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

**SUBMITTED BY:**

<b>Department</b>	Fisheries	<b>College/School</b>	School of Fisheries and Ocean Sciences
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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>	Bachelor of Science in Fisheries Science
<b>Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)</b>	B.S.

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

The goal of the B.S. in Fisheries Science degree program is to educate undergraduate students in fisheries science, with a particular emphasis on the biology, assessment, and management of fish and invertebrate fisheries, in preparation for a career in fisheries and/or the seafood industry in Alaska and elsewhere. The modifications listed below reflect changes in course names, the addition of courses to diversify options for students, and the deletion of courses that are no longer being offered or that were not consistent with the goal of the degree program. These changes resulted in a reduction in the number of credits required for this degree from 126 to 120.

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

Major — B.S. Degree

1. Complete the general university requirements. (See page 131. As part of the core curriculum requirements, complete MATH F200X or F272X.)
2. Complete the B.S. degree requirements. (See page 136. As part of the B.S. degree requirements, complete STAT F401 or STAT F402.)
3. Complete the following fisheries core requirements:\*
 

BIOL F115X—Fundamentals of Biology I**.....	4
BIOL F116X—Fundamentals of Biology II**.....	4
BIOL F271—Principles of Ecology.....	4
BIOL F310—Animal Physiology.....	4
BIOL F362—Principles of Genetics.....	4
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).....	3–4
CHEM F105X—General Chemistry**.....	4
CHEM F106X—General Chemistry**.....	4
ECON F200—Principles of Economics (4)	
or ECON F235—Introduction to Natural Resource Economics (3)	
or ECON F201—Principles of Economics I: Microeconomics (3)	
and ECON F202—Principles of Economics II: Macroeconomics (3)	
ENGL F414W—Research Writing.....	3

FISH F101—Introduction to Fisheries.....	3
FISH F288—Marine and Freshwater Fishes of Alaska.....	3
FISH F315—Freshwater Fisheries Techniques.....	3
FISH F425—Fish Ecology.....	3
FISH F427—Ichthyology.....	4
FISH F490—Experiential Learning Internship.....	1
FISH F487W,O—Fisheries Management.....	3
MSL F111X—The Oceans**.....	4
PHYS F103X—College Physics**.....	4
STAT F200X—Elementary Probability and Statistics.....	3
STAT F401—Regression and Analysis of Variance.....	4
or STAT F402—Scientific Sampling.....	3

4. Complete 12 credits of electives\* from Fisheries, Biology or Natural Resource Management (of which 7 credits must be upper division).

5. Complete 4 credits of electives\* from Chemistry, Geology or Physics.

6. Complete 5 upper-division credits of other electives\*.

7. Minimum credits required.....126

\* Student must earn a C grade 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.

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. (See page 131. As part of the core curriculum requirements, complete MATH F200X or F272X.)

2. Complete the B.S. degree requirements. (See page 136. As part of the B.S. degree requirements, complete STAT F401 or STAT F402.)

3. Complete the following fisheries core requirements:\*

BIOL F115X—Fundamentals of Biology I\*\*.....4

BIOL F116X—Fundamentals of Biology II\*\*.....4

BIOL F271—Principles of Ecology.....4

BIOL F310—Animal Physiology.....4

BIOL F362—Principles of Genetics.....4

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 440—Introductory Oceanography for Fisheries (3).....3-4

CHEM F105X—General Chemistry\*\*.....4

CHEM F106X—General Chemistry\*\*.....4

~~ECON F200—Principles of Economics (4)~~

~~or ECON F235—Introduction to Natural Resource Economics (3)~~

or ECON F201—Principles of Economics I:

