

**UNIVERSITY FACULTY SENATE**

**SUMMARY OF AGENDA**

**February 8, 1999**

- I. Adoption of the Agenda**
- II. Approval of the Minutes: December 7, 1998**
- III. Remarks by Provost Schiavelli**
- IV. Announcements: Senate President Michael Keefe**

**Announcements for Challenge:**

- 1. Revisions to Agricultural Education Major in Food and Resource Economics to accommodate national and state requirements for accreditation, College of Agriculture and Natural Resources**
- 2. Revision of existing major in Mechanical Engineering**
- 3. Establishment of a concentration in Biomechanics, Physical Education Studies, Major Exercise and Sport Science**
- 4. Initiate newly required course for all accounting majors ACCT425 (which will replace current requirement BUAD441), College of Business and Economics, Department of Accounting and Management Information Systems**
- 5. Revision of Environmental Soil Science major, Plant and Soil Sciences to reflect more accurately course offerings and new courses**

**V. Old Business: None**

**VI. New Business:**

- A. Recommendation for the addition of minors in Environmental Soil Science, Landscape Horticulture, and Plant Biology, College of Agriculture and Natural Resources**

- B. **Recommendation for the addition of Wildlife Conservation major and minor in Entomology and Applied Ecology Department; Revision of the Entomology major**
- C. **Introduction of New Business**

February 1, 1999

TO: All Faculty Members

FROM: Susan McGeary, Vice President  
University Faculty Senate

SUBJECT: Regular Faculty Senate Meeting, February 8, 1999

In accordance with Section IV, paragraph 6 of the Constitution, the regular meeting of the University Faculty Senate will be held on Monday, February 8, 1999 at 4:00 p.m. in room 104 Gore Hall. The agenda will be as follows:

**AGENDA**

- I. Adoption of the Agenda
- II. Approval of the Minutes: December 7, 1998
- III. Remarks by Provost Schiavelli
- IV. Announcements: Senate President Michael Keefe

**Announcements for Challenge:**

1. Revisions to Agricultural Education Major in Food and Resource Economics to accommodate national and state requirements for accreditation, College of Agriculture and Natural Resources (Attachment 1)
2. Revision of existing major in Mechanical Engineering (Attachment 2)
3. Establishment of a concentration in Biomechanics, Physical Education Studies, Major Exercise and Sport Science (Attachment 3)

4. **Initiate newly required course for all accounting majors ACCT425 (which will replace current requirement BUAD441), College of Business and Economics, Department of Accounting and Management Information Systems (Attachment 4)**
5. **Revision of Environmental Soil Science major, Plant and Soil Sciences to reflect more accurately course offerings and new courses (Attachment 5)**

**V. Old Business: None**

**VI. New Business**

- A. **Recommendation from the Committee on Undergraduate Studies, (Alan Fox, Chair) with the concurrence of the Coordinating Committee on Education (Mark Huddleston, Chair) for the addition of minors in Environmental Soil Science, Landscape Horticulture, and Plant Biology, College of Agriculture and Natural Resources (Attachment 6)**

**Whereas the demand for minors in the areas of landscape horticulture, plant biology, and environmental soil science has been great from students within the College of Agriculture and Natural Resources and from students in other colleges, and**

**Whereas the impact of establishing such minors on teaching loads will be minimal as courses in these areas are already being offered, be it therefore**

**Resolved that minors in landscape horticulture, plant biology, and environmental soil science be established.**

- B. **Recommendation from the Committee on Undergraduate Studies, (Alan Fox, Chair) with the concurrence of the Coordinating Committee on Education (Mark Huddleston, Chair) for the addition of Wildlife Conservation major and minor in Entomology and Applied Ecology Department; Revision of the Entomology major (Attachment 7)**

**Whereas the concentration in Wildlife Conservation within the Entomology major has experienced strong demand since its inception in 1991, and**

**Whereas** establishment of a major in Wildlife Conservation would allow students interested in this area further to focus their studies and to identify their expertise more clearly for the purposes of employment and post-graduate study, and

