



UNIVERSITY
of ALASKA

Board of Regents Program Action Request
University of Alaska
Proposal to Add, Change, or Delete a Program of Study

1a. UA University (choose one) UAS	1b. School or College School of Arts & Sciences	1c. Department or Program Department of Natural Sciences																																								
2. Complete Program Title Joint UAS-UAF Bachelor of Science in Fisheries and Ocean Science with a Concentration in Fisheries Science (BS FOS-CFS)																																										
3. Type of Program <input type="checkbox"/> Undergraduate Certificate <input type="checkbox"/> Associate <input checked="" type="checkbox"/> Baccalaureate <input type="checkbox"/> Post-Baccalaureate Certificate <input type="checkbox"/> Master's <input type="checkbox"/> Graduate Certificate <input type="checkbox"/> Doctorate																																										
4. Type of Action <input checked="" type="checkbox"/> Add <input type="checkbox"/> Change <input type="checkbox"/> Delete	5. Implementation date (semester, year) <input checked="" type="checkbox"/> Fall <input type="checkbox"/> Spring <input type="checkbox"/> Summer Year 2017																																									
6. Projected Revenue and Expenditure Summary. Not Required if the requested action is deletion. (Provide information for the 5 th year after program or program change approval if a baccalaureate or doctoral degree program; for the 3 rd year after program approval if a master's or associate degree program; and for the 2 nd year after program approval if a graduate or undergraduate certificate. If information is provided for another year, specify (5th) and explain in the program summary attached). Note that Revenues and Expenditures are not always entirely new; some may be current (see 7d.)																																										
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Page # of attached summary where the budget is discussed, including initial phase-in: Program Proposal Summary Item 19, pages 12-13.																																										
7. Budget Status. Items a., b., and c. indicate the source(s) of the General Fund revenue specified in Item 6. If any grants or contracts will supply revenue needed by the program, indicate amount anticipated and expiration date, if applicable.																																										
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8. Facilities: New or substantially (>\$25,000 cost) renovated facilities will be required. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, discuss the extent, probable cost, and anticipated funding source(s), in addition to those listed in sections 6 and 7 above.																																										

¹Sometimes the courses required by a new degree or certificate program are already being taught by a UA university, e.g., as a minor requirement. Similarly, other program needs like equipment may already be owned. 100% of the value is indicated even though the course or other resource may be shared.

9. Projected enrollments (headcount of majors). If this is a program deletion request, project the teach out enrollments.

Year 1: UAS new major headcount of +6 BS FOS-CFS majors	Year 2: UAS added major headcount of +4 for total of 10 BS FOS-CFS majors	Year 3: UAS added major headcount of +4 for a total of 14 BS FOS-CFS majors	Year 4: UAS added major headcount of +4 for a total of 18 BS FOS-CFS majors
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Page number of attached summary where demand for this program is discussed: Program Proposal Summary Item 7, page 8.

10. Number* of new TA or faculty hires anticipated (or number of positions eliminated if a program deletion):

Graduate TA	0
Adjunct	0
Term	0
Tenure track	1

11. Number* of TAs or faculty to be reassigned:

Graduate TA	0
Adjunct	0
Term	0
Tenure track	0

Former assignment of any reassigned faculty:
For more information see page _____ of the attached summary.

12. Other programs affected by the proposed action, including those at other MAUs (please list):

Program Affected	Anticipated Effect
UAF College of Fisheries and Ocean Sciences	Increased enrollment in undergraduate level FISH courses required for the BS FOS-CFS major; see requirements listed in the catalog description on pages 2-3 of Program Proposal Summary.
UAS Biology/Marine Biology (BS/BA), Mathematics (BS) and Social Science (BA)	The BS FOS-CFS program will increase demand for pre-requisite and required courses in biology, math and social science; see requirements listed in the catalog description on pages 2-3 of Program Proposal Summary.

Page number of attached summary where effects on other programs are discussed: Program Proposal Summary Item 8, page 9.

13. Specialized accreditation or other external program certification needed or anticipated. List all that apply or 'none': None.