Microeconomics (3).....	3
and ECON F202—Principles of Economics II: Macroeconomics (3)	
ENGL F414W—Research Writing.....	3
FISH F101—Introduction to Fisheries.....	3
FISH F288— <del>Marine and Freshwater Fishes of Alaska</del> Fish and Fisheries of Alaska.....	3
FISH F301—Biology of Fishes (4) or BIOL F305—Invertebrate Zoology (4).....	4
FISH F315—Freshwater Fisheries Techniques (3).....	3
or FISH 414 Field Methods in Marine Ecology and Fisheries (3)...	3
FISH F411—Human Dimensions of Environmental Systems....	3
FISH F425—Fish Ecology (3).....	3
or FISH 426—Behavioral Ecology of Fishes (3) or FISH 428—Physiological Ecology of Fishes (3).....	3
FISH F427—Ichthyology.....	4
FISH F490—Experiential Learning Internship.....	1
FISH F487W,O—Fisheries Management.....	3
MSL F111X—The Oceans**.....	4
PHYS F103X—College Physics**.....	4
STAT F200X—Elementary Probability and Statistics.....	3
STAT F401—Regression and Analysis of Variance (4)** or STAT F402—Scientific Sampling (3)**.....	3-4

4. Complete 12 credits of electives\* from Fisheries, Biology or Natural Resource Management (of which 7 at least 4 credits must be upper division).

5. Complete 4 credits of electives\* from Chemistry, Geology or Physics.

6. Complete ~~5~~ 4 upper-division credits of other electives\*.

7. Minimum credits required.....~~126~~ 121

\* Student must earn a C grade 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.

There are no anticipated impacts from the changes listed above. All courses already exist or have been developed and submitted for approval and are taught by UAF faculty. There are no additional requirements of 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)

The proposed changes will increase enrollment in Fisheries courses since these are the primary courses that have been added to this curriculum. Deletions of courses in Business Administration and Marine Science and Limnology will result in a reduction in enrollment for courses still in existence (MSL 111; note that ECON 200 and MSL 411 will no longer be offered).

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

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

There are no major changes proposed for the B.S. in Fisheries. Student learning outcomes and assessment procedures already exist for this degree program and will not be altered at this time based on the 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.

The proposed changes include:

(1) changing the name of a course (FISH 288 Marine and Freshwater Fishes of Alaska to Fish and Fisheries of Alaska) as requested by the instructor;

(2) the addition of several courses (FISH 301, 411, 414, 426, 428, 433, and 440 and BIOL 305) to diversify Fisheries-related course offerings in the degree program. The rationale for each course addition is as follows: (a) Fish 301 Biology of Fishes OR BIOL 305 Invertebrate Zoology replaces FISH 425 Ichthyology as a requirement in the program to fulfill the organismal biology requirement; (b) FISH 411 Human Dimensions of Environmental Systems has been added to include a human user component to the degree program; (c) FISH 414 Field Methods in Marine Ecology and Fisheries is a new course and serve as an OR requirement with FISH 315 Freshwater Fisheries Techniques (students must take one techniques course to fulfill degree requirements); (d) FISH 426 Behavioral Ecology of Fishes, FISH 428 Physiological Ecology of Fishes, and FISH 433 Pacific Salmon Life Histories have been added to the curriculum as OR requirements with FISH 425 Fish Ecology (students must take one fisheries-related ecology course); and (e) FISH 440 Introductory Oceanography for Fisheries has been added as an OR requirement to BIOL 473, 476, and 483 to fulfill the ecosystem ecology/processes requirement for the degree program.

(3) the deletion of the following courses: (a) ECON 200 and MSL 411 (these courses are no longer offered by SOM and GPMSL, respectively); (b) ECON 202 (it was determined that students in our degree program should take only one economics course, either ECON 235 (preferred) or ECON 201); (c) MSL 111 (this course is taught for non-majors and does not meet the needs of this degree program); and (d) FISH 427 (the Ichthyology requirement has been replaced with FISH 301 Biology of Fishes);

(4) the changes stated above necessitated the following change: Complete 12 credits of electives\* from Fisheries, Biology or Natural Resource Management (of which at least 4 credits must be upper division) and 6. Complete ~~5~~ 4 upper division credits of other electives\*.

(5) the reduction in the number of credits required to complete the degree (126 to 120 credits).

Overall, the proposed changes are designed to provide a more rounded, science-based degree for students in Fisheries and reflect the expertise of the new Fisheries faculty that have been hired over the past three years.

**APPROVALS:**

	Date	
Signature, Chair, Program/Department of:		

	Date	
Signature, Chair, College/School Curriculum Council for:		

	Date	
Signature, Dean, College/School of:		

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

Date

Signature, Chair, UAF Faculty Senate Curriculum Review Committee