**Whereas** establishment of such a major does not require the addition of any new courses or library resources, be it therefore

**Resolved** that a major in Wildlife Conservation be established in the department of Entomology and Applied Ecology and be it further

**Resolved** that a minor in Wildlife Conservation be established in the Department of Entomology and Applied Ecology to accommodate majors in Geography, Biological Sciences, Animal Sciences, and related disciplines who are interested in this subject, and be it further

**Resolved** in consequence of these changes that (a) the concentration in Wildlife Conservation be disestablished, (b) the concentration in General Entomology be disestablished, and (c) the minor in Entomology be revised to focus on insects rather than accommodating a broader focus on wildlife conservation.

### **C. Introduction of New Business**

Such items as may come before the Senate. (No motion introduced under new business, except a motion to refer to committee, shall be acted upon until the next meeting of the Senate.)

#### **Attachments:**

##### **Committee Activity Reports**

- 1. Revisions to Agricultural Education major in Food and Resource Economics Department, College of Agriculture and Natural Resources**
- 2. Revision of existing major in Mechanical Engineering**
- 3. Establishment of a concentration in Biomechanics, Physical Education Studies, Major Exercise and Sport Science**
- 4. Newly required course for all accounting majors**
- 5. Revision of Environmental Soil Science major, Plant and Soil Sciences**
- 6. Addition of minors in Environmental Soil Science, Landscape Horticulture, and Plant Biology**

7. **Addition of Wildlife Conservation major and minor in Entomology and Applied Ecology Department; Revision of the Entomology major**

**[Note: To save expenses, attachments do not always include the complete information and supporting materials available to the committee(s). A copy of all background information is being held for review in the Faculty Senate Office, 205 Hullahen.]**

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# COMMITTEE ACTIVITIES REPORT

## FEBRUARY 1998

### Education, Coordinating Cte. On (Mark Huddleston)

Overall review of Graduate and Undergraduate Studies Committee items.

### Graduate Studies, Cte. On (Jim Richards)

Proposed M.Ed. in Exceptional Children and Youth

- \* Revision of the existing major
- \* Delete GRE requirement

Masters in Educational Leadership

- \* Revision of the existing major
- \* Delete Admissions Requirement -- GRE

### Undergraduate Studies, Cte. On (Alan Fox)

Items for review as follows:

1. Food and Resource Economics: Revisions to Agricultural Education Major to accommodate National and State Requirements for accreditation
2. New Major: Interdisciplinary Major in Food Business Management and Technology to be run jointly by Depts. of Animal and Food Sciences and Food and Resource Economics.
3. Plant and Soil Science: Revision of Environmental Soil Science Major to more accurately reflect course offerings and new courses

Addition of Minors in Environmental Soil Science, Landscape Horticulture, and Plant Biology

4. Entomology & Ecology: Adding wildlife Conservation major and minor revision Entomology minor
5. Mechanical Engineering: Revision of existing major
6. Electrical Engineering: Changes to the BEE degree
  - new courses required for the core degree
  - ELEG101
  - CPEG202
  - MASC367
  - omission of previously required course PHIL341
  - new and revised courses

7. **Computer Engineering: New courses required for the core degree**  
     ELEG101  
     CPEG202  
     omission of previously required course  
     PHIL341
  
8. **Physical Education Studies, Major Exercise and sport Science: Changes to BS degree**  
     Establishment of concentration in Biomechanics  
     Shuffling of curriculum relative to the establishment of the concentration
9. **College of business and Economics: Dept of Accounting and Management Information Systems**  
     newly required course Accounting Majors ACCT425, which will replace current requirement BUAD441
  