14. Aligns with University or campus mission, goals, core themes, and objectives (list):
 UAS Core Theme 1: Student Success. Objective for Access.
 UAS Core Theme 2: Teaching & Learning. Objective for Breadth of Programs and Services.
 UAS Core Theme 2: Teaching & Learning. Objective for Effectiveness and Efficiency.
 UAS Core Theme 3: Community Engagement. Objectives for Individual and Institutional Engagement.
 UAS Core Theme 4: Research & Creative Expression. Objectives for Engagement and Learning Impact.

Page in attached summary where alignment is discussed: Program Proposal Summary Item 5, pages 4-5.

15. Aligns with Shaping Alaska's Future themes:

Page in attached summary where alignment is discussed: Program Proposal Summary Item 5, page 5-6.

16. Aligns with Academic Master Plan goals:

Page in attached summary where alignment is discussed: Program Proposal Summary Item 5, pages 6-8.

17. State needs met by this program (list):

- Supporting a strong, sustainable maritime workforce in Alaska
- Increased recruitment and retention of rural Southeast Alaskan and Alaska Native students into fisheries careers and related fields.
- Increased enrollment in fisheries graduate studies at UAF.

18. Program is initially planned to be: (check all that apply)

- Available to students attending classes at UAS Juneau campus(es).

Page in the attached summary where the state needs to be met are discussed:
Program Proposal Summary Item 7, pages 8-9.

- Available to students via e-learning.
- Partially available students via e-learning.

Page # in attached summary where e-learning is discussed: Program Proposal Summary Item 16, page 11.

Submitted by the University of Alaska Southeast.

(choose one above)

 12/22/17
Provost Date

 12/24/17
Chancellor Date

- Recommend Approval
- Recommend Disapproval

 4/7/17
Date
UA Vice President for Academic Affairs with the
concurrence of the Statewide Academic Council

*Net FTE (full-time equivalents). For example, if a faculty member will be reassigned from another program, but his/her original program will hire a replacement, there is one net new faculty member. Use fractions if appropriate. Graduate TAs are normally 0.5 FTE. The numbers should be consistent with the revenue/expenditure information provided.

Attachments: Summary of Degree or Certificate Program Proposal Other (optional)

Revised: 09/12/2014

**Joint UAS-UAF Bachelor of Science Degree
in Fisheries and Ocean Science with a Concentration in Fisheries Science
Program Proposal Summary**

1. Degree or certificate title

Joint UAS-UAF Bachelor of Science in Fisheries and Ocean Science with a Concentration in Fisheries Science.

2. University unit responsible for the program

Jointly offered by the University of Alaska Southeast (UAS), School of Arts & Sciences, Department of Natural Sciences in collaboration with the University of Alaska Fairbanks (UAF), College of Fisheries & Ocean Sciences, Department of Fisheries.

3. Catalog description

**Joint UAS-UAF Bachelor of Science Degree
in Fisheries and Ocean Science with a Concentration in Fisheries Science**

The goal of the Joint UAS-UAF Bachelor of Science in Fisheries and Ocean Science with a Concentration in Fisheries Science degree program is to educate undergraduate students in fisheries sciences, with a particular emphasis on the biology, assessment, and management of fish and invertebrate populations and their associated physical, chemical, geological, and biological marine and freshwater environments, in preparation for a career in the fisheries in Alaska and elsewhere.

This degree is offered jointly between UAS and UAF; students have the option of completing their degree at Juneau or Fairbanks, most courses listed below can be taken at either university, and many are offered distance or online. Student research is emphasized throughout the program. The program has faculty actively involved in a wide range of disciplines, including marine ecology, behavioral ecology, evolution, marine mammalogy, marine pollution, crustacean physiology, fisheries science, and marine phyecology.

The Joint UAS-UAF Bachelor of Science in Fisheries and Ocean Science with a Concentration in Fisheries Science prepares students for graduate studies in related fields, and provides students with the knowledge base, skill sets and hands-on experience to obtain positions in state, federal, Alaska Native, Native American, and nongovernmental fisheries and natural resources conservation and management agencies in Alaska and throughout North America.

Admission Requirements

Applicants enter as pre-majors and will be considered for full admission to the Joint UAS-UAF Bachelor Science in Fisheries and Ocean Science with a Concentration in Fisheries Science after completion of the following:

1. MATH S151 (may be met by placement examination)
2. ENGL S111
3. BIOL S105 and BIOL S106
4. High school chemistry or CHEM S103 with a C (2.00) or higher.

