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Office (email electronic copy to fysenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department	Biology and Wildlife	College/School	CNSM
Prepared by	Mark Lindberg	Phone	X6598
Email Contact	mslindberg@alaska.edu	Faculty Contact	same

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

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	Wildlife Management
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	Ph.D.

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

1. Change name of PhD in Wildlife Management to PhD in Wildlife Biology and Conservation to be consistent with names for BS and MS degree programs.
2. Delete concentration in Wildlife Biology under PhD in Biological Sciences.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Descriptions below are from 2009/2010 catalog because the PhD in Wildlife Biology and Conservation was not listed in the 2010/2011 catalog.

Wildlife Biology and Conservation

College of Natural Science and Mathematics
Department of Biology and Wildlife
907-474-7671
www.bw.uaf.edu

B.S., M.S., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.:30 credits; Ph.D.: 18 thesis credits

The geographic location of the university is particularly advantageous for the study of wildlife biology. Spruce forest, aspen-birch forest, alpine tundra, bogs and several types of aquatic habitats are within easy reach. Studies can be made in many other habitats ranging from the dense forests of southeastern Alaska to arctic tundra.

Adequate study collections of plants and animals are available, and a 2,000-acre study area is near the campus. Wildlife biology students have ample opportunity for close association with the personnel of the Alaska Cooperative Fish and Wildlife Research Unit, Institute of Arctic Biology and several local offices of federal and state conservation agencies. These agencies often provide support for graduate student projects, and program faculty usually hire a number of students for summer field work. Exceptional opportunities are available for students to gain experience and make job connections.

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OCT - 5 2011

Dean's Office
College of Natural Science & Mathematics

The Department of Biology and Wildlife, the Institute of Arctic Biology, and the Alaska Cooperative Fish and Wildlife Research Unit cooperate in offering graduate work leading to the M.S. and Ph.D. degrees. Detailed information on the graduate program in wildlife biology and management is available from the chair of the wildlife program.

The Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology offer a limited number of research assistantships. Teaching assistantships are available in the Department of Biology and Wildlife.

Graduate Program — M.S. Degree

1. Complete the following admission requirement:
 1. Submit scores from both the GRE general test (required) and the GRE subject test in biology (highly recommended).
 2. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
2. Complete the general university requirements.
3. Complete the M.S. — with Thesis degree requirements.*
4. As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
5. Minimum credits required—30 credits

Graduate Program — Ph.D. Degree

1. Complete the admission process including the following:
 1. Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (required for applicants holding only a bachelor's degree; highly recommended for applicants who have already earned a master's degree).
 2. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
2. Complete the general university requirements.
3. Complete the Ph.D. degree requirements.
4. As part of the Ph.D. degree requirement, complete the following:
 1. If entering with only a bachelor's degree, complete and pass the departmental written and oral Ph.D. qualifying examination.
 2. Complete and pass a written and oral comprehensive examination by the graduate advisory committee.

3. In this program or in previous post-baccalaureate programs, complete course work at least equivalent to that required for the M.S. degree.

5. Minimum credits required—18 credits

* Students working in subject areas involving significant non-English literature will be expected to read the appropriate foreign language.

See also Biological Sciences for M.S. and Ph.D. program.

Biological Sciences

Note: To reduce confusion, I did not include the current catalog description for the graduate program in Biological Sciences because this will be greatly modified in the 2011/2012 catalog following changes that were submitted in 2010.

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)

Wildlife Biology and Conservation

College of Natural Science and Mathematics
Department of Biology and Wildlife
907-474-7671
www.bw.uaf.edu

~~B.S.,~~ M.S., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.:30 credits; Ph.D.: 18 thesis credits

The geographic location of the university is particularly advantageous for the study of wildlife biology with a rich and diverse suite of wildlife populations and habitats ranging from Spruce forest, aspen-birch forest, alpine tundra, bogs and several types of aquatic habitats are within easy reach. ~~Studies can be made in many other habitats from the dense forests of southeastern Alaska, through the extensive boreal forest and wetlands of the interior, to coastal plains and arctic tundra.~~

~~Adequate study collections of plants and animals are available, and a 2,000-acre study area is near the campus.~~ Wildlife biology students examine applied questions and frequently collaborate with local management and conservation agencies. These collaborations are often facilitated by the Alaska Cooperative Fish and Wildlife Research Unit and the Institute of Arctic Biology and several local offices of federal and state conservation agencies. Exceptional opportunities are available for students to gain experience and make job connections.

The Department of Biology and Wildlife, the Institute of Arctic Biology, and the Alaska Cooperative Fish and Wildlife Research Unit cooperate in offering graduate work leading to the M.S. and Ph.D. degrees. The Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology offer a limited number of research assistantships. Teaching assistantships are available in the Department of Biology and Wildlife. Detailed information

on the graduate program in wildlife biology and management is available from the chair of the Wildlife Biology and Conservation program.

~~The Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology offer a limited number of research assistantships. Teaching assistantships are available in the Department of Biology and Wildlife.~~

Graduate Program — M.S. Degree

1. Complete the following admission requirement:
 1. Submit scores from both the GRE general test (required) and the GRE subject test in biology (highly recommended).
 2. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
2. Complete the general university requirements.
3. Complete the M.S. — with Thesis degree requirements.*
4. As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
5. Minimum credits required—30 credits

Graduate Program — Ph.D. Degree

6. Complete the admission process including the following:
 1. Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (required for applicants holding only a bachelor's degree; highly recommended for applicants who have already earned a master's degree).
 2. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
7. Complete the general university requirements.
8. Complete the Ph.D. degree requirements.
9. As part of the Ph.D. degree requirement, complete the following:
 1. If entering with only a bachelor's degree, complete and pass the departmental written and oral ~~Ph.D.~~ M.S. qualifying examination.
 2. Complete and pass a written and oral comprehensive examination by the graduate advisory committee.
 3. In this program or in previous post-baccalaureate programs, complete course work at least equivalent to that required for the M.S. degree.

10. Minimum credits required—18 credits

* Students working in subject areas involving significant non-English literature will be expected to read the appropriate foreign language.

See also Biological Sciences for Ph.D. program.

See also Biology for M.S., M.A.T. program.

Biological Sciences

The only additional change that is proposed based on this submission is the removal of the concentration in Wildlife Biology under the PhD in Biological Sciences.

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

None.

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)

This change will clarify the distinction between graduate degrees in the department of Biology and Wildlife by highlighting the differences between the Biological Sciences program and Wildlife Biology and Conservation program. Specifically, this change emphasizes that Wildlife Biology and Conservation degree has a requirement for application to management or conservation and that career development, through collaboration with potential employers, is often a component of the graduate program.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

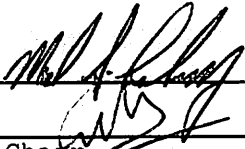

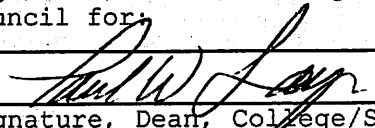
JUSTIFICATION FOR ACTION REQUESTED

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.