10. **Dept. of Business Administration: Changes to group requirements**  
     group A - six credits of foreign language instruction can count towards 12 credits of group A  
     group B - drop economics course for group B  
         drop B credits from 15 - 12 hours  
     group C - drop requirement for Math 230 (Finite Math)  
         drop C credits from 21 - 18 hours  
     changes to Professional requirements
  - \* must take international course from BE offerings
  - \* drop requirement for Economics under the Management and Marketing Major--students can take an economics course as one of their professional electives
  - \* add IT course for Management and Marketing Majors
  - \* change name of BUAD441 from Business Policy to Strategic Management
  - \* drop BUAD as a requirement for Management Majors
  - \* include BIAD444 as Management elective
  - \* change experimental course BUAD467 to BUAD449--this would be an elective course for students in the Operation Major only. A co-requirement would be BUAD448.
  - \* total number of Professional Requirement credits would change from 57 to 60 credits. Total graduation credits would change from 124 to 121**Finance Major: changes to group requirements**
  - \* allow students to include six credits of foreign language instruction towards 12 credits of Group A
  - \* change requirement from sociology and psychology to sociology or psychology for group B, drop total Group B credits from 15 to 12 hour



11. **Program Reviews:** Under Senate policy, the undergraduate Studies Committee is prepared to designate as delinquent those provisionally approved programs, which are due for their review for permanent status, and which have not begun the process by March 31, 1999. Delinquent programs are prevented from enrolling new majors. The following programs are due for review and have not yet begun the process, and are thus in danger of being declared delinquent:

- \* BS in Biological Science with a concentration in Biotechnology
- \* BA in History and Foreign Languages
- \* BS in Early Childhood and Education (Human Resources)
- \* BS in Human Development and Family Processes (Human Resources)
- \* BA in German/Political Science
- \* BA in Spanish/Political Science
- \* BA in French/Political Science
- \* BA in Classical Studies

If a program thinks an extension is warranted, it is welcome to document that claim to the Undergraduate Studies Committee.

/khs



COLLEGE OF AGRICULTURE AND NATURAL RESOURCES

OFFICE OF  
ACADEMIC PROGRAMS

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November 2, 1998

TO: Alan Fox, Chair  
Undergraduate Studies Committee, Faculty Senate

FROM: Lesa G. Griffiths, Associate Dean  
College of Agriculture and Natural Resources

RE: New Majors / Major, Concentration & Minor and Curriculum Revisions from the College of Agriculture and Natural Resources

The Courses and Curriculum Committee of the College of Agriculture and Natural Resources has approved the following proposals and forwards them to your Committee for action.

1. Animal and Food Sciences Department

- a. The Department of Animal and Food Sciences with the Department of Food and Resource Economics requested the approval of a new major called Food Business Management and Technology (FBMT) to be run jointly by the two department.
- b. Proposed new course FOSC 102: Food for Thought as an introductory course for the new FBMT major.

- Questions about this new major and new course listed above should be directed to Dr. John Rosenberger

2. Food and Resource Economics Department

- a. Revision of Agricultural Education major to change the EDDV 400 credit hours required for the AED major from 6-9 to more accurately reflect National and State requirements for accreditation.
- b. Add a new course, FREC 412, Strategic Marketing Competition, previously taught as an experimental course.

- Questions about this new major and the revisions listed above should be directed to Dr. Conrado Gempesaw.

3. Entomology and Applied Ecology Department

Add a new major in Wildlife Conservation (Change Wildlife Conservation concentration to a major).

21 October 1998

Memo to : Educational Activities Committee

From : Dick Wilkins, Chair, ME Curriculum Committee

Subject: Change from STAT 450 to STAT 250



This memo describes the change from STAT 450 to STAT 250 in the ME 2000 Curriculum. After selecting STAT 450 as a part of our ME 2000 curriculum, we discovered that it was not appropriate for our sophomores to be mixed into an already large class of Engineering majors taking the course as a technical elective. As indicated by the attached emails, the Math department has agreed to develop a similar course, STAT 250, that is appropriate for ME sophomores. A Syllabus is also attached.

The new STAT 250 will give students a background for material property variations in MASC 302, the statistical basis for drawing tolerances in MEEG 202, and Statistical Design of Experiments for labs and Sr. Design.