When a student becomes a major in Fisheries and Ocean Science with a Concentration in Fisheries Science, he or she is assigned a faculty advisor. The student and the faculty advisor plan the student's curriculum, and the advisor's signature is required on registration documents.

Degree Requirements

Candidates must complete the General Education Requirements (GERs) as well as the specific program requirements listed below for a minimum of 120 credit hours.

Courses in a degree program may be counted only once. Courses used to fulfill the major requirements cannot be used to fulfill the GERs. Specific requirements for GERs in Fisheries are listed below. The degree must include 44 credits of upper-division (300 or above) courses, 24 of which must be completed at UAS or UAF.

<u>MINIMUM CREDIT HOURS</u>	<u>120</u>
General Education Requirements (PG. 70)	36
<i>Must include:</i>	
MATH S251 Calculus I	4
BIOL S105 Fundamentals of Biology I	4
BIOL S106 Fundamentals of Biology II	4
Major Requirements	66-68
BIOL S110 Introduction to Marine Fisheries	3
BIOL S215 Introduction to Marine Biology	3
BIOL S271 Ecology	4
BIOL S310 Animal Physiology	4
BIOL S362 Genetics	4
BIOL S491/498 Internship/Research	1-3
BIOL S427 Ichthyology	4
CHEM S105 General Chemistry I	4
CHEM S106 General Chemistry II	4
ECON S202 Microeconomics	3
FISH* F102 Fact or Fishin': Case Studies in Fisheries	1
FISH* F103 The Harvest of the Sea	2
FISH* F261 Introduction to Fisheries Utilization	3
or FT S222 Alaska Salmon Culture II	
FISH* F288 Fish and Fisheries of Alaska	3
or FT S274 Fisheries Biology	
FISH* F487 Fisheries Management	3
STAT S273 Elementary Statistics	3
STAT S401 Regression and Analysis of Variance	4
<i>Select one of the following (3 credits):</i>	
FISH* F315 Freshwater Fisheries Techniques	3

FISH* F414 Field Methods in Marine Ecology and Fisheries 3

Select one of the following (3 credits):

FISH* F425 Fish Ecology 3

FISH* F426 Behavioral Ecology of Fishes 3

FISH* F428 Physiology of Fishes 3

Select one of the following (4 credits):

PHYS S103 College Physics I 4

PHYS S211 General Physics I 4

Select one of the following (3 credits):

SOC S404 Environmental Sociology** 3

GEOG S312 Humans and the Environment 3

Upper-Division Electives 12-14

Complete from UAS Biology or Marine Biology courses below:

BIOL S300 Vertebrate Zoology 4

BIOL S305 Invertebrate Zoology 4

BIOL S311 Communicating Science 3

BIOL S353 Tropical Marine and Coastal Ecology 3

BIOL S355 Experimental Design and Data Analysis 4

BIOL S373 Conservation Biology 4

BIOL S375 Current Topics in Biology† 2

BIOL S380 Marine Ornithology Herpetology 3

BIOL S384 Marine Mammalogy 4

BIOL S396 Field Studies 1-6

BIOL S491/498 Internship/Research 1-3

BIOL S401 Phycology 4

BIOL S410 Physiology of Marine Animals 3

BIOL S427 Introduction to Ichthyology 4

BIOL S441 Animal Behavior 4

BIOL S480 Aquatic Pollution 3

BIOL S481 Marine Ecology 4

BIOL S482 Evolution 4

BIOL S492 Biology Seminar† 1

Or other upper-division electives from UAF: Fisheries, Marine Science and Limnology, or Natural Resources Management

Physical Science 4

Complete 4 credits of electives from Chemistry, Geology, Environmental Sciences, or Physics.

Minimum Credits Required 120

***FISH courses available from UAF**

****SOC 101 pre-requisite; take as GER**

†only 4 credits from BIOL S375 and 2 credits from BIOL S492 may be applied toward the Electives.

4. Rationale for the new program and educational objectives, student learning outcomes and plan for assessment

The goal of the Joint UAS-UAF Bachelor of Science in Fisheries and Ocean Science with a Concentration in Fisheries Science degree program is to educate undergraduate students in fisheries sciences, with a particular emphasis on the biology, assessment, and management of fish and invertebrate populations and their associated physical, chemical, geological, and biological marine and freshwater environments, in preparation for a career in the fisheries in Alaska and elsewhere.