In 1964 the PhD in Wildlife Management was established at the UAF. The PhD in Biological Sciences was created in 1988. In 1992, Dr. Jim Sedinger who was on the Wildlife Biology faculty at the time, submitted program change paperwork (see attached) to change the name of the PhD in Wildlife Management to Wildlife Biology. Then department head Oswood and dean Reichardt, did not change the name of the Wildlife Management PhD, but they did create a concentration in Wildlife Biology under the PhD in Biological Sciences in an attempt to clarify the distinction in these degree programs. Of importance, through 2 independent searches we found no evidence that the Wildlife Management PhD was deleted. In fact, the most recent PhD in Wildlife Management was awarded in 1997 (my diploma).

In 2010, Dr. Perry Barboza submitted paperwork to change the name of the BS, MS, and PhD degree in Wildlife Biology to Wildlife Biology and Conservation under the assumption that a PhD in Wildlife Biology was in existence. This change occurred for the BS and MS degrees, but was denied for the PhD degree in Wildlife Biology. This ruling came as a surprise to most of us because we were not aware of the 1992 paperwork referenced above. We now understand that there has never been a PhD in Wildlife Biology only a concentration, but again the PhD in Wildlife Management was never deleted. Therefore, we are now requesting a correction, i.e., a name change for the Wildlife Management PhD (not Wildlife Biology PhD) and reactivation of this degree program, which is one of the oldest and still most viable programs on campus. In 2011, the PhD with a concentration in Wildlife Biology had the most graduates (6) of any PhD program on campus. Some of these degrees were awarded as Wildlife Biology and others as Wildlife Biology and Conservation so clearly we still need to clarify the PhD programs in the Department of Biology and Wildlife. Other concentrations (i.e., Biology, Botany, and Zoology) have also been deleted from the Biological Sciences PhD to again clarify the degree programs in the Biology and Wildlife Department. With these changes we will have 2 PhD degrees in the department, one for each program in that department.

APPROVALS:

	Date	14 Sep 2011
Signature, Chair,		Oct 3, 2011
Program/Department of:		
	Date	10/4/2011
Signature, Chair, College/School Curriculum Council for:		CNSM
	Date	Oct 5, 2011
Signature, Dean, College/School of:		CNSM

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

	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		

Submit original with signatures + 4 copies

RECEIVED NOV 1992
MAJOR/MINOR
PROGRAM/DEGREE REQUIREMENT CHANGEDepartment Biology and WildlifeCollege/School CNSPrepared by Jim SedingerPhone 474-6598Name of Program: Wildlife Management - M.S./Ph.D. Degree
Degree Level (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.S., Ph.D.)

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

Change name of wildlife degree from Wildlife Management to Wildlife Biology. Some editorial changes in text are also being made.

CURRENT REQUIREMENTS
(AS IT PRESENTLY APPEARS IN THE CATALOG)
(suggestion: paste copy from catalog)PROPOSED REQUIREMENTS
(AS IT WILL APPEAR WITH THESE CHANGES)
(underline changes and use catalog format)*Wildlife Management*

The geographic location of the university is particularly advantageous for the study of wildlife management. Spruce forest, aspen-birch forest, alpine tundra, bogs and several types of aquatic habitats are closely situated to the Fairbanks campus. Studies can be made in many other habitats ranging from the dense forest of Southeastern Alaska to the arctic coast.

Study collections of plants and animals are available. There is also a 2,000-acre study area near the campus. Graduate students have ample opportunity for close association with the personnel of the Alaska Cooperative Fishery and Wildlife Research Unit and local offices of federal and state conservation agencies. These agencies often provide support for graduate student projects. Thus, an unusually good opportunity is available for students to gain experience and to make job connections.

The Department of Biology and Wildlife and the Alaska Cooperative Wildlife Research Unit cooperate in offering graduate work leading to the Master of Science and Doctor of Philosophy degrees. Persons desiring detailed information on the graduate program in wildlife biology and management may obtain this from the chair, Wildlife Program. The procedure to be followed in applying for admission to graduate study is outlined in the section on Graduate Admissions.

The Alaska Cooperative Wildlife Research Unit offers a limited number of research assistantships; information on these and the unit's program can be obtained from the leader, Alaska Cooperative Fishery and Wildlife Research Unit at the University of Alaska Fairbanks. Assistantship applications should be sent to the unit leader; such applications are supplementary to the application for admission to graduate study.

Wildlife Management - M.S. Degree**Degree Requirements:**

1. Complete the general university requirements and master's degree requirements.
2. Complete a minimum of 30 credits of approved courses, including thesis, in the field of wildlife management. At least 24 credits, including thesis and/or research, must be at the 600 level.
3. Students working in subject areas involving significant non-English literature will be expected to read the appropriate foreign language.

Wildlife Management - Ph.D. Degree

The doctoral degree is awarded for proven ability and scholarly attainment. Candidates' programs are planned with their graduate advisory committees, as there are no fixed course requirements required to earn the Ph.D. degree. A candidate for the Ph.D. degree in the Wildlife Management program will be expected to have course work at least equivalent to that required for the M.S. degree. See the UAF degree requirements, page 10.

See next
page for
changes.

B. JUSTIFICATION FOR CHANGE:

The name Wildlife Biology better reflects the research and instructional components of the degree program.

C. OTHER CHANGES, IF ANY, AND JUSTIFICATION:

APPROVALS:

[Signature] Date 19 Oct 92
Head, Program/Department of BIOLOGY & WILDLIFE
[Signature] Date 10/20/92
Chair, College/School Curriculum Council for _____
[Signature] Date 11/6/92
Dean, College/School of Natural Sciences

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

[Signature] Date 12-3-92
Chair, Senate Curricular Affairs Committee

5/92

UNIVERSITY OF ALASKA FAIRBANKS




College of Natural Sciences
Office of the Dean

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MEMORANDUM

To: Curricular Affairs Committee
Faculty Senate

From: Paul Reichardt, Dean 
College of Natural Sciences

Date: November 6, 1992

Subject: Biology Graduate Degrees and the Graduate Catalog

Ever since the Department of Biology and Wildlife changed the name of its Ph.D. degree in 1989 confusion has reigned in program listings. The Graduate Catalog is no exception. The following change on page 89 would bring the catalog statement into agreement with the real situation:

REPLACE "Degrees: MS, MAT, and PhD in the Biological Sciences; MS and PhD in Wildlife Management"

WITH: "Degrees: MS in Biology, Botany, Wildlife Biology, and Zoology; MAT in Biology; PhD in Biological Sciences with emphases in Biology, Botany, Wildlife Biology, and Zoology"

The list of degrees on page 16 of the Graduate Catalog also needs modification to accurately reflect the degrees which are actually given.