BIOMECHANICS AND  
MOVEMENT SCIENCE

UNIVERSITY OF DELAWARE  
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### **Rationale for the establishment of a Concentration in Biomechanics**

The number of students enrolled in the Exercise and Sport Science curriculum continues to increase. Many of the students who enter this program express an interest in obtaining graduate degrees in the fields of Physical Therapy, Chiropractic Medicine, Occupational Therapy, and Physician Assistant Certification. Establishment of a concentration in Biomechanics would provide these students with an appropriate, if not ideal, education base from which to enter these graduate degree programs. Currently, Exercise Physiology is the only concentration available to these students in the Exercise and Sport Science curriculum, and this program is operating at capacity in terms of student numbers.

In addition, the proliferation of laboratories designed for the sole purpose of analyzing human gait continues. Virtually all of these facilities employ individuals who have training and experience in the three-dimensional measurement of human motion. Traditionally, these individuals have master's degrees in either mechanical engineering or biomechanics, but recent trends indicate that newer facilities are seeking undergraduates with similar expertise and training to fill these positions. Students who successfully complete this concentration will possess the appropriate expertise and should do quite well in this job market.

### **Rationale for revisions to the Exercise and Sport Science core curriculum specific to the Concentration in Biomechanics**

Two courses have been eliminated from the 'traditional' Exercise and Sport Science core curriculum for students enrolled in the concentration in Biomechanics. The Measurement and Evaluation course (HPER324) was dropped since the HESC Undergraduate Studies committee felt as though the students were already obtaining similar information via the STAT 200 course (Basic Statistical Practice). Also, given the substantial number of concentration requirements, the desire to keep the number of elective credits at nine or above necessitated a restructuring of the curriculum.

The second course eliminated from the core curriculum was HPER 300 (Issues in Physical Activity Studies and Sports). The HESC Undergraduate Studies committee appropriately felt that students in the biomechanics concentration should be exposed to a course in ethics. Only a fraction of HPER 300 deals with ethical issues as evidenced by the course syllabus, and none of the course deals with ethical issues involving the use of human subjects. Consequently, a more pertinent course (CSCC 241, Ethical Issues in Health Care) was introduced into the concentration curriculum in an effort to better address the needs of these students in light of the fact that they will eventually be members of the health care system.

Degree: Bachelor of Science in Physical Education Studies  
 Major: Exercise and Sport Science  
 Concentration: Biomechanics

CURRICULUM CREDITS

See University and Department requirements (page 152) for additional degree requirements

**BREADTH REQUIREMENTS**

Group A – Communication / Writing Skills.....	6
Must include courses from two different departments	
Group B – Humanities / Fine Arts .....	3
Group C – History / Social Sciences.....	6
Must include PSCY201 and either PSYC325 or PSYC334.	
Group D – Natural and Biological Sciences / Mathematics .....	23
Must include BISC207, BISC208, CHEM103, CHEM104, MATH241, NTDT200	

**MAJOR REQUIREMENTS = 24 CREDITS**

HPER210	Safety, First Aid, and Emergency Care.....	3
HPER214	Wellness: A Way of Life .....	3
HPER220	Anatomy and Physiology .....	3
HPER276	Personal Computers in Health, Physical Education, and Recreation .....	2
HPER305	Fundamentals of Athletic Training .....	3
HPER342	Survey in Adaptive Physical Education.....	3
HPER350	Basic Concepts in Kinesiology .....	3
HPER430	Physiology of Activity .....	3
HPER431	Physiology of Activity Lab.....	1

**CONCENTRATION REQUIREMENTS = 12 Credits**

*one or other*  
*one or other*  
*all*

BISC276	Human Physiology and Anatomy .....	4
BISC306	General Physiology .....	4
BISC442	Vertebrae Morphology.....	4
or		
HPER420	Functional Human Anatomy .....	4
CSCC241	Ethical Issues in Health Care .....	3
HPER426	Biomechanics of Sport (Biomechanics I) .....	4
HPER427	Biomechanics II .....	3
MATH242	Analytic Geometry and Calculus B .....	4
MATH349	Elementary Linear Algebra.....	3
MEEG112	Statics.....	3
MEEG211	Dynamics .....	3
PHYS207	Fundamentals of Physics I .....	4
PHYS208	Fundamentals of Physics II.....	4
STAT200	Basic Statistical Practice.....	3