The Joint UAS-UAF Bachelor of Science in Fisheries and Ocean Science with a Concentration in Fisheries Science prepares students for graduate studies in related fields, and provides students with the knowledge base, skill sets and hands-on experience to obtain positions in state, federal, Alaska Native, Native American, and nongovernmental fisheries and natural resources conservation and management agencies in Alaska and throughout North America.

Intended Learning Objectives/Outcomes for students that have completed the program:

- Have excellent oral and written communication skills.
- Obtain knowledge of fishery and/or ocean sciences, with a particular emphasis on the biology, assessment, and management of fish, invertebrate, and marine mammal populations and their associated physical, chemical, geological, and biological marine and freshwater environments.
- Achieve knowledge of the scientific tools of data collection in fisheries and/or ocean sciences and demonstrate competence in compiling and reporting of those data.
- Earn a degree in a timely fashion.
- Be prepared to compete successfully for admission to M.S. programs in Fisheries, Marine Biology, Oceanography, or related aquatic/marine science disciplines.

The Joint UAS-UAF Fisheries and Ocean Science with a Concentration in Fisheries Science Coordinator will facilitate program assessment based on the following:

- Surveying graduating seniors with an exit interview assessing their satisfaction with the program.
- Tracking student retention
- Tracking student success through graduate employment or graduate school
- Reassessment of program needs/improvements on a regular basis, including an annual review of curricular and pedagogical concerns.

5. Relevance to the university mission, goals, core themes and objectives

UAS Strategic and Assessment Plan Alignment

This program directly aligns with and supports accomplishment of the priority objectives outlined the *UAS Strategic and Assessment Plan 2010-2017*:

UAS Core Theme 1: Student Success. Provide the academic support and student services that facilitate student access and completion of educational goals.

Objective for Access: *Students are provided ready access to educational opportunities.* The workforce development goal of this proposed program is to significantly increase the number of students who come to Juneau to complete the joint UAS-UAF Fisheries and Ocean Science with a Concentration in Fisheries Science over the next four years. An important enrollment growth goal is to avoid moving students across programs and to grow the total number of students majoring in the bachelor's degree programs in biology, marine biology and fisheries at UAS and UAF in Juneau by adding the joint program offering.

UAS Core Theme 2: Teaching & Learning. Provide a broad range of programs and services resulting in student engagement and empowerment for academic excellence.

Objective for Breadth of Programs and Services: *Students are provided a broad range of programs and services, ranging from community college-level to graduate level.* The addition of the joint bachelor's degree program will provide an additional program pathway for UAS students in the two-year associate degree program in fisheries technology. Students in Juneau will have enhanced opportunities for graduate studies in fisheries through strengthening of the joint UAS-UAF program.

Objective for Effectiveness and Efficiency: *Programs and services make effective and efficient use of available resources through expanded degree options; faculty who teach across a broad range of program levels; leveraging resources with partners.* Collaborative offering of the joint UAS-UAF bachelor's degree program in Juneau can increase the efficiency and effectiveness of instructional resources across undergraduate and graduate program levels through the cooperative use of videoconference courses. Faculty collaborations will open the door for even greater development of research partnerships for UAS and UAF with state and federal agencies; increased fisheries research will expand opportunities for undergraduate research experiences and internships for students in Juneau.

UAS Core Theme 3: Community Engagement. Provide programs and services that respond to the economic, environmental, social, and cultural needs and resources of Southeast Alaska.

Objectives for Individual and Institutional Engagement: *Foster individual and institutional participation and contribution to providing solutions with special emphasis on Southeast Alaska.* The joint UAS-UAF bachelor's degree will provide opportunities for faculty and students, both undergraduate and graduate, to participate in collaborative and interdisciplinary fisheries teaching and research that is responsive to the needs of the communities and resource managers of Southeast Alaska.

UAS Core Theme 4: Research & Creative Expression. Provide programs and services that support research, scholarship, and creative expression by faculty and students.

