu.edu>; Sivilotti, Paul <paolo@cse.ohio-state.edu>
Cc: Lee, Yoonkyung <yklee@stat.osu.edu>; Zhang, Yuan <yzhanghf@stat.osu.edu>
Subject: RE: Concurrence request: EEOB 5360

Hamilton, Ian

From: Zhang, Yuan
Sent: Tuesday, November 21, 2023 9:54 PM
To: Arora, Anish; Kaizar, Elly; Hamilton, Ian; Sivilotti, Paul
Cc: Lee, Yoonkyung
Subject: Re: Concurrence request: EEOB 5360

Dear Ian et al,

After some discussion this afternoon, our department is pleased to give our concurrence to this request.

Best regards,
Curriculum Committee, Department of Statistics
Yoonkyung Lee and Yuan Zhang

From: Arora, Anish <anish@cse.ohio-state.edu>
Sent: Tuesday, November 21, 2023 19:03
To: Kaizar, Elly <kaizar.1@osu.edu>; Hamilton, Ian <hamilton.598@osu.edu>; Sivilotti, Paul <paolo@cse.ohio-state.edu>
Cc: Lee, Yoonkyung <yklee@stat.osu.edu>; Zhang, Yuan <yzhanghf@stat.osu.edu>
Subject: RE: Concurrence request: EEOB 5360

Dear Ian,

Appreciate the initiative.

I am likewise sharing the request with CSE curriculum committee chair Paul Sivilotti.

Not that I expect issues, but just in case the holiday and the committee's commitments and meeting schedule gets in the way, I trust he (or we) will keep you advised in case more time is needed.

With best wishes,
Anish

Anish Arora
Professor and Chair, Computer Science and Engineering
Faculty Director, 5G-OH Connectivity Center
arora.9@osu.edu

Ingrid Rivera
Executive Assistant
rivera.153@osu.edu
614-292-5973 Office