Mark Oswood, Head of Biology/Wildlife, and I agree that these changes are needed and that the new wording suggested here reflects what's really approved and going on. I have not sent all this through the CNS Curriculum Council because the suggested changes are only those needed to correct the present version of the Graduate Catalog and do not represent any change in practice.

cc: M. Oswood
J. Pender

TABLE 2.1 FY92 Degree and Certificate Program Inventory

	Min Credits Req'd	UAF PROGRAM SITES							Also Offered by UAA UAS	
		Fbks	Arctic Sivrut.	Bristol Bay	Chukchi Interior	Kuskokwim	North-west	TOTAL		
MASTER OF CIVIL ENGINEERING										
13.050 Civil Engineering	30	O(FY68)						1	O	
MASTER OF EDUCATION										
13.040 College Student Personnel Ad O(FY76)		O(FY88)								
13.101 Education	36	O(FY55)						1		O
13.110 Guidance and Counseling	42	O(FY76)						1	O	
13.049 Vocational Administration O(FY76)		X(FY99)								
13.020 Vocational Education O(FY76)		X(FY89)								
MASTER OF ELECTRICAL ENGINEERING										
14.101 Electrical Engineering	32	O(FY68)						1		
MASTER OF SCIENCE										
14.999 Arctic Engineering	30	O(FY76)						1	O	
14.040 Atmospheric Science	30	O(FY78)						1		
26.042 Biochemistry/Molecular Biology	30	O(FY91)						1		
26.0101 Biochemistry	30	O(FY60)						1		
26.0102 Biology	30	O(FY60)						1		
26.050 Chemistry	30	O(FY60)						1		
14.051 Civil Engineering	30	O(FY64)						1	O	
14.010 Computer Science	30	O(FY88)						1		
14.101 Electrical Engineering	30	O(FY69)						1		
14.0701 Engineering Management	33	O(FY61)						1	O	
14.0701 Environmental Quality Engineering	30	O(FY70)						1	O	
14.0702 Environmental Quality Science	30	O(FY76)						1	O	
03.0502 Fisheries	30	O(FY64)						1		
26.0101 General Science	30	O(FY82)						1		
14.051 Geological Engineering	33	O(FY80)						1		
40.051 Geology	30	O(FY69)						1		
40.0503 Geophysics	36	O(FY84)						1		
30.999 Interdisciplinary Studies	30	O(FY70)						1	O	
26.0501 Marine Biology	30	O(FY80)						1		
27.010 Mathematics	35	O(FY61)						1		
14.101 Mechanical Engineering	30	O(FY68)						1		
14.219 Mineral Production Engineering	36	O(FY65)						1		
14.210 Mining Engineering	36	O(FY61)						1		
03.0701 Natural Resources Management	35	O(FY73)						1		
14.0701 Ocean Engineering O(FY70)		X(FY85)								
40.072 Oceanography	30	O(FY70)						1		
14.201 Petroleum Engineering	33	O(FY83)						1		
40.0801 Physics	30	O(FY84)						1		
14.0301 Resource Economics	30	O(FY82)						1		
40.0701 Science Management	33	O(FY69)						1		
40.0301 Space Physics	30	O(FY78)						1		
03.0501 Wildlife Management O(FY64)	30	O(FY52)						1		
26.0701 Zoology	30	O(FY60)						1		
DOCTORAL PROGRAMS										
40.0201 Anthropology	open	O(FY89)						1		
40.0401 Atmospheric Science	open	O(FY78)						1		
26.042 Biochemistry/Molecular Biology	open	O(FY91)						1		
26.0101 Biochemistry	open	O(FY89)						1		
26.0101 Biology O(FY76)		X(FY81)								
03.0502 Fisheries	open	O(FY91)						1		
40.0501 Geology	open	O(FY61)						1		
40.0503 Geophysics	open	O(FY61)						1		
30.999 Interdisciplinary Studies	open	O(FY70)						1		
27.0101 Mathematics	open	O(FY85)						1		
40.0702 Oceanography	open	O(FY70)						1		
40.0801 Physics	open	O(FY60)						1		
40.0301 Space Physics	open	O(FY78)						1		
03.0501 Wildlife Management O(FY64)		X(FY81)								
26.0701 Zoology O(FY66)		X(FY91)								
TOTAL PROGRAMS CURRENTLY OFFERED										
Certificate Programs	32	10	0	0	0	0	1	2	12	3
Associate Programs	61	12	1	3	2	3	6	5	15	6
Baccalaureate Programs	129	65	0	2	3	2	2	3	65	29
Masters Programs	33	56	0	0	0	0	0	0	56	14
Doctoral Programs	...	12	0	0	0	0	0	0	12	0
TOTAL		155	1	5	5	5	9	10	160	32

10/4/11

Reviewers - This is
a confusing situation,
so I'm attaching
the biology + wildlife
grad. sections of
the 2009-10, 2010-11,
and 2011-12 catalogs

D. Wagner

BIOCHEMISTRY AND MOLECULAR BIOLOGY

College of Natural Science and Mathematics
Department of Chemistry and Biochemistry
907-474-5510
www.uaf.edu/chem/

M.S., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; Ph.D.: 18 thesis credits

Biochemistry and molecular biology is an interdepartmental program administered by the Department of Chemistry and Biochemistry with research support through the Institute of Arctic Biology. A broad range of biomedical research experiences are available including molecular and cellular neuroscience, proteomics, protein structure-function and molecular toxicology. The arctic environment provides additional research opportunities in environmental biochemistry, adaptations and molecular genetics.

UAF faculty and affiliate faculty at collaborating institutions provide a rich academic environment encompassing both research and comprehensive course offerings. Students with career interests in biotechnology, pharmaceutical sciences, environmental health, genetics and biomedicine are encouraged to apply. Students are normally accepted with financial support (fellowships, research assistantships and/or teaching assistantships) along with tuition waivers.

Graduate Program — M.S. Degree

1. Complete the general university requirements (page 198).
2. Complete the master's degree requirements (page 202).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete a research thesis.
5. Minimum credits required30

Graduate Program — M.S. Degree with Neuroscience Option

1. Complete the general university requirements (page 198).
2. Complete the master's degree requirements (page 202).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete the following neuroscience course:
BIOL F617—Neurobiology3
5. Complete a neuroscience research thesis
6. Minimum credits required30

Graduate Program — Ph.D. Degree

1. Complete the general university requirements (page 198).
2. Complete the Ph.D. degree requirements (page 203).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete three electives.
5. Complete Ph.D. dissertation.
6. Complete two seminar series (CHEM F692).
7. Minimum credits required (including core courses)38

Graduate Program — Ph.D. Degree with Neuroscience Option

1. Complete the general university requirements (page 198).
2. Complete the Ph.D. degree requirements (page 203).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete three electives with two of the electives in neurosciences.
5. Complete Ph.D. dissertation in a field of neuroscience.
6. Complete two seminar series (CHEM F692).
7. Minimum credits required (including core courses)38

BIOLOGICAL SCIENCES

College of Natural Science and Mathematics
Department of Biology and Wildlife
907-474-7671
www.bw.uaf.edu

M.S., M.A.T., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; M.A.T.: 36 credits; Ph.D.: 18 thesis credits

UAF biological sciences graduate students have extraordinary opportunities to conduct independent biological research in controlled experiment or field settings, taking advantage of arctic, alpine and boreal environments near campus or at remote locations.

