Fiscal Unit/Academic Org	Evolution, Ecology & Org Bio - D0390
Administering College/Academic Group	Arts And Sciences
Co-adminstering College/Academic Group	Biological Sciences
	Arts And Sciences
Semester Conversion Designation	Re-envisioned with significant changes to program goals and/or curricular requirements (e.g., degree/major name changes, changes in program goals, changes in core requirements, structural changes to tracks/options/courses)
Current Program/Plan Name	Zoology Minor
Proposed Program/Plan Name	Zoology Minor
Program/Plan Code Abbreviation	ZOOLOGY-MN
Current Degree Title	

Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		22	14.7	14	0.7
Required credit hours offered by the unit	Minimum	17	11.3	11	0.3
	Maximum	17	11.3	11	0.3
Required credit hours offered outside of the unit	Minimum	5	3.3	3	0.3
	Maximum	5	3.3	3	0.3
Required prerequisite credit hours not included above	Minimum	43	28.7	23	5.7
	Maximum	43	28.7	23	5.7

Explain any change in credit hours if the difference is more than 4 semester credit hours between the values listed in columns B and C for any row in the above table

Organic chemistry and Physics will be recommended, but not required for the Zoology minor in the semester system.

Program Learning Goals

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

Program Learning Goals

- Students understand the processes that underlie evolution and be familiar with their manifestation in the natural world.
- Students understand ecological concepts, methods of study, and the interactions among organisms and between organisms and their environment.
- Students understand organismal diversity and functioning at all levels, from the molecular and cellular to the whole organism, and will understand the interplay between organismal functioning and ecological and evolutionary processes.
- Students participate in the process of discovery by conducting experimental and observational studies, synthesizing results with the primary literature, and communicating their questions, hypotheses, observations, and experiences to others.
- Students are knowledgeable in mathematics, statistics, computer modeling, and the use of computers, as these topics relate to biology.
- Students know the theoretical framework of evolution, ecology and organismal biology and understand science as a process, including the history of science as it relates to these three disciplines within biology.
- Students are familiar with current issues in biology, especially those that have significant ethical and societal implications, and will be able to communicate scientific concepts and processes.

Assessment

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

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

Program Specializations/Sub-Plans

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

Pre-Major

Does this Program have a Pre-Major? No

Attachments

- zoology minor docs.pdf

  (Program Proposal. Owner: Wolfe,Andrea Dayle)
- Zoology minor cover letter.doc: NMS Division of Arts and Sciences cover letter

  (Letter from the College to OAA. Owner: Andereck,Claude David)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Wolfe,Andrea Dayle	11/08/2010 03:50 PM	Submitted for Approval
Approved	Wolfe,Andrea Dayle	11/08/2010 03:59 PM	Unit Approval
Revision Requested	Andereck,Claude David	11/17/2010 12:51 PM	College Approval
Submitted	Wolfe,Andrea Dayle	12/02/2010 03:57 PM	Submitted for Approval
Approved	Wolfe,Andrea Dayle	12/02/2010 03:58 PM	Unit Approval
Revision Requested	Andereck,Claude David	12/03/2010 05:08 PM	College Approval
Submitted	Wolfe,Andrea Dayle	12/06/2010 10:45 AM	Submitted for Approval
Approved	Wolfe,Andrea Dayle	12/06/2010 10:45 AM	Unit Approval
Approved	Andereck,Claude David	12/06/2010 11:22 AM	College Approval
Pending Approval	Nolen,Dawn Jenkins,Mary Ellen Bigler Meyers,Catherine Anne Vankeerbergen,Bernadette Chantal Hanlin,Deborah Kay	12/06/2010 11:22 AM	ASCCAO Approval

College of Arts and Sciences

186 University Hall
230 North Oval Mall
Columbus, OH 43210

Phone (614) 292-8908
Fax (614) 247-7498

December 6, 2010

Larry Krissek
Chair, Arts and Sciences CCI

Dear Larry:

It is a pleasure to forward to you the proposal for the undergraduate minor in Zoology under semesters. The minor has been modified from its present quarter version through a significant re-structuring of courses, as well as by decreasing the prerequisite requirements.

Beyond my own review of the documents, the proposal has been discussed by colleagues from other NMS units at a meeting on November 17, 2010. Feedback from the discussions has been incorporated in the proposal.

If you have any questions, I would be happy to address them.

Sincerely,

David Andereck
Professor of Physics
Associate Dean of Natural and Mathematical Sciences, College of Arts and Sciences

Department of Evolution, Ecology, and Organismal Biology

College of Arts and Sciences
318 West 12th Avenue
Columbus, OH 43210-1293

Phone (614) 292-8088
Fax (614) 292-2030

To: Office of Academic Affairs

From: Dr. Peter S. Curtis, Chair, Department of EEOB

Date: 22 November 2010

Re: Semester Program Proposals for Evolution and Ecology and Zoology majors

The Department of EEOB has the following programs that will be converted from quarters to semesters:

1) Undergraduate Zoology Major (BS & BA)
2) Undergraduate Evolution & Ecology Major (BS)
3) Undergraduate Zoology Minor
4) Undergraduate Evolution & Ecology Minor
5) Evolution, Ecology and Organismal Biology MS
6) Evolution, Ecology and Organismal Biology PhD

We will be proposing semester programs for each of these six areas, beginning with the undergraduate majors and minors and then for each of the graduate programs.

The EEOB curriculum committee has been working on the semester conversion for the past academic year, involving both discussion by the faculty as a whole and more focused attention by three working groups of faculty and staff covering each of the major areas of research and teaching covered in our department: Evolution, Ecology, and Organismal Biology. We have revised the program goals from our previous major program change, which occurred when faculty from the Departments of Zoology and Plant Biology merged to form the Department of EEOB in 1998. One of the major differences between our previous program goals and the revised ones is addition of the goal that all of our students will be "knowledgeable in mathematics, statistics, computer modeling, and the use of computers, as these topics relate to biology." To meet this program goal we have added a requirement for statistics in all undergraduate majors and an additional course in quantitative analysis for the Evolution and Ecology major.

Our semester conversion efforts were launched with a faculty retreat in November 2009 specifically focused on curricular discussions. The curriculum committee took the lead in framing curricular revisions, first by mapping our existing courses onto our program goals, and second by noting overlaps of information across our curriculum that offered opportunities for combining courses with similar curricular content into courses that can fit

easily into a semester format. In January 2010, the three working groups mentioned above were formed to assess and revise the content of our curriculum in three major areas: evolution, ecology, and organismal biology. The proposed curricular changes were discussed during faculty meetings in Spring Quarter 2010 and approved by the entire faculty at the beginning of Autumn Quarter 2010.

Semester courses in which content was combined from our existing curriculum include:

EEOB 3410 Ecology – combines the lecture (503.01) and lab content (503.02) of our General Ecology course.

EEOB 3320 Organismal Diversity – combines the content of the lecture (405.01) and lab (405.02) content of our Organismal Diversity course.

EEOB 3420 Behavioral Ecology – combines the content of our Introductory Ethology course with three related courses that were taught less frequently into one comprehensive course.

EEOB 4430 Ecological Methods I– A new course that combines the methods instruction content of each of a number of our ecological courses with field components into a comprehensive course that will be offered each May term.

EEOB 5420 Aquatic Ecosystems – Ecology of Inland Waters – combines the content of two freshwater ecology courses (Plankton and Limnology) into a comprehensive course on the ecology of freshwater ecosystems.

EEOB 5430 Aquatic Ecosystems - Fish Ecology – combines the content of two related courses on fish biology into one comprehensive course.

EEOB 5460 Physiological Ecology – combines the content of our plant and animal physiological ecology courses into one comprehensive course.