**ELECTIVES**

After required courses are completed, sufficient elective credits must be taken to meet the minimum credits required for the degree. 13

CREDITS TO TOTAL A MINIMUM OF ..... 120

For a long time, BUAD 441 (Business Policy) has been the capstone course for all students working towards a BSAC degree (accounting majors) or a BSBA degree (majors in finance, operations, management, and marketing). The American Assembly of Collegiate Schools in Business (AACSB), our national accrediting body, has specified (encouraged?) that accounting majors may be better off having their own capstone course that is more pertinent to their curriculum. The new course, ACCT 425, would replace BUAD 441 as the capstone course for accounting majors.

PF 1=Help 2=Exit 3=Return 4=Query 5=Action 7=Backward 8=Forward  
Date: Wednesday, 27 January 1999 8:28am ET  
To: Rita.Girardi  
From: David.Frey  
Subject: Major Changes

These are the first revisions of the Environmental Soil Science Major since it was initially approved. After contacting industry and government representatives and graduates of the major, it was evident that knowledge of geographic information systems and soil contamination were important. To this end, FREC 480 or GEOG 372 was added to address the geographic information system gap and PLSC 480 added to address soil contamination issues. It was also found that having PLSC 303 Plant Pathology was not necessary for the major, so this course was moved down to the suggested elective area. PLSC 607 Plant and Soil Water Relations and PLSC 619 were added to the suggested electives, since they may be of benefit to our students and should be highlighted as useful courses.

If you need anything more, let me know. I will be in all AM today.  
Thanks for helping us out.

----- ( end of letter ) -----

CMD==>

**DEGREE: BACHELOR OF SCIENCE IN AGRICULTURE  
MAJOR: ENVIRONMENTAL SOIL SCIENCE**

**CURRICULUM** **CREDITS**

**UNIVERSITY REQUIREMENTS**

ENGL 110 Critical Reading and Writing (minimum grade C).....	3
Three credits in an approved course or courses stressing multicultural, ethnic, and/or gender-related content (see p. 22).	3

**MAJOR REQUIREMENTS**

<b>Computer Science</b>	
Computer Science course (FREC 135, or equivalent).....	3
<b>Agricultural and Biological Sciences</b> .....	3-4
One course in any of the following areas: Animal Science, Food Science, Entomology and Applied Ecology, or Biology	
<b>Literature and Arts</b> .....	3
Three credits selected from English, Art, Art History, Communication, Music, Theatre, or foreign language	
<b>Social Sciences and Humanities</b> .....	6
Minimum of one course in two of the following areas: Anthropology, Black American Studies, Criminal Justice, Economics, Education, History, Philosophy, Political Science, Psychology, Sociology, or Women's Studies.	
CHEM 101/102 General Chemistry I and II or CHEM 103/104 General Chemistry I and II.....	8
CHEM 212 Organic Chemistry.....	4
CHEM 220/221 Quantitative Analysis with Lab.....	4
ENGL 410 Technical Writing.....	3
GEOG 220 Meteorology.....	3
GEOG 107 General Geology.....	4
MATH 221 Calculus I.....	3
PHYS 201 Introductory Physics I.....	4

FREC 480 GEOGRAPHIC INFO SYSTEMS IN NAT. RESOURCE MGT 4  
OR  
GEOG 372 GEOGRAPHIC INFO SYSTEMS 3

**THREE OF THE FOLLOWING FOUR COURSES**

EDTE 103 Land and Water Management.....	3
EDTE 110 Land Surveying.....	2
EDTE 203 Agricultural Waste Management.....	3
FREC 130 Economics of Agriculture and Natural Resources.....	3
PLSC 101 Botany.....	4
PLSC 151 Introduction to Crop Science.....	3
PLSC 204 Introduction to Soil Science.....	4
<del>PLSC 205</del>	<del>4</del>
PLSC 206 Environmental Soil Management.....	4
PLSC 319 ENVIR. SOIL MICROBIOLOGY.....	4
PLSC 401 Agronomic Crop Science.....	3
PLSC 436 FATE AND TRANSPORT OF CONTAMINANTS IN SOIL.....	3
PLSC 503 Soil Chemistry.....	3
<del>PLSC 504</del>	<del>3</del>

**ELECTIVES**

After required courses are completed, student credit must be taken to meet the minimum credits required for the degree. May include the following suggested courses or other electives.

FREC 221 Environmental Biology.....	
FREC 222 Economics of Environmental Management.....	
GEOG 205 Conservation of Natural Resources.....	
GEOG 415 General Geomorphology.....	
GEOG 425 Hydrogeology.....	
GEOG 431 Environmental and Applied Geology.....	

PLSC 303 INTRODUCTORY PLANT PATHOLOGY.....	4
PLSC 607 PLANT AND SOIL WATER RELATIONS.....	3
PLSC 619 SOIL MICROBIOLOGY.....	3
PLSC 503 Soil Physics.....	
POSC 250 Politics and the Environment.....	

CREDITS TO TOTAL A MINIMUM OF 16 124





COLLEGE OF AGRICULTURAL SCIENCES

DEPARTMENT OF  
PLANT AND SOIL SCIENCES

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October 19, 1998

TO: Undergraduate Studies Committee  
FROM: David Frey, Plant and Soil Science Dept. *David Frey*  
RE: Minors

We are forwarding three proposed new minors for our Department. They have been approved by the College Curriculum Committee. They are minors in Landscape Horticulture, Plant Biology and Environmental Soil Science.

There is a demand for these minors from students in other majors within and out of the College of Agriculture and Natural Resources. The Landscape Horticulture minor has appeal for Geography, Art and Parks and Recreation Majors. A Plant Biology minor may enhance the degrees of Biological Science, Entomology and Applied Ecology, Chemistry and Biochemistry majors. A minor in Environmental Soil Science could benefit majors in Bioresources Engineering, Geology, Chemistry, Physics and Civil and Environmental Engineering.

The impact on our teaching loads will probably be minimal, since students from other majors have been taking courses in these areas. They have, with faculty advice, have informally been selecting courses that roughly equated to a minor. We do hope that creation of these minors would increase our enrollments slightly and expose more students outside the Department to our areas of study. We anticipate about ten minors in the landscape horticulture area and about five in the other two minors.

University of Delaware  
Department of Entomology/Applied Ecology



INTER-DEPARTMENTAL

# Memorandum

DATE: October 21, 1998

TO: Steven E. Hastings  
Chair, Courses and Curriculum Committee  
College of Agriculture & Natural Resources

FROM: J. Hough-Goldstein *J. Hough-Goldstein*  
Chair, Entomology & Applied Ecology

SUBJECT: Proposed Wildlife Conservation Major and Related Changes

The faculty of the Department of Entomology and Applied Ecology has approved a proposal to change the Wildlife Conservation Concentration within the Entomology major to a major in Wildlife Conservation. The Entomology major will continue. The current General Entomology Concentration will be unnecessary if these changes are approved and therefore will be dropped.

We believe the change is warranted for several reasons: First by the growth of the concentration to 86 students (98F) since its inception in 1991 and continuing interest in the program. The change will allow the students to focus more strongly toward conservation than previously possible as a concentration. Students also will be able to identify themselves as wildlife majors in seeking graduate and employment positions, thereby getting past initial screenings that sometimes reject majors by other names.

I emphasize that this is not a new program designed to attract an entirely new cadre of students to the University. The change does not require the addition of any new courses or library resources. We seek the change to improve the existing program for benefit of the students we have and expect to attract in the future. A more complete rationale and suggested course sequence are included among the materials accompanying this proposal. Also included are forms and rationales for a revised Minor in Entomology and a new Minor in Wildlife Conservation, which will be made necessary if the major is approved.

We will appreciate your support of our proposal.

