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PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

<table>
<thead>
<tr>
<th>Department</th>
<th>Biology and Wildlife</th>
<th>College/School</th>
<th>Natural Sciences and Mathematics</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

See http://www.uaf.edu/uafgov/faculty/cd for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

<table>
<thead>
<tr>
<th>DEGREE PROGRAM</th>
<th>Wildlife Biology and Conservation</th>
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</thead>
<tbody>
<tr>
<td>Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)</td>
<td>BS</td>
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A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

1. The Wildlife Advisory Board indented scheduling and course options as limitations to completion of this degree within 3 years. We have therefore consolidated the optional courses to provide more choices within the specialty of wildlife biology. We have also expanded the number of elective courses that students can take at the upper division by replacing a list of specified courses with a general requirement for courses at 300 level or higher in biology, wildlife, fisheries, marine science and natural resources management.

2. We have reorganized the wildlife courses at the 200 and 300 levels: WLF 201 is replaced with WLF 222 and WLF 303 is replaced with WLF 301. The new course (WLF 222) combines a second year course in principles of wildlife management (WLF 201) with a third year course in techniques of wildlife management (WLF 303 W). Quantitative material from WLF 201 will be removed to a new course (WLF 301 Design of Wildlife Studies) that will allow students more time to focus on mathematical applications. We will replace two courses of 3 credits each (WLF 201, WLF 303) with two new courses of the same credit value (WLF 222, WLF 301).

3. The minor in wildlife biology and conservation now includes WLF222 and WLF 301. We have reduced the requirement from 6 credits of other wildlife or biology courses to 3-4 credits, which will reduce the increase in the total number of credits in the minor (15 to 16).

4. Minor corrections: WLF 460 was incorrectly listed as WLF 360; WLF 101 is now 1.5 credits, not 1 credit.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Major — B.S. Degree

1. Complete the general university requirements. (As part of the core curriculum requirements, complete COMM F141X.)

2. Complete the B.S. degree requirements.

3. Complete the following program (major) requirements:
   a. Complete the following:
      BIOL F115X — Fundamentals of Biology I***—4 credits
      BIOL F116X — Fundamentals of Biology II***—4 credits
      BIOL F239 — Introduction to Plant Biology—4 credits
      BIOL F271 — Principles of Ecology—4 credits
      BIOL F310 — Animal Physiology—4 credits
      BIOL F317 — Comparative Anatomy of Vertebrates—4 credits
      BIOL F331 — Systematic Botany—4 credits
      BIOL F362 — Principles of Genetics—4 credits
BIOL F425—Mammalogy—3 credits
BIOL F426W,O/2—Ornithology—3 credits
ENGL F314W,O/2—Technical Writing (3) or ENGL F414W—Research Writing (3)—3 credits
NRM F101—Natural Resources Conservation and Policy—3 credits
NRM F204—Public Lands Law and Policy (3) or NRM F407—Environmental Law (3)—3 credits
WLF F101—Survey of Wildlife Science—1 credit
WLF F201—Wildlife Management Principles—3 credits
WLF F303W—Wildlife Management Techniques—3 credits
WLF F410—Wildlife Populations and Their Management—3 credits
WLF F360—Wildlife Nutrition—4 credits

b. Complete at least one of the following:
BIOL F471—Population Ecology—3 credits
WLF F433—Conservation Genetics—3 credits
WLF F469O—Landscape Ecology and Wildlife Habitat—3 credits

c. Complete the following:
CHEM F105X—General Chemistry**—4 credits
CHEM F106X—General Chemistry**—4 credits
MATH F200X—Calculus (4)** or MATH F272X—Calculus for Life Sciences (3)**—3 – 4 credits
PHYS F103X—College Physics—4 credits
STAT F200X—Elementary Probability and Statistics (3)*** or
STAT F300—Statistics (3)***—3 credits
STAT F401—Regression and Analysis of Variance***—4 credits

d. Complete three of the following:
BIOL F303—Principles of Metabolism and Biochemistry—4 credits
BIOL F406—Entomology—4 credits
BIOL F427—Ichthyology—3 credits
BIOL F441W,O/2—Animal Behavior—3 credits
BIOL F472—Community Ecology—3 credits
BIOL F473W—Limnology—4 credits
BIOL F474—Plant Ecology—4 credits
BIOL F481—Principles of Evolution—3 credits
NRM F312—Introduction to Range Management—3 credits
NRM F338—Introduction to Geographic Information Systems—3 credits
NRM F341—GIS Analysis—4 credits
NRM F370—Introduction to Watershed Management—3 credits
NRM F380W—Soils and the Environment—3 credits
NRM F450—Forest Management—3 credits
WLF F305—Wildlife Diseases—3 credits
WLF F4190/2—Waterfowl and Wetlands Ecology and Management—4 credits
5. Complete electives
6. Minimum credits required—130 credits
  * Student must earn a C grade or better in each course.
** Satisfies a core requirement.
*** Satisfies a B.S. degree requirement.

Note: B.S. degree candidates are strongly urged to obtain work experience in wildlife-related positions with public resource agencies or private firms. Faculty members can help students contact potential employers.

Requirements for biology teachers (grades 7 – 12):*

1. Complete all the requirements of the wildlife biology B.S. degree.
2. All prospective biology teachers must complete the following:
   BIOL F342—Microbiology—4 credits
   BIOL F481—Principles of Evolution—4 credits
   BIOL F303—Principles of Metabolism and Biochemistry (4) or CHEM
   F321 and CHEM F322—Organic Chemistry (6)—4 – 6 credits
3. All prospective science teachers must complete the following:
   PHIL F481—Philosophy of Science (3)—3 credits
* We strongly recommend that prospective secondary science teachers seek advising from the UAF School of Education early in your undergraduate degree program, so that you can be appropriately advised of the state of Alaska requirements for teacher licensure. You will apply for admission to the UAF School of Education’s post-baccalaureate teacher preparation program, a one-year intensive program, during your senior year. Above requirements apply to all candidates who apply to the UAF School of Education Spring 2006 or later, for licensure in biology.

Minor*

1. Complete the following:
   WLF F303W—Wildlife Management Techniques—3 credits
   WLF F410—Wildlife Populations and Their Management—3 credits
   WLF F360—Wildlife Nutrition—4 credits
   Approved BIOL and WLF electives*—6 credits
2. Minimum credits required—15 credits
* Only biology or wildlife electives that are not required for the student’s major.

Note: Prerequisites for required courses include BIOL F115X-F116X, BIOL F271, BIOL F310, STAT F200X or F300, and WLF F201. Depending upon a student’s major, some of these prerequisites may satisfy the 6 elective credits in biology and wildlife required for this minor.
C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:
(Underline new wording strike-through-old-wording and use complete catalog format)

Major — B.S. Degree

1. Complete the general university requirements. (As part of the core curriculum requirements, complete COMM F141X.)
2. Complete the B.S. degree requirements.
3. Complete the following program (major) requirements:
   a. Complete the following:
      BIOL F115X—Fundamentals of Biology I***—4 credits
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      NRM F101—Natural Resources Conservation and Policy—3 credits
      NRM F204—Public Lands Law and Policy (3) or NRM F407—Environmental Law (3)—3 credits
      WLF F101—Survey of Wildlife Science—1.5 credit
      WLF F201—Wildlife Management Principles—3 credits
      WLF F303W—Wildlife Management Techniques—3 credits
      WLF F222—Principles and Techniques in Wildlife Management Principles—3 credits
      WLF F301—Design of Wildlife Studies —3 credits
      WLF F410—Wildlife Populations and Their Management—3 credits
      WLF F360 460—Wildlife Nutrition—4 credits
   b. Complete at least one two of the following:
      BIOL F471—Population Ecology—3 credits
      WLF F433—Conservation Genetics—3 credits
      WLF F469Q—Landscape Ecology and Wildlife Habitat—3 credits
      WLF F305—Wildlife Diseases—3 credits
      WLF F419Q/2—Waterfowl and Wetlands Ecology and Management—4 credits
c. Complete the following:
   CHEM F105X—General Chemistry**—4 credits
   CHEM F106X—General Chemistry**—4 credits
   MATH F200X—Calculus (4)** or MATH F272X—Calculus for Life Sciences (3)**—3 – 4 credits
   PHYS F103X—College Physics—4 credits
   STAT F200X—Elementary Probability and Statistics (3)***—3 credits
   STAT F300—Statistics (3)***—3 credits
   STAT F401—Regression and Analysis of Variance***—4 credits

d. Complete three of the following: **two additional courses at 300 level or higher in biology, wildlife biology, fisheries, marine science or natural resources management**
   BIOL F303—Principles of Metabolism and Biochemistry—4 credits
   BIOL F406—Entomology—4 credits
   BIOL F427—Ichthyology—3 credits
   BIOL F441W,O/2—Animal Behavior—3 credits
   BIOL F472—Community Ecology—3 credits
   BIOL F473W—Limnology—4 credits
   BIOL F474—Plant Ecology—4 credits
   BIOL F481—Principles of Evolution—3 credits
   NRM F312—Introduction to Range Management—3 credits
   NRM F338—Introduction to Geographic Information Systems—3 credits
   NRM F341—GIS Analysis—4 credits
   NRM F370—Introduction to Watershed Management—3 credits
   NRM F380W—Soils and the Environment—3 credits
   NRM F450—Forest Management—3 credits
   WLF F305—Wildlife Diseases—3 credits
   WLF F4190/2—Waterfowl and Wetlands Ecology and Management—4 credits