EEOB 5470 Community Ecosystems and Ecology – combines the ecological content from our Biogeography course with our Community Ecology and Ecosystems course.

The decision to restructure the curriculum in this fashion came after a thorough examination of course content and curricular mapping of our quarters classes. The Department of EEOB is committed to excellence in teaching and has initiated professional development workshops (course development and pedagogy) through UCAT for all teaching faculty and staff. These workshops will take place in Winter and Spring quarters of 2011.

Rationale for Changes to the Undergraduate Zoology Minor

The Department of Evolution, Ecology, and Organismal Biology (EEOB) currently offers an undergraduate minor program in Zoology. The minimal required supportive courses are reduced for the minor, as compared with the BS and BA options in the major. Required supportive courses for the Zoology minor include: BIOL 1113 and 1114, MATH 1148, and a two-semester sequence of general chemistry (CHEM 1210 and 1220). Under the quarters system, organic chemistry and two quarters of physics were required. These have been eliminated from the minor in the semester system, but the courses will be recommended, especially for students who are adding a zoology minor but are majoring in another area of science.

In addition to satisfying these supportive course requirements, the Zoology minor requires a minimum of 15 additional semester units. The core courses are Evolution (EEOB 3310, 4 units), Ecology (EEOB 3410, 4 units), and General Genetics (Mol Gen 4500, 3 units). The remaining 3 units must be chosen from among the following courses: Human Anatomy (EEOB 2510, 3 units), Organismal Diversity (EEOB 3320, 3 units), Comparative Vertebrate Anatomy (EEOB 4510, 3 units), and Comparative Physiology (EEOB 4520, 3 units).

As noted in our cover letter, several courses have been restructured to combine content of related courses into more comprehensive semester courses. These include: EEOB 3410 – Ecology; EEOB 3320 – Organismal Diversity; EEOB 3420 – Behavioral Ecology; EEOB 4430 – Ecological Methods I; EEOB 5420 – Aquatic Ecosystems (Ecology of Inland Waters); EEOB 5430 – Aquatic Ecosystems (Fish Ecology); EEOB 5460 – Physiological Ecology; and EEOB 5470 – Community Ecosystems and Ecology. The decision to restructure the curriculum in this fashion came after a thorough examination of course content and curricular mapping of our quarters classes.

Transition Policy

For students declaring a minor in Zoology within the three years prior to the transition to semesters, the old requirements will be followed if the student so wishes, but these students will also have the option of using the new requirements. Adequate resources and personnel for advising students during the transition period currently exist in the Department of EEOB and so we foresee no difficulties in easing our students into the semester conversion.

Course Listing and Curriculum Map for the Zoology Minor

Required supportive courses
(do not count towards hours in the major)

Requirements	Semester Course Number	Course Title	Semester Units		Quarter Equivalent Course Number	Quarter Credits	Notes	Relevant Program Goals
Biology	BIO 1113	Intro Bio	4		BIO 113	5	BIO 115H also accepted	1,2,3
	BIO 1114	Intro Bio	4		BIO 114	5	BIO 116H also accepted	1,2,3
Math	MATH 1148	College algebra	5		MATH 148	5	College Algebra	5
Chemistry	CHEM 1210,1220	General Chem	10		CHEM 121,122,123	15	General Chemistry	4
					CHEM 231	3	Organic chemistry recommended, but not required for Zoology minors in semester system	4
Physics					PHYSICS 111, 112	10	Physics recommended, but not required for zoology minors in semester system	4

Required core courses

	EEOB 3310 or 3310H	Evolution	4		EEOB 400 or 400H	5	Enhanced content	1*, 3*, 5*, 6*, 7*
	EEOB 3410 or 3410H	Ecology	4		EEOB 503.01	4	Lecture section of ecology required, but not the lab	2*,3*,5*
	MOLGEN 4500	General Genetics	3		MOLGEN 500	5		1*,2*,3*

Elective courses that count toward minor (choose 1)

	EEOB 2510	Human Anatomy	3		EEOB 235	5	Similar content	3,4
	EEOB 3320	Org Diversity	3		EEOB 405.01 EEOB 405.02	4 2	Merges contents of EEOB 405.01 and 405.02; combination of lab and lecture; was a core requirement in quarter system	1*,2*,3*,4*,7*
	EEOB 4510	Comp Vert Anat	3		EEOB 512	2	Enhanced content	1*,3*,6*
	EEOB 4520	Comp Physiology	3		EEOB 410	4	New course title, enhanced content from previous course	2*,3*,5*

Program learning goals:

1. Students understand the processes that underlie evolution and be familiar with their manifestation in the natural world.

2. Students understand ecological concepts, methods of study, and the interactions among organisms and between organisms and their environment.

3. Students understand organismal diversity and functioning at all levels, from the molecular and cellular to the whole organism, and will understand the interplay between organismal functioning and ecological and evolutionary processes.

4. Students participate in the process of discovery by conducting experimental and observational studies, synthesizing results with the primary literature, and communicating their questions, hypotheses, observations, and experiences to others.

5. Students are knowledgeable in mathematics, statistics, computer modeling, and the use of computers, as these topics relate to biology.

6. Students know the theoretical framework of evolution, ecology and organismal biology and understand science as a process, including the history of science as it relates to these three disciplines within biology.

7. Students are familiar with current issues in biology, especially those that have significant ethical and societal implications, and will be able to communicate scientific concepts and processes.

Notes:

Program goal numbers that have no asterisk indicate a beginner's level; * = intermediate level; ** = advanced level.

Zoology Minor Program

Name _____

Semester of Graduation _____

Required Supporting Courses

Biology (2 courses)

- □ Biology 1113 or 1113H (4 hr)
- □ Biology 1114 or 1114H (4 hr)
- □ _____ Substitution
- □ Waived

Chemistry (2 courses)

- □ Chemistry 1210 (5 hr)
- □ Chemistry 1220 (5 hr)
- □ _____ Substitution
- □ Waived

A course in statistics is strongly recommended.

Core Courses

- □ EEOB 3310 (4 hr)
- □ EEOB 3410 (4 hr)
- □ MolGen 4500 (3 hr)
- □ _____ Substitution

Choose at least one course from the following:

- □ EEOB 2510 (3 hr)
- □ EEOB 3320 (3 hr)
- □ EEOB 4510 (3 hr)
- □ EEOB 4520 (3 hr)

Minor coursework must total at least 15 semester units.

Advisor (Printed) _____

Advisor (Signature) _____

Date _____

Zoology Minor Program

The zoology minor introduces students to the major areas of zoology (the core courses) and allows them to pursue their particular interests (elective courses).

Part A. Required Supportive Courses (Do not count toward the 45 hour minor)

Courses	Hours
☐ Biology 113 (H115), 114 (H116)	10
☐ Mathematics 148	5
☐ Chemistry 121, 122, 123	15
☐ Chemistry 231	3
☐ Physics 111, 112	10

Part B. Core Requirements

Courses	Hours
☐ Evolution EEOB 400	5
☐ Diversity and Systematics EEOB 405.01	6
☐ Form and Function or Ecology EEOB 410 or H410; or EEOB 503.01	4
☐ Molecular Genetics Molecular Genetics 500	5

Part C. Other Major Courses

1. An additional 2 credit hours of courses in EEOB at the 200 level or higher (excluding EEOB 232 and 235) must be taken.

For more information about the zoology major, contact:

Prof. W. Mitchell Masters, Undergraduate
Coordinating Advisor in Zoology
286 Aronoff Lab
318 West 12th Ave.
to schedule an appointment, email
masters.2@osu.edu or call 614-292-4602

see also: http://www.biosci.ohio-state.edu/~eeob/