JHG:vt

**RATIONALE FOR WILDLIFE CONSERVATION MAJOR**  
**October 1, 1998**

The Wildlife Conservation Concentration was established in 1991 as an initial response to student requests. The requests were from entomology majors who were in the major because our long-time informal program in conservation and wildlife matched their interests. They wished to have formal recognition and a label for their area of study that would appear on their transcripts. The concentration was that response. The General Entomology Concentration was made the companion concentration on insects. The growth from that start in 1991 to 86 concentrators in 98F and continuing student requests (10-15 new students and internal transfers per year) prompt this proposal to make the wildlife concentration a major. (At the same time, the General Entomology Concentration will be dropped and the Entomology major retained.)

The wildlife conservation major will allow students to focus on conservation of biodiversity rather than on a particular group of animals, viz. insects. At the same time, the major will still recognize the importance of insects to ecosystem function and biodiversity by requiring two courses in insects (ENTO 201 and 305) and including two others as options from a group of courses on insects and vertebrates. These insect courses are an unusual asset of a wildlife program. The five faculty who advise wildlife students will continue to emphasize the value of insect courses to the wildlife or conservation biologist and to potential employment as the recognition of arthropod conservation grows. A student in either major also could opt to minor in the other to enhance credentials further.

Another reason for the change is to benefit our students in their employment and post-graduate efforts. We have learned that lacking "wildlife" as the lead identifier of a student's academic credentials puts the student at an initial disadvantage for many "wildlife" jobs. While our program views wildlife broadly to include all of biodiversity, many wildlife employers still do not. Some students have experienced the same problem occasionally in seeking graduate school opportunities. In either case, they must make extra effort to explain their backgrounds to get past initial screening. Being able to use Wildlife Conservation as the major will eliminate this problem.

Finally, this change will make us better able to compete for students with other institutions that offer wildlife majors. In the past, we have lost students who were very interested in Delaware but chose other schools because they offered the major rather than a concentration. We now have two faculty (Roth and Plotkin) with full assignment to the wildlife conservation part of our program and three other faculty members who advise and teach in the program. We already have also expanded our course offerings in the conservation area with courses in herpetology, wildlife research techniques, conservation genetics, and debates in conservation biology. With these steps we now are able to support the major in wildlife conservation.

The shift to a major involves no new courses and only minor changes in the curriculum. Most notably we drop ENTO 406 Insect Taxonomy as a requirement and move it to a group of courses that relate to taxonomy or biology of vertebrates and insects. Students must select 4 courses from among those six. We add ENTO 415 Wildlife Research Techniques, an important part of a wildlife program. We add MAST 627 Marine Biology to the options that satisfy Group II. An email from Dr. Nancy Targett, CMS, approving that inclusion is attached, as are approvals from other departments to continue using courses we currently use in the concentration. The changes require no alteration in total credits required for graduation and no new library or other supporting resources. Current faculty cover all required courses.

## SUGGESTED CURRICULUM FOR WILDLIFE CONSERVATION MAJOR

This is a general plan and represents one example of a curriculum. The program a student actually develops depends on several variables: availability of courses, the student's preparation for college work, participation in the Honors program, pursuit of a minor, the student's interests and goals, progress toward the degree, courses taken in winter or summer session, and degree to which courses chosen from each group satisfy multiple requirements. Therefore, the student should not consider this to be a fixed plan that must be or can be adhered to rigorously. Groups AB, LA, SS refer to group requirements in the College, I-VI to the Concentration. Student has choices of courses to satisfy those requirements. Refer to catalog. Some courses may satisfy both a college and a concentration requirement.

### FRESHMAN

<u>Fall</u>	<u>Spring</u>
ENTO 165 New Student Sem. 1	ENGL 110 Crit. Rdg. & Writing 3*
ENTO 205 Elements of Ent. 3*	CHEM 102 or 104
CHEM 101 or 103	Gen. Chemistry 4*
Gen. Chemistry 4*	Groups SS & VI Choices 6*
MATH 115, 171 or 221	Group LA Choice <u>3</u>
Math 3*	16
FREC 135 Intro. Data Anal. <u>3</u> *	
14	

### SOPHOMORE

ENTO 201 Wildlife Cons Ecol. 3*	ENTO 318 Taxonomy of Birds= 2*
ENTO 305 Ent. Lab. 2*	BISC 208 Intro. Biol. II 4*
BISC 207 Intro. Biol. I 4*	Groups AB & III Choice 4**
Group I Choice 4*	Group IV Choice 3*
SS & multicultural Choice <u>3</u> *	Groups SS & VI Choice <u>3</u> **
16	16

### JUNIOR AND SENIOR

BISC 302 Gen. Ecology 3*	ENTO 406 Insect Taxon.= 6*
ENTO 325 Wildl. Mgmt. 3*	or
ENTO Wildlife Research Techniques 3*	ENTO 418 Avian Biology#
ENTO 465 Seminar 1*	or
ENTO 425 Mammalogy# 3*	ENTO 424 Herpetology#
Group I Choice 4*	ENTO XXX Choice 5*
Group II Choice 4*	Group II Choice 4*
Group SS & VI Choice 3**	Groups III Choice 4*
Groups V Choice 3**	Group LA & IV Choice 3**
Electives <u>4</u>	Group V Choice 5**
31	Electives <u>4</u>
	31

\* Required for Major or Concentration.

# Four courses on taxa are required from among the following: ENTO 305 Taxonomy of Birds; 406 Insect Taxonomy; 408 Insect Field Taxonomy; 418 Avian Biology; 424 Herpetology; and 425 Mammalogy.

\*\* Satisfies specific University or College Requirement. AB = Agric. & Biol. Sci.; LA = Lit. & Arts; SS = Soc. Sci. & Humanities.

### RATIONALE FOR NEW MINOR IN WILDLIFE CONSERVATION

If the Wildlife Conservation Major is approved, a minor in wildlife conservation will be needed to accommodate those students who have been entomology minors but who have emphasized wildlife conservation. Such students number 8-10 in 98F as best we can determine, slightly higher than in recent years. Among these minors have been or are students majoring in geography, biological sciences, animal science, plant science, general agriculture, and natural resources management. We expect the number of students to remain about the same. Some students who have been or would be only entomology minors rather than entomology majors because of requirements will choose to major in wildlife conservation if it becomes a reality. On the other hand, some other students who have been reluctant to pick up the entomology minor may pick up the new wildlife conservation minor to broaden their credentials. The principle change in the minor from the current entomology minor is that the students will no longer be required to take ENTO 305 and 406.

### DESCRIPTION OF MINOR

#### REQUIREMENTS FOR A MINOR IN WILDLIFE CONSERVATION

The minor in wildlife conservation requires 18 credits of courses including ENTO 201, 325 and three courses from among ENTO 205, 305, 318, 406, 418, 424, and 425, of which one must be at the 400-level. Remaining credits may be from any of the 300- and 400-level courses listed above or any other 300- or higher level ENTO course with content primarily focused on taxonomy, ecology, or conservation. Any substitutions require prior approval of the department chair. A minimum grade of C- is required in all courses counting toward the minor. Credits for Special Problem, Independent Study, Research, and Field Experience do not count toward the minor.

### RATIONALE FOR REVISION OF MINOR IN ENTOMOLOGY

If the proposed Wildlife Conservation Major is approved, the existing Entomology minor will require revision so that it focuses on insects rather than also accommodating a focus on wildlife conservation as in the past. About 5 students currently in the minor in 98F are there specifically to add basic entomological credentials to their records. Such students come primarily from various majors in the Department of Plant and Soil Sciences. We expect that the minor will continue to attract 3-5 students per term.

### REVISED DESCRIPTION OF MINOR

#### REQUIREMENTS FOR A MINOR IN ENTOMOLOGY

The minor in entomology requires 18 credits of courses with an ENTO prefix , including ENTO 205, 305, and 406. The remaining 10 credits must come from ENTO 214, 224, 315, 405, 408, 411, or 440. Any substitution requires prior approval of the Department Chair. A minimum grade of C- is required in all courses counting toward the minor. Credits for Special Problem, Independent Study, Research, and Field Experience do not count toward the minor.