Objectives for Engagement and Learning Impact: *Faculty and students are engaged in research, scholarship, and creative expression such that research, scholarship, and creative expression informs student learning.* The joint UAS-UAF bachelor's degree program will enhance collaborative opportunities for UAS and UAF faculty to provide high-impact, experiential learning opportunities in undergraduate research, internship and independent study to enhance student learning and engagement.

UA Shaping Alaska's Future Alignment

This program directly aligns with and supports accomplishment of the priority objectives outlined in the *UA Shaping Alaska's Future* themes:

Theme 1: Student Achievement and Attainment: Students learn best, and are retained and persist to graduation when they develop relationships with faculty mentors. Full-time faculty members at UAS and UAF are positioned to be those mentors throughout a student's education. In addition, the UAS Alaska Native Science and Engineering Program (ANSEP) partnership for supporting biology, marine biology and fisheries students is growing and becoming increasingly active on the Juneau Campus. The UAS biology programs are attracting increasing numbers of Alaska Native students, many of which have shown interest in fisheries sciences and careers.

Theme 3: Productive Partnerships with Public Entities and Private Industries: The Douglas Island Pink and Chum (DIPAC) Hatchery and the Auke Bay Marine Laboratory of the National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center have expressed interest in collaborating to build on existing UAS and UAF program partnerships for supporting this program offering in Juneau.

Theme 4: Research and Development (R&D) to Sustain Alaska's Communities and Economic Growth: Tripartite faculty members who are responsible for conducting research will engage in meaningful research with industry partners. Current UAS and UAF faculty have already demonstrated this with ongoing effective partnerships with NOAA, National Marine Fisheries Service (NMFS), Alaska Department of Fish & Game (ADF&G), Glacier Bay National Park, and others.

Theme 5: Accountability to the People of Alaska: UAS and UAF faculty members are committed to fulfilling the long-term mission and goals of UAS and are accountable to the students and the people of Alaska for providing access to a high quality, consistent, meaningful fisheries science education for students in Southeast Alaska.

UA Academic Master Plan (AMP) Alignment

The joint UAS-UAF Bachelor of Science degree in Fisheries and Ocean Science with a Concentration in Fisheries Science aligns with and supports the goals of the UA Academic Master Plan. The specific AMP goals and objectives that the joint program will advance are:

AMP Goal 1: Educate students to become informed and responsible citizens.

Objective 2: *Increase access to post-secondary education in all parts of the state.* As an activity aligned with this objective the joint bachelor's degree program employs e-learning, articulation with two-year programs, and other approaches to accommodate place-based students on the Juneau Campus.

Objective 3: *Integrate education, training, research, and hands-on opportunities for students.* For a field like fisheries the UAS Juneau Campus itself is a natural laboratory and classroom. In offering the joint program UAS and UAF faculty will be able to provide unparalleled opportunities for students to integrate their classroom and their research experiences to pursue a bachelor's degree. UAS and UAF faculty have unique research partnerships with local, state, and federal agencies and can leverage these to provide learning experiences through internships and practicum experiences for program students, many of these opportunities lead to employment or topics of advanced graduate study.

Objective 4: *Embrace the cultural diversity of Alaskans and promote cross-cultural understanding.* The ANSEP program is an active partner in supporting undergraduate fisheries education at both UAF and UAS. ANSEP resources support the recruitment and retention of Alaska Native and rural students to the joint bachelor's degree program from Southeast Alaska and across the state.

AMP Goal 2: Advance research, scholarship, and creative activity.

Objective 1: *Support faculty scholarship, research, and creative activity.* The addition of a new tenure-track tri-partite faculty member in marine fisheries at UAS will support additional research capacity for supporting student research at the undergraduate and, in partnership with UAF, graduate levels in areas of high interest to fisheries and natural resource management in Southeast Alaska.

Objective 2: *Engage students in scholarship, research and creative activity.* The UAS mission statement emphasizes the importance of undergraduate research and creative activity to student learning. The development of the joint UAS-UAF bachelor's degree program will expand undergraduate student research opportunities into fisheries-related topics of high regional interest with practical application to resource management and economic development.