4. Complete electives

5. Minimum credits required—130 credits

*Student must earn a C grade or better in each course.*

** Satisfies a core requirement.

*** Satisfies a B.S. degree requirement.

Note: B.S. degree candidates are strongly urged to obtain work experience in wildlife-related positions with public resource agencies or private firms. Faculty members can help students contact potential employers.

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1. Complete all the requirements of the wildlife biology B.S. degree.
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   BIOL F481—Principles of Evolution—4 credits
BIOL F303—Principles of Metabolism and Biochemistry (4) or CHEM F321 and CHEM F322—Organic Chemistry (6)—4 – 6 credits

3. All prospective science teachers must complete the following:
   PHIL F481—Philosophy of Science (3)—3 credits
   We strongly recommend that prospective secondary science teachers seek advising from the UAF School of Education early in your undergraduate degree program, so that you can be appropriately advised of the state of Alaska requirements for teacher licensure. You will apply for admission to the UAF School of Education’s post-baccalaureate teacher preparation program, a one-year intensive program, during your senior year. Above requirements apply to all candidates who apply to the UAF School of Education Spring 2006 or later, for licensure in biology.

Minor*

1. Complete the following:
   WLF F303W—Wildlife Management Techniques—3 credits
   WLF F222—Principles and Techniques in Wildlife Management—3 credits
   WLF F301—Design of Wildlife Studies—3 credits
   WLF F410—Wildlife Populations and Their Management—3 credits
   WLF F369 460—Wildlife Nutrition—4 credits
   Approved BIOL and WLF electives*—6 3 or 4 credits

2. Minimum credits required—15 16 credits
   Only biology or wildlife electives that are not required for the student’s major.

Note: Prerequisites for required courses include BIOL F115X-F116X, BIOL F271, BIOL F310, STAT F200X or F300, and WLF F201 F101. Depending upon a student’s major, some of these prerequisites may satisfy the 6-3-4 elective credits in biology and wildlife required for this minor.

D. ESTIMATED IMPACT
   WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.
   We do not expect any additional needs for funds or space as a result of this change in course content and structure.

E. IMPACTS ON PROGRAMS/DEPTS:
   What programs/departments will be affected by this proposed action?
   Include information on the Programs/Departments contacted (e.g., email, memo)
   WLF 201 is an elective for B.S. Natural Resources Management (see attached e-mail correspondence)
C credit

1. Complete the following:
   - MIL 1010 - Written Expression
   - MIL 2010 - Principles and Techniques in Military Leadership
   - MIL 2050 - Design of Military Study
   - MIL 3010 - Wildlife Population and Herd Management
   - MIL 3020 - Wildlife Nutrition

2. It is required to get at least 4.0 in all MIL courses.

3. Minimum grade allowed is C in each course.

4. The course must be taken during the first two quarters of study.
F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

The department of Biology and Wildlife surveys all students in the wildlife major each year. We also track graduation rates and performance in key courses. For example, the creation of WLF 301 (Design of Wildlife Studies) is directed towards improving the retention of students that have difficulty with mathematics. Over half the students in the wildlife major have scored C or less in calculus, which is a required course for this degree. We hope that these changes will improve retention of students and slowly increase graduate rates.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

These changes address aspects of the program review for Wildlife Biology and Conservation in 2008 as well as the review of the advisory board for the program in 2008. Many students had poor performance in mathematics, which delayed the completion of their degree. Students also requested more exposure to practical applications. We have therefore reorganized the program to expose students to those practical techniques in their second year. We hope that this change will allow students to better understand the quantitative aspects of wildlife management that are now presented in a new course during the third year. We expect that these changes will improve engagement and retention in the undergraduate program.

APPROVALS:

Signature, Chair, Program/Department of: [Signature]
Date: 2 April 2010

Signature, Chair, College/School Curriculum Council for: [Signature]
Date: 6 April 2010

Signature, Dean, College/School of: [Signature]
Date: 6/6/10

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

Signature, Chair, UAF Faculty Senate Curriculum Review Committee: [Signature]
Date: [Blank]
The document contains text that is not legible due to the quality of the image. It appears to be a page with multiple sections, possibly from a legal or official document. The text is too blurred to transcribe accurately.