The department has close connections with the National Science Foundation taiga Long Term Ecological Research (LTER) site, located about 20 miles from campus. Our students also have access to the tundra LTER site at Toolik Lake, where the UAF Institute of Arctic Biology runs a field station.

Facilities available to graduate students on the Fairbanks campus include small mammal colonies, the Large Animal Research Station, both electron and light microscope laboratories, an imaging laboratory and a greenhouse facility. Students and faculty work on systematic collections in the UA Museum of the North using a variety of approaches from traditional morphology to molecular biology.

The program has strong research emphases in arctic plant ecology, plant-animal coevolution, insect ecology (terrestrial and aquatic), bird and mammal physiological ecology, vertebrate population dynamics, biology of seabirds, molecular evolution and systematics, pollution ecology, wetland ecology, population genetics, ungulate biology and wildlife management.

Advanced degree recipients gain significant teaching experience conducting labs, and a few take primary responsibility for instruction in a course at the undergraduate level. Our graduates have pursued careers in education at the university, community college and secondary levels. Many find professional positions with state and federal resource agencies, with whom the department faculty maintain close contact.

The Department of Biology and Wildlife has approximately 100 graduate students. The atmosphere is informal and students and faculty interact frequently, not only in small-enrollment classes, but also on field trips and in community and social settings.

Research assistantships are available on a competitive basis. Teaching assistantships in department courses provide excellent experience. Competitive fellowships are available through the UAF Graduate School. Applicants interested in graduate assistantships should contact the department for assistantship application forms.

Graduate Program — M.S. Degree

- Complete the admission process including the following:
 - Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (highly recommended).
 - If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
- Complete the general university requirements (page 198).
- Complete the M.S. — with Thesis degree requirements (page 203).
- As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
- Minimum credits required30

Graduate Program — M.A.T. Degree

- Complete the admission process including the following:
 - Submit scores from both the GRE General Test (required) and the GRE subject Test in Biology (highly recommended).
 - If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
 - Complete the general university requirements (page 198).
 - Complete the M.A.T. degree requirements (page 204).
 - Minimum credits required36
- Note: Persons interested in this degree program should contact the department chair.*

Graduate Program — Ph.D. Degree**Concentration: Wildlife Biology and Conservation**

- Complete the admission process including the following:
 - Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (required for applicants holding only a bachelor's degree; highly recommended for applicants who have already earned a master's degree).
 - If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
 - Complete the general university requirements (page 198).
 - Complete the Ph.D. degree requirements (page 203).
 - As part of the Ph.D. degree requirement, complete the following:
 - If entering with only a bachelor's degree, complete and pass the departmental written and oral Ph.D. qualifying examination.
 - Complete and pass a written and oral comprehensive examination by the graduate advisory committee.
 - In this program or in previous post-baccalaureate programs, complete course work at least equivalent to that required for the M.S. degree.
 - Minimum credits required18
- See Wildlife Biology and Conservation.

BUSINESS ADMINISTRATION

School of Management

907-474-4622

www.uaf.edu/som/programs/ba/**M.B.A. Degree**

Minimum Requirements for Degree: 30 credits

The School of Management offers professional education applicable to the fields of management, finance, human resource management, international business, marketing and travel industry management to individuals interested in entering industry or government.

The program prepares graduates to meet the complex problems of the technical, economic and social environment and to enable them to provide imaginative and responsible leadership to industry and government.

The UAF program recognizes that competence in the practice of management necessitates education with both breadth and depth. The graduate program is accredited by the Association to Advance Collegiate Schools of Business.

Graduate Program — M.B.A. Degree**Concentrations: Capital Markets, General Management**

- Complete the admission process including the following:
 - Applications will be reviewed on a continuous basis
 - UAF B.B.A. students may be admitted to the M.B.A. program prior to graduating if they meet one of the following:
 - Have at least a 'B' in BA F325, BA F343, BA F360, BA F390 and ECON F227
 - have senior standing and an overall GPA of 3.25 or have at least a 'B' in BA F325, BA F343, BA F360, BA F390 and ECON F227
 - have senior standing, an overall GPA of 3.0 and a minimum GMAT score of 500 (an average GRE score of 500 will also be accepted)
 - Non-UAF applicants with a bachelor's degree with a business major from an AACSB-accredited institution and a 3.25 GPA will be admitted without taking the GMAT or GRE. Other applicants must submit results from the GMAT or GRE.
 - Students with a graduate degree from an accredited institution will be admitted without taking the GMAT or GRE.
- Complete the general university requirements (page 198).
- Complete the master's degree requirements (page 202).
- If a student earns grades of two Cs, one D, or one F in courses that are part of his/her M.B.A. program, the student will no longer be in good standing in the M.B.A. program even if his/her cumulative GPA remains at or above 3.0. M.B.A. Students who are not in good standing will be subject to review and may be dismissed by the M.B.A. committee. Students may not use more than two F600-level courses with C grades on their Advancement to Candidacy application. An A or B grade must be earned in F400-level courses.
- Complete the following foundation courses if previous college work is not in business:

ACCT F602—Accounting for Managers	3
BA 652—Fundamentals of Business	3
ECON 621—Fundamentals of Economics	3
ECON 628—Analytical Methods for Economics and Business	3
- Complete the following advanced M.B.A. core courses after all foundation course requirements (part 5) are completed:

BA F617—Organizational Theory for Managers	3
BA F643—Marketing Management	3

WLF/FISH F625—Analysis of Vertebrate Populations Survival and Movement	3
FISH F601—Quantitative Fishery Science	3
ECON F626—Econometrics	3
ECON F627—Advanced Econometrics	3
ESM F621—Operations Research	3
MATH F641—Real Analysis	4
MIN/GE F635—Geostatistical Ore Reserve Estimation	3
6. Minimum credits required	12
* Student must earn a C grade or better in each course.	