Objective 3: *Focus organized research on areas in which special opportunities exist in Alaska, the circumpolar North, and the Pacific Rim.* UAS biology/marine biology and UAF fisheries faculty in Juneau have focused research programs that take advantages of the special opportunities provided by the marine environment of Southeast Alaska. Faculty are very successful in securing external funding to support regional research in fisheries and related sciences.

Objective 4: *Conduct research on state needs and priorities.* UAS and UAF faculty research on topics strongly supports the regional and state fisheries and natural resource management.

Objective 6: *Engage communities and partner with businesses and industries to achieve a socially, environmentally, and economically sustainable State.* Since 2015 UAS faculty and students have been developing techniques to grow seaweed as part of an applied research partnership with a private business venture that is developing and marketing food products from Alaskan seaweed. Mariculture is a state priority and strategy to increase opportunities for economic development in rural coastal communities in Alaska.

AMP Goal 4: Develop and enhance programs to respond to state needs.

The new joint UAS-UAF bachelor's degree program is responsive to the state needs identified in the Alaska Maritime Workforce Development Plan (see Item 7, page 8).

AMP Goal 5: Increase consultation, collaboration, and coordination across UA.

Objective 2: *Reduce institutional barriers to collaboration among MAUs and campuses.* To offer the joint program UAS and UAF will consult, collaborate, and cooperate together so that resources to support the new program are allocated carefully and programs are operated equitably, efficiently, and in alignment with system plans, policy, and regulation.

Objective 3: Commit to ongoing collaboration and transparent discussions on areas of potential collaborative academic programs. The joint bachelor's degree program will build on the long history of successful collaboration and cooperation between UAS and UAF faculty to coordinate courses, programs and student advising in Juneau. This collaboration includes a high number of joint affiliate appointments for UAS faculty at UAF and vice versa.

6. Collaboration with other universities and community colleges

This proposed program has been developed in close consultation and collaboration with faculty from the College of Fisheries and Ocean Sciences at the UAF. Increasing geographical availability of obtaining the joint UAS-UAF Bachelor of Science degree in Fisheries and Ocean Science with a Concentration in Fisheries Science will increase the number of students enrolling in fisheries graduate studies at UAF. In addition, students enrolled in the Associate of Applied Science (AAS) in Fisheries Technology program offered from the UAS Sitka campus will be able to transfer at least two courses to count toward meeting degree requirements for the joint UAS-UAF bachelor's degree.

7. Demand for the program in relation to state of Alaska long-range development (state needs, see question 17 on PAR), relation to other programs in the University of Alaska that may depend on or interact with the proposed program

This initiative is directly responsive to the UA engagement with the fisheries industry through the UA-Industry Fisheries-Seafood-Maritime Initiative (FSMI) workforce planning process. The *Alaska Maritime Workforce Development Plan* (AMWDP, pages 36-42) highlights the importance of growing the number of skilled Alaskans who can take positions in management, research, and enhancement of Alaska's fisheries. These positions include: Fishery Biologist, Fisheries Scientist, Fish and Game Coordinator, Fisheries Management Specialist (NOAA), ADF&G Fish and Wildlife Technician, and Hatchery Manager. As with many other occupations, those in these positions are 'graying'. There is a continuing need to educate younger individuals who will provide the skills, knowledge, and expertise to sustain Alaska's rich marine resources long into the future.

The AMWDP has identified twenty-three maritime occupation groups that need specific workforce development attention. Of those, eight occupations are directly addressed through this initiative by increasing the number of students graduating with baccalaureate degrees that are prepared to enter the workforce or to enter fisheries graduate programs. Increasing graduates from the joint UAS-UAF Bachelor of Science degree in Fisheries and Ocean Science with a Concentration in Fisheries Science can address the AMWDP priorities identified by the ADF&G, salmon and shellfish hatcheries, and other state and federal agencies in the areas of natural resource research, enhancement and management.

ADF&G has identified fisheries-related occupations where in-state vacancies are challenging to fill:

- Biometrician
- Fish and Wildlife Technician
- Fishery Biologist
- Fisheries Scientist
- Fish and Game Coordinator
- Fisheries Economist, Analyst and Management Specialist
- Fishery Management Specialist at NOAA Fisheries
- Hatchery Manager

This partnership between UAS and UAF will directly contribute to meeting the AMWDP priority of growing the number of Alaskans who can work in fisheries management, research, and enhancement. Moