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**PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)**

**SUBMITTED BY:**

Department	<b>SFOS</b>	College/School	<b>SFOS</b>
Prepared by	<b>Trent Sutton</b>	Phone	<b>474-7285</b>
Email Contact	<b>tmsutton@alaska.edu</b>	Faculty Contact	<b>Trent Sutton</b>

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

**PROGRAM IDENTIFICATION:**

<b>DEGREE PROGRAM</b>	<b>Bachelor of Science in Fisheries Science</b>
<b>Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)</b>	<b>B.S.</b>

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

For BIOL 310, FISH 411, PHYS 103, and FISH 301, we have added alternative courses that offer similar content to alleviate these bottlenecks in our program to not delay students from graduating on time. In addition, we have deleted courses that are no longer offered (MSL 411, FISH 440) or that are not offered consistently (BIOL 473, 476, 483) to alleviate confusion that students might have in course availability. The overall objective of the proposed changes is to streamline the Bachelor of Science in Fisheries Science degree program to reduce the time to graduation.

**B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:**

- Major -- B.S. Degree
- Complete the [general university requirements](#). (As part of the core curriculum requirements, complete MATH F200X or F272X.) Complete the [B.S. degree requirements](#). (As part of the B.S. degree requirements, complete STAT F401 or STAT F402.)
  - Complete the following fisheries core requirements:\*
    - BIOL F115X--Fundamentals of Biology I\*\*--4 credits
    - BIOL F116X--Fundamentals of Biology II\*\*--4 credits
    - BIOL F271--Principles of Ecology--4 credits
    - BIOL F310--Animal Physiology--4 credits
    - BIOL F362--Principles of Genetics--4 credits
    - BIOL F473W--Limnology (4)
    - or MSL F411--Current Topics in Oceanographic Research (3)
    - or BIOL F476--Ecosystem Ecology (3)
    - or BIOL F483--Stream Ecology (3)
    - or FISH F440--Introductory Oceanography for Fisheries (3)--3 - 4 credits
    - CHEM F105X--General Chemistry I\*\*--4 credits
    - CHEM F106X--General Chemistry II\*\*--4 credits
    - ECON F235--Introduction to Natural Resource Economics (3)
    - or ECON F201--Principles of Economics I: Microeconomics (3)--3 credits
    - ENGL F414W--Research Writing--3 credits
    - FISH F101--Introduction to Fisheries--3 credits
    - FISH F288--Fish and Fisheries of Alaska--3 credits
    - FISH F301--Biology of Fishes (4)
    - or BIOL F305--Invertebrate Zoology--4 credits
    - FISH F315--Freshwater Fisheries Techniques (3)
    - or FISH F414--Field Methods in Marine Ecology and Fisheries (3)--3 credits
    - FISH F411--Human Dimensions of Environmental Systems--3 credits
    - FISH F425--Fish Ecology (3)
    - or FISH F426--Behavioral Ecology of Fishes (3)
    - or FISH F428--Physiological Ecology of Fishes--3 credits
    - FISH F487W,O--Fisheries Management--3 credits
    - FISH F490--Experiential Learning Internship--1 credit
    - PHYS F103X--College Physics\*\*--4 credits
    - STAT F200X--Elementary Probability and Statistics--3 credits
    - STAT F401--Regression and Analysis of Variance\*\*\* (4)
    - or STAT F402--Scientific Sampling\*\*\*--3 credits
  - Complete 12 credits of electives\* from Fisheries, Biology or Natural Resource Management (of which at least 4 credits must be upper division).

4. Complete 4 credits of electives\* from Chemistry, Geology or Physics.
5. Complete 4 credits of other electives\*.
6. Minimum credits required--120 credits

\* Students must earn a C grade (2.0) or better in each course.

\*\* Courses completed in the fisheries core may be used to meet the core natural sciences or B.S. degree natural science requirements but not both.

\*\*\* STAT F401 or STAT F402 may be used to meet the B.S. degree mathematics requirements.

Note: Fisheries majors are encouraged to reinforce their fisheries qualifications by earning a minor in a program related to fisheries. Some examples are biology, business management, chemistry, economics, mathematics, natural resources management (animal science), northern studies, statistics or wildlife.

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 MATH F200X or F272X.) Complete the B.S. degree requirements. (As part of the B.S. degree requirements, complete STAT F401 or STAT F402.)
2. Complete the following fisheries core requirements:\*  
 BIOL F115X--Fundamentals of Biology I\*\*--4 credits  
 BIOL F116X--Fundamentals of Biology II\*\*--4 credits  
 BIOL F271--Principles of Ecology--4 credits  
 BIOL F310--Animal Physiology--4 credits  
or BIOL F111X—Human Anatomy and Physiology I\*\*--4 credits  
and BIOL 112X—Human Anatomy and Physiology II\*\*--4 credits  
 BIOL F362--Principles of Genetics--4 credits  
~~BIOL F473W—Limnology (4)~~  
~~or MSL F411—Current Topics in Oceanographic Research (3)~~  
~~or BIOL F476—Ecosystem Ecology (3)~~  
~~or BIOL F483—Stream Ecology (3)~~  
~~or FISH F440—Introductory Oceanography for Fisheries (3) 3 4 credits~~  
 CHEM F105X--General Chemistry I\*\*--4 credits  
 CHEM F106X--General Chemistry II\*\*--4 credits  
 ECON F235--Introduction to Natural Resource Economics (3)  
 or ECON F201--Principles of Economics I: Microeconomics (3)--3 credits  
 ENGL F414W--Research Writing--3 credits  
 FISH F101--Introduction to Fisheries--3 credits  
 FISH F288--Fish and Fisheries of Alaska--3 credits  
 FISH F301--Biology of Fishes (4)  
 or BIOL F305--Invertebrate Zoology--4 credits  
or FISH F427—Ichthyology—4 credits  
 FISH F315--Freshwater Fisheries Techniques (3)  
 or FISH F414--Field Methods in Marine Ecology and Fisheries (3)--3 credits  
 FISH F411--Human Dimensions of Environmental Systems--3 credits  
or GEOG F312--People, Places, and Environment: Principles of Human Geography—3 credits  
or SOC F440—Environmental Sociology—3 credits  
 FISH F425--Fish Ecology (3)  
 or FISH F426--Behavioral Ecology of Fishes (3)  
 or FISH F428--Physiological Ecology of Fishes--3 credits  
 FISH F487W,O--Fisheries Management--3 credits  
 FISH F490--Experiential Learning Internship--1 credit  
 PHYS F103X--College Physics\*\*--4 credits  
or PHYS F115X—Physical Science I\*\*-- 4 credits  
or PHYS F211X—General Physics\*\*--4 credits  
 STAT F200X--Elementary Probability and Statistics--3 credits  
 STAT F401--Regression and Analysis of Variance\*\*\* (4)  
 or STAT F402--Scientific Sampling\*\*\*--3 credits
3. Complete ~~12-15~~ credits of electives\* from Fisheries, Biology, Marine Science and Limnology or Natural Resource Management (of which at least 4 5 credits must be upper division).
4. Complete 4 credits of electives\* from Chemistry, Geology or Physics.
5. ~~Complete 4 credits of other electives\*.~~ Additional electives\* as needed to bring total credits to a minimum of 120
6. ~~Minimum credits required--120 credits~~

\* Students must earn a C grade (2.0) or better in each course.

\*\* Courses completed in the fisheries core may be used to meet the core natural sciences or B.S. degree natural science requirements but not both.

\*\*\* STAT F401 or STAT F402 may be used to meet the B.S. degree mathematics requirements.

Note: Fisheries majors are encouraged to reinforce their fisheries qualifications by earning a minor in a program related to fisheries. Some examples are biology, business management, chemistry, economics, mathematics, natural resources management (animal science), northern studies, statistics or wildlife.

**D. ESTIMATED IMPACT**

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

The changes proposed for the Bachelor of Science in Fisheries Science will have little to no impact on budget, facilities/space, faculty, etc., in SFOS. FISH 411 could see a slight decline in enrollment if students opt for GEOG 312, SOC 440, and MSL elective courses, and those courses could see a slight increase in enrollment (2-4 students per year maximum). For other departments, we have recommended (in most cases) alternative courses that are also within the same program. As a result, we would not anticipate a net difference in student enrollment within those programs (e.g., Physics, Biology); however, there could be a small decline in enrollment in some classes (BIOL 310, BIOL 473, BIOL 476, BIOL 483, PHYS 103) and a small increase in enrollment in the proposed alternative BIOL and PHYS courses. Regardless of these changes in enrollment in any of the other program course offerings, they will not have any significant impact on budgets, facilities/space, or faculty workloads.

**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)*

The programs that could be affected by the proposed actions include Marine Science and Limnology, Physics, Biology, Geology, and Sociology. All of those programs have been contacted and both Biology and SNRAS have responded by approving of the changes for their respective courses (see attached emails).

We also have also removed BIOL 473, 476, and 483 as requirements from our program (and have informed the Biology Program Head Christa Mulder that we are implementing this change[*she said ok*]), because those three courses are often offered and then cancelled (for example, BIOL 473 in the Fall 2012 semester) or they have limited enrollment (BIOL 483) and our students cannot often enroll in the course. As a result, we have replaced that requirement (systems ecology) with an additional 3 credits of Fisheries, Biology, MSL, or NRM electives. Students could still take those three courses if offered, but they would not be prevented from graduating if the courses were cancelled (such as has happened this semester).

Katrin Iken, Program Head in Marine Science and Limnology, also approved verbally to allow MSL courses to count toward Fisheries elective requirements. For the Physics courses, former department chair Aatur Chowdhury felt that the proposed Physics courses would be fine. However, since he is no longer the chair, he forwarded that to the current chair (Curt Szuberla) on July 10 (no response from Curt). Department Chair Jordan Titus was contacted on July 9 regarding adding SOC 440 but he has not responded to my email.

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

*Description of the student learning outcomes assessment process.)*


An outcomes assessment metric already exists for this degree program which will be used to assess this change: "Track retention rates and rate of graduation within 5 years as evidence of achievement. Eighty percent (80%) of undergraduates will be retained each year, and 50% of juniors will complete degrees in  $\leq 3$  years." We anticipate that the retention rates and rate of graduation will increase because of these proposed changes.


**JUSTIFICATION FOR ACTION REQUESTED**

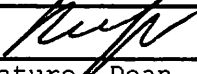
The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If 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.



Several required courses in the Bachelor of Science in Fisheries Science curriculum are only offered once per year at the same time as other required courses (e.g., BIOL 310, FISH 411, PHYS 103, FISH 301). Other classes (BIOL 473, 476, 483) are offered and then cancelled or have limits to enrollment. As a result, students often cannot take one of these classes which delays their graduation by an additional year. For these classes, we have added alternative courses that offer similar content to alleviate these bottlenecks in our program (see above for the proposed alternative courses for each course). Also, allowing MSL courses to the Fisheries electives increases flexibility in the program by providing additional course options for students. In addition, we have deleted courses that are no longer offered (MSL 411, FISH 440) to alleviate confusion that students might have in course availability. The overall objective of the proposed changes is to streamline the Bachelor of Science in Fisheries Science degree program to reduce the time to graduation and improve student retention.

**APPROVALS:**

	Date	09/06/12
Signature, Chair, Program/Department of:	Fisheries Division	

	Date	9/06/12
Signature, Chair, College/School Curriculum Council for:	SFOS	

	Date	9/6/12
Signature, Dean, College/School of:	SFOS	

<b>ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE</b>		
	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		