Graduate Program — M.S. Degree

- Complete the following admission requirements:
 - Submit three letters of recommendation concerning the applicant's educational background and quantitative training.
 - Submit complete transcripts for all college-level work.
 - Submit a resume.
 - Submit a written statement of goals.
 - Submit GRE scores.
 - The applicant must have completed a bachelor's degree from an accredited institution with a GPA of at least 3.0.
 - Must have completed the following courses or their equivalent with a B grade or better: full calculus sequence (MATH F200X, F201, F202); or students completing MATH F262X or F272 must take MATH F201X and F202X before acceptance; and a course in linear algebra (MATH F314), at least one introductory statistics or probability course (STAT F200X, F300 or MATH F371, F408). Students lacking MATH F314 may be accepted on probation.
 - Complete the general university requirements (page 198).
 - Complete the master's degree requirements (page 202).
 - Complete the following statistics (core) courses:

STAT F651—Statistical Theory I	3
STAT F652—Statistical Theory II	4
STAT F653—Statistical Theory III—Linear Models	3
STAT F654—Statistical Consulting Seminar	1
STAT F698—Project	3
 - Complete two of the following courses:

STAT F461—Applied Multivariate Statistics	3
STAT F602—Experimental Design	3
STAT F605—Spatial Statistics	3
STAT F621—Distribution Free Statistics	3
STAT F631—Categorical Data analysis	3
STAT F641—Bayesian Statistics	3
STAT F661—Sampling Theory	3
STAT F611—Time Series	3
 - Complete at least 6 credits of approved courses from an application area or courses with substantial statistical and/or mathematical content.*
 - Minimum credits required
- Students working in subject areas involving significant non-English literature will be expected to read the appropriate foreign language.
- Each student must take and pass a two-part comprehensive exam. The first part, written by the statistics faculty, is a written exam (not a take-home exam) covering the material in the core statistics courses. The second part is an oral exam covering follow-up questions from the written exam as well as any material from courses the student has taken along with their project.

WILDLIFE BIOLOGY AND CONSERVATION

College of Natural Science and Mathematics
 Department of Biology and Wildlife
 907-474-7671
 www.bw.uaf.edu

M.S. Degree

Minimum Requirements for Degree: 30 credits

The geographic location of the university is particularly advantageous for the study of wildlife biology. Spruce forest, aspen-birch forest, alpine tundra, bogs and several types of aquatic habitats are within easy reach. Studies can be made in many other habitats ranging from the dense forests of southeastern Alaska to arctic tundra.

Adequate study collections of plants and animals are available, and a 2,000-acre study area is near the campus. Wildlife biology students have ample opportunity for close association with the personnel of the Alaska Cooperative Fish and Wildlife Research Unit, Institute of Arctic Biology and several local offices of federal and state conservation agencies. These agencies often provide support for graduate student projects, and program faculty usually hire a number of students for summer field work. Exceptional opportunities are available for students to gain experience and make job connections.

The Department of Biology and Wildlife, the Institute of Arctic Biology, and the Alaska Cooperative Fish and Wildlife Research Unit cooperate in offering graduate work leading to the M.S. degree. Detailed information on the graduate program in wildlife biology and management is available from the chair of the wildlife program.

The Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology offer a limited number of research assistantships. Teaching assistantships are available in the Department of Biology and Wildlife.

Graduate Program — M.S. Degree

- Complete the following admission requirement:
 - Submit scores from both the GRE general test (required) and the GRE subject test in biology (highly recommended).
 - If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
 - Complete the general university requirements (page 198).
 - Complete the M.S. — with Thesis degree requirements (page 204).
 - As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
 - Minimum credits required
- See Biological Sciences.

BIOCHEMISTRY AND MOLECULAR BIOLOGY

College of Natural Science and Mathematics
Department of Chemistry and Biochemistry
907-474-5510
www.uaf.edu/chem/

M.S., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; Ph.D.: 18 thesis credits

Biochemistry and molecular biology is an interdepartmental program administered by the Department of Chemistry and Biochemistry with research support through the Institute of Arctic Biology. A broad range of biomedical research experiences are available including molecular and cellular neuroscience, proteomics, protein structure-function and molecular toxicology. The arctic environment provides additional research opportunities in environmental biochemistry, adaptations and molecular genetics.

UAF faculty and affiliate faculty at collaborating institutions provide a rich academic environment encompassing both research and comprehensive course offerings. Students with career interests in biotechnology, pharmaceutical sciences, environmental health, genetics and biomedicine are encouraged to apply. Students are normally accepted with financial support (fellowships, research assistantships and/or teaching assistantships) along with tuition waivers.

Graduate Program — M.S. Degree

1. Complete the general university requirements (page 201).
2. Complete the master's degree requirements (page 205).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete a research thesis.
5. Minimum credits required30

Graduate Program — M.S. Degree with Neuroscience Option

1. Complete the general university requirements (page 201).
2. Complete the master's degree requirements (page 205).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete the following neuroscience course:
BIOL F617—Neurobiology3
5. Complete a neuroscience research thesis
6. Minimum credits required30

Graduate Program — Ph.D. Degree

1. Complete the general university requirements (page 201).
2. Complete the Ph.D. degree requirements (page 206).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete three electives

Graduate Program — Ph.D. Degree with Neuroscience Option

1. Complete the general university requirements (page 201).
2. Complete the Ph.D. degree requirements (page 206).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete three electives with two of the electives in neurosciences.
5. Complete Ph.D. dissertation in a field of neuroscience.
6. Complete two seminar series (CHEM F692).
7. Minimum credits required (including core courses)38

BIOLOGICAL SCIENCES

College of Natural Science and Mathematics
Department of Biology and Wildlife
907-474-7671
www.bw.uaf.edu

Ph.D. Degree

Minimum Requirements for Degree: 18 thesis credits

The biological sciences program provides a broad education as well as a sound foundation in the basic principles of biology. Candidates who expect to teach in public secondary schools must be sure that education requirements are met.

Graduate Program — Ph.D. Degree

Concentrations: Biology, Botany, Wildlife Biology and Conservation, Zoology

1. Complete the admission process including the following:
 - a. Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (required for applicants holding only a bachelor's degree; highly recommended for applicants who have already earned a master's degree).
 - b. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
2. Complete the general university requirements (page 201).
3. Complete the Ph.D. degree requirements (page 206).
4. As part of the Ph.D. degree requirement, complete the following:
 - a. If entering with only a bachelor's degree, complete and pass the departmental written and oral Ph.D. qualifying examination.
 - b. Complete and pass a written and oral comprehensive examination by the graduate advisory committee.
 - c. In this program or in previous post-baccalaureate programs, complete course work at least equivalent to that required for the M.S. degree.
5. Minimum credits required18

See Biology
See Wildlife

BIOLOGY

College of Natural Science and Mathematics
Department of Biology and Wildlife
907-474-7671
www.bw.uaf.edu

M.S., M.A.T. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; M.A.T.: 36 credits

UAF biology graduate students have extraordinary opportunities to conduct independent biological research in controlled-experiment or field settings, taking advantage of arctic, alpine and boreal environments near campus or at remote locations.

The department has close connections with the National Science Foundation taiga Long Term Ecological Research (LTER) site, located about 20 miles from campus. Our students also have access to the tundra LTER site at Toolik Lake, where the UAF Institute of Arctic Biology runs a field station.

Facilities available to graduate students on the Fairbanks campus include small mammal colonies, the Large Animal Research Station, both electron and light microscope laboratories, an imaging laboratory and a greenhouse facility. Students and faculty work on systematic collections in the UA Museum of the North using a variety of approaches from traditional morphology to molecular biology.

The program has strong research emphases in arctic plant ecology, plant-animal coevolution, insect ecology (terrestrial and aquatic), bird and mammal physiological ecology, vertebrate population dynamics, biology of seabirds, molecular evolution and systematics, pollution ecology, wetland ecology, population genetics, ungulate biology and wildlife management.

Advanced degree recipients gain significant teaching experience conducting labs, and a few take primary responsibility for instruction in a course at the undergraduate level. Our graduates have pursued careers in education at the university, community college and secondary levels. Many find professional positions with state and federal resource agencies, with whom the department faculty maintain close contact.

The Department of Biology and Wildlife has approximately 100 graduate students. The atmosphere is informal and students and faculty interact frequently, not only in small-enrollment classes, but also on field trips and in community and social settings.

Research assistantships are available on a competitive basis. Teaching assistantships in department courses provide excellent experience. Competitive fellowships are available through the UAF Graduate School. Applicants interested in graduate assistantships should contact the department for assistantship application forms.

Graduate Program — M.S. Degree

1. Complete the admission process including the following:
 - a. Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (highly recommended).
 - b. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
2. Complete the general university requirements (page 201).
3. Complete the M.S. — with Thesis degree requirements (page 206).
4. As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
5. Minimum credits required 30

2010-2011 (cont.)

Graduate Program — M.A.T. Degree

1. Complete the admission process including the following:
 - a. Submit scores from both the GRE General Test (required) and the GRE subject Test in Biology (highly recommended).
 - b. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
 2. Complete the general university requirements (page 201).
 3. Complete the M.A.T. degree requirements (page 207).
 4. Minimum credits required 36
- Note: Persons interested in this degree program should contact the department chair.
See Biological Sciences for Ph.D. program.
See Wildlife Biology.

BUSINESS ADMINISTRATION

School of Management
907-474-4622
www.uaf.edu/som/programs/ba/

M.B.A. Degree

Minimum Requirements for Degree: 30 credits

The School of Management offers professional education applicable to the fields of management, finance, human resource management, international business, marketing and travel industry management to individuals interested in entering industry or government.

The program prepares graduates to meet the complex problems of the technical, economic and social environment and to enable them to provide imaginative and responsible leadership to industry and government.

The UAF program recognizes that competence in the practice of management necessitates education with both breadth and depth. The graduate program is accredited by the Association to Advance Collegiate Schools of Business.

Graduate Program — M.B.A. Degree

Concentrations: Capital Markets, General Management

1. Complete the admission process including the following:
 - a. Applications will be reviewed on a continuous basis
 - b. UAF B.B.A. students may be admitted to the M.B.A. program prior to graduating if they meet one of the following:
 - i. Have at least a 'B' in BA F325, BA F343, BA F360, BA F390 and ECON F227
 - ii. have senior standing and an overall GPA of 3.25 or have at least a 'B' in BA F325, BA F343, BA F360, BA F390 and ECON F227
 - iii. have senior standing, an overall GPA of 3.0 and a minimum GMAT score of 500 (an average GRE score of 500 will also be accepted)
 - c. Non-UAF applicants with a bachelor's degree with a business major from an AACSB-accredited institution and a 3.25 GPA will be admitted without taking the GMAT or GRE. Other applicants must submit results from the GMAT or GRE.
 - d. Students with a graduate degree from an accredited institution will be admitted without taking the GMAT or GRE.
2. Complete the general university requirements (page 201).
3. Complete the master's degree requirements (page 205).
4. If a student earns grades of two Cs, one D, or one F in courses that are part of his/her M.B.A. program, the student will no

WILDLIFE BIOLOGY AND CONSERVATION

College of Natural Science and Mathematics
 Department of Biology and Wildlife
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 www.bw.uaf.edu

M.S. Degree

Minimum Requirements for Degree: 30 credits

The geographic location of the university is particularly advantageous for the study of wildlife biology. Spruce forest, aspen-birch forest, alpine tundra, bogs and several types of aquatic habitats are within easy reach. Studies can be made in many other habitats ranging from the dense forests of southeastern Alaska to arctic tundra.

Adequate study collections of plants and animals are available, and a 2,000-acre study area is near the campus. Wildlife biology students have ample opportunity for close association with the personnel of the Alaska Cooperative Fish and Wildlife Research Unit, Institute of Arctic Biology and several local offices of federal and state conservation agencies. These agencies often provide support for graduate student projects, and program faculty usually hire a number of students for summer field work. Exceptional opportunities are available for students to gain experience and make job connections.

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The Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology offer a limited number of research assistantships. Teaching assistantships are available in the Department of Biology and Wildlife.

Graduate Program — M.S. Degree

1. Complete the following admission requirement:
 - a. Submit scores from both the GRE general test (required) and the GRE subject test in biology (highly recommended).
 - b. If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
2. Complete the general university requirements (page 201).
3. Complete the M.S. — with Thesis degree requirements (page 207).
4. As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
5. Minimum credits required30
 See Biological Sciences for Ph.D. program.
 See also Biology for M.S., M.A.T. program.

BIOCHEMISTRY AND MOLECULAR BIOLOGY

College of Natural Science and Mathematics
Department of Chemistry and Biochemistry
907-474-5510
www.uaf.edu/chem/

M.S., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; Ph.D.: 18 thesis credits

Biochemistry and molecular biology is an interdepartmental program administered by the Department of Chemistry and Biochemistry with research support through the Institute of Arctic Biology. A broad range of biomedical research experiences are available including molecular and cellular neuroscience, proteomics, protein structure-function and molecular toxicology. The arctic environment provides additional research opportunities in environmental biochemistry, adaptations and molecular genetics.

UAF faculty and affiliate faculty at collaborating institutions provide a rich academic environment encompassing both research and comprehensive course offerings. Students with career interests in biotechnology, pharmaceutical sciences, environmental health, genetics and biomedicine are encouraged to apply. Students are normally accepted with financial support (fellowships, research assistantships and/or teaching assistantships) along with tuition waivers.

Graduate Program — M.S. Degree

1. Complete the general university requirements (page 191).
2. Complete the master's degree requirements (page 195).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete a research thesis.
5. Minimum credits required30

Graduate Program — M.S. Degree with Neuroscience Option

1. Complete the general university requirements (page 191).
2. Complete the master's degree requirements (page 195).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete the following neuroscience course:
BIOL F617—Neurobiology3
5. Complete a neuroscience research thesis
6. Minimum credits required30

Graduate Program — Ph.D. Degree

1. Complete the general university requirements (page 191).
2. Complete the Ph.D. degree requirements (page 196).
3. Complete the following three core courses:
CHEM F654—Protein Structure and Function3
CHEM F657—Molecular Foundations of Gene Expression3
CHEM F674—Membrane Biochemistry and Biophysics3
4. Complete three electives.
5. Complete Ph.D. dissertation.
6. Complete two seminar series (CHEM F692).
7. Minimum credits required (including core courses)27

2009-2010 Catalog

Graduate Program — Ph.D. Degree with Neuroscience Option

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2. Complete the Ph.D. degree requirements (page 196).
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CHEM F657—Molecular Foundations of Gene Expression3
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4. Complete three electives with two of the electives in neurosciences.
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6. Complete two seminar series (CHEM F692).
7. Minimum credits required (including core courses)27

BIOLOGICAL SCIENCES

College of Natural Science and Mathematics
Department of Biology and Wildlife
907-474-7671
www.bw.uaf.edu

Ph.D. Degree

Minimum Requirements for Degree: 18 thesis credits

The biological sciences program provides a broad education as a sound foundation in the basic principles of biology. Those who expect to teach in public secondary schools must be sure that education requirements are met.

Graduate Program — Ph.D. Degree

Concentrations: Biology, Botany, Zoology

1. Complete the admission process including the following:
 - a. Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (required for those holding only a bachelor's degree; highly recommended for applicants who have already earned a master's degree).
 - b. If English is not your native language, submit scores on both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Request justification, for exceptions to this requirement submit to the chair of the department.
2. Complete the general university requirements (page 191).
3. Complete the Ph.D. degree requirements (page 196).
4. As part of the Ph.D. degree requirement, complete the following:
 - a. If entering with only a bachelor's degree, complete departmental written and oral Ph.D. qualifying examination.
 - b. Complete and pass a written and oral comprehensive examination by the graduate advisory committee.
 - c. In this program or in previous post-baccalaureate work, complete course work at least equivalent to that required for the M.S. degree.
5. Minimum credits required18
See Biology.
See Wildlife Biology.

BIOLOGY

College of Natural Science and Mathematics
Department of Biology and Wildlife
907-474-7671
www.bw.uaf.edu

M.S., M.A.T. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; M.A.T.: 36 credits

UAF biology graduate students have extraordinary opportunities to conduct independent biological research in controlled-experiment or field settings, taking advantage of arctic, alpine and boreal environments near campus or at remote locations.

The department has close connections with the National Science Foundation taiga Long Term Ecological Research (LTER) site, located about 20 miles from campus. Our students also have access to the tundra LTER site at Toolik Lake, where the UAF Institute of Arctic Biology runs a field station.

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The program has strong research emphases in arctic plant ecophysiology, plant-animal coevolution, insect ecology (terrestrial and aquatic), bird and mammal physiological ecology, vertebrate population dynamics, biology of seabirds, molecular evolution and systematics, pollution ecology, wetland ecology, population genetics, ungulate biology and wildlife management.

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Graduate Program — M.S. Degree

- Complete the admission process including the following:
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- Complete the general university requirements (page 191).
- Complete the M.S. — with Thesis degree requirements (page 197).
- As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
- Minimum credits required 30

Graduate Program — M.A.T. Degree

- Complete the admission process including the following:
 - Submit scores from both the GRE General Test (required) and the GRE subject Test in Biology (highly recommended).
 - If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
 - Complete the general university requirements (page 191).
 - Complete the M.A.T. degree requirements (page 196).
 - Minimum credits required 36
- Note: Persons interested in this degree program should contact the department chair.
See Biological Sciences for Ph.D. program.
See Wildlife Biology.

BUSINESS ADMINISTRATION

School of Management
907-474-4622
www.uaf.edu/som/programs/ba/

M.B.A. Degree

Minimum Requirements for Degree: 30 credits

The School of Management offers professional education applicable to the fields of management, finance, human resource management, international business, marketing and travel industry management to individuals interested in entering industry or government.

The program prepares graduates to meet the complex problems of the technical, economic and social environment and to enable them to provide imaginative and responsible leadership to industry and government.

The UAF program recognizes that competence in the practice of management necessitates education with both breadth and depth. The graduate program is accredited by the Association to Advance Collegiate Schools of Business.

Graduate Program — M.B.A. Degree

Concentrations: Capital Markets, General Management

- Complete the admission process including the following:
 - Applications will be reviewed on a continuous basis
 - UAF B.B.A. students may be admitted to the M.B.A. program prior to graduating if they meet one of the following:
 - Have at least a 'B' in BA F325, BA F343, BA F360, BA F390 and ECON F227
 - have senior standing and an overall GPA of 3.25 or have at least a 'B' in BA F325, BA F343, BA F360, BA F390 and ECON F227
 - have senior standing, an overall GPA of 3.0 and a minimum GMAT score of 500 (an average GRE score of 500 will also be accepted)
 - Non-UAF applicants with a bachelor's degree with a business major from an AACSB-accredited institution and a 3.25 GPA will be admitted without taking the GMAT or GRE. Other applicants must submit results from the GMAT or GRE.
 - Students with a graduate degree from an accredited institution will be admitted without taking the GMAT or GRE.
- Complete the general university requirements (page 191).
- Complete the master's degree requirements (page 195).
- If a student earns grades of two Cs, one D, or one F in courses that are part of his/her M.B.A. program, the student will no

STAT F631—Categorical Data analysis.....	3
STAT F641—Bayesian Statistics.....	3
STAT F661—Sampling Theory.....	3
STAT F611—Time Series.....	3

1. Complete at least 6 credits of approved courses from an application area or courses with substantial statistical and/or mathematical content.*

2. Minimum credits required.....30

Students working in subject areas involving significant non-English literature will be expected to read the appropriate foreign language.

Examples of courses for specific areas of concentration include: wildlife WLF F625; fisheries FISH F601, F602, F621, F622, F625; mathematics MATH F641, F660 or other F600-level MATH course.

Note: Each student must take and pass a three-part comprehensive exam. The first part, written by the statistics faculty, is a written exam (not a take-home exam) covering the material in the core statistics courses. The second part is a take-home exam covering the student's area of application. The last part is an oral exam covering any material from courses the student has taken along with their project.

WILDLIFE BIOLOGY AND CONSERVATION

College of Natural Science and Mathematics

Department of Biology and Wildlife

907-474-7671

www.bw.uaf.edu

M.S., Ph.D. Degrees

Minimum Requirements for Degrees: M.S.: 30 credits; Ph.D.: 18 thesis credits

The geographic location of the university is particularly advantageous for the study of wildlife biology. Spruce forest, aspen-birch forest, alpine tundra, bogs and several types of aquatic habitats are within easy reach. Studies can be made in many other habitats ranging from the dense forests of southeastern Alaska to arctic tundra.

Adequate study collections of plants and animals are available, and a 2,000-acre study area is near the campus. Wildlife biology students have ample opportunity for close association with the personnel of the Alaska Cooperative Fish and Wildlife Research Unit, Institute of Arctic Biology and several local offices of federal and state conservation agencies. These agencies often provide support for graduate student projects, and program faculty usually hire a number of students for summer field work. Exceptional opportunities are available for students to gain experience and make job connections.

The Department of Biology and Wildlife, the Institute of Arctic Biology, and the Alaska Cooperative Fish and Wildlife Research Unit cooperate in offering graduate work leading to the M.S. and Ph.D. degrees. Detailed information on the graduate program in wildlife biology and management is available from the chair of the wildlife program.

The Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology offer a limited number of research assistantships. Teaching assistantships are available in the Department of Biology and Wildlife.

Graduate Program — M.S. Degree

- Complete the following admission requirement:
 - Submit scores from both the GRE general test (required) and the GRE subject test in biology (highly recommended).
 - If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
- Complete the general university requirements (page 191).

- Complete the M.S. — with Thesis degree requirements (page 197).*
- As part of the M.S. degree requirements, complete and pass the departmental written and oral master's comprehensive examination.
- Minimum credits required.....30

Graduate Program — Ph.D. Degree

- Complete the admission process including the following:
 - Submit scores from both the GRE General Test (required) and the GRE Subject Test in Biology (required for applicants holding only a bachelor's degree; highly recommended for applicants who have already earned a master's degree).
 - If English is not your native language, submit scores from both the Test of Spoken English (TSE) and the Test of Written English (TWE), as well as TOEFL scores. Requests, including justification, for exceptions to this requirement should be made to the chair of the department.
- Complete the general university requirements (page 191).
- Complete the Ph.D. degree requirements (page 196).
- As part of the Ph.D. degree requirement, complete the following:
 - If entering with only a bachelor's degree, complete and pass the departmental written and oral Ph.D. qualifying examination.
 - Complete and pass a written and oral comprehensive examination by the graduate advisory committee.
 - In this program or in previous post-baccalaureate programs, complete course work at least equivalent to that required for the M.S. degree.
- Minimum credits required.....18
 - Students working in subject areas involving significant non-English literature will be expected to read the appropriate foreign language.*

See also Biological Sciences for Ph.D. program.
See also Biology for M.S., M.A.T. program.

November 29, 2010

The Graduate Academic & Advisory Committee has approved the following:

GRADUATE PROGRAM REQUEST:

SUBMITTED BY THE COLLEGE OF NATURAL SCIENCE & MATHEMATICS

(Submitted by Wildlife and Biology)

34-GPCh. Program Change: Ph.D. - Biological Sciences: remove the concentrations of Biology, Botany, and Zoology as there are no requirements associated with them; keep the concentration of Wildlife Biology and Conservation; effective Fall 2011.

Effective: Fall 2011 unless otherwise specified.

Rationale: See request attached.

APPROVED:


Chancellor's / Provost's Office

DATE:

12/1/10

DISAPPROVED:

Chancellor's / Provost's Office

DATE:

Submit originals and one copy and electronic copy to Governance/Faculty Senate Office (email electronic copy to fysenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department	Biology & Wildlife	College/School	CNSM
Prepared by	Dawn Dearing	Phone	474-6294
Email Contact	dmdearing@alaska.edu	Faculty Contact	Christa Mulder

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

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	Biological Sciences
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	Ph.D.

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

Remove all concentrations within the Ph.D. program, with the exception of Wildlife Biology and Conservation.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

We are not changing any of the requirements for the degree.

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SEP 20 2010
 Dean's Office
 College of Natural Science & Mathematics

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)

Graduate Program - Ph.D. Degree
 Optional Concentration: ~~Biology~~, Botany, Wildlife Biology and Conservation, Zoology

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

This concentration change will not have any impact on the budget, facilities/space, or faculty.

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)

This proposed concentration change will not have an effect on any other department.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

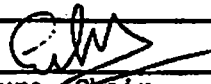

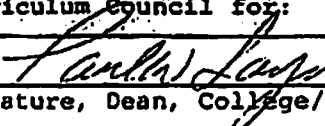
Description of the student learning outcomes assessment process.)

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 UAE 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.

The concentrations currently listed do not have any requirements associated with them, and consequently are not distinct from each other. Students (and most faculty) are not even aware of them until they fill out the graduation paperwork. The only exception is the Wildlife Biology and Conservation concentration, for which there are some differences (e.g., all paperwork goes through the Wildlife Program Chair). We do not have distinct "Zoology" or "Botany" programs, and a concentration called "Biology" within "Biological Sciences" is nonsensical.

APPROVALS:

	Date	Sept 17, 2010
Signature, Chair, Program/Department of:	Biology and Wildlife	
	Date	9/27/2010
Signature, Chair, College/School Curriculum Council for:	CNSM	
	Date	9/28/10
Signature, Dean, College/School of:	CNSM	

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

Date

Signature, Chair, UAF Faculty Senate Curriculum
Review Committee

November 29, 2010

The Graduate Academic & Advisory Committee has approved the following:

GRADUATE PROGRAM REQUEST:

SUBMITTED BY THE COLLEGE OF NATURAL SCIENCE & MATHEMATICS

(Submitted by Wildlife and Biology)

33-GPCh. Program Change: M.S., M.A.T. - Biology: change the name of the degree from M.S., M.A.T. Biology to M.S., M.A.T. Biological Sciences; effective Fall 2011.

Effective: Fall 2011 unless otherwise specified.

Rationale: See request attached.

APPROVED:


Chancellor's / Provost's Office

DATE:

12/1/10

DISAPPROVED:

Chancellor's / Provost's Office

DATE:

Submit originals and one copy and electronic copy to Governance/Faculty Senate Office (email electronic copy to fysenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department	Biology & Wildlife	College/School	CNSM
Prepared by	Dawn Dearing	Phone	474-6294
Email Contact	dmdearing@alaska.edu	Faculty Contact	Christa Mulder

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

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	Biology
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	M.S., M.A.T.

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

Change the name of the degree from M.S., M.A.T. Biology to M.S., M.A.T. Biological Sciences in order to have a consistent name of all degrees within the Biology and Wildlife Department.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

We are not changing any of the requirements for the degree.

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)

BIOLOGICAL SCIENCES BIOLOGY

RECEIVED

SEP 27 2010

Dean's Office
College of Natural Science & Mathematics

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

This name change will not have any impact on the budget, facilities/space, or faculty.

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)

This proposed name change will not have an effect on any other department.

F. IF MAJOR CHANGE -- ASSESSMENT OF THE PROGRAM:


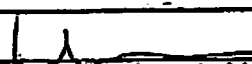

Description of the student learning outcomes assessment process.)

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 OAF 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.

The Dept of Biology and Wildlife currently offers BA, BS and PhD programs in "Biological Sciences", but MS and MAT programs in "Biology". There is no reason for the distinction and it is confusing to students who look in the catalog, for example, and have to remember that these degrees are not grouped together because of the different names. This change will put all programs under one name.

APPROVALS:

	Date	Sept 17, 2010
Signature, Chair, Program/Department of:	Biology and Wildlife	
	Date	9/24/2010
Signature, Chair, College/School Curriculum Council for:	CNSM	
	Date	9/27/10
Signature, Dean, College/School of:	CNSM	

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

Date

Signature, Chair, UAF Faculty Senate Curriculum
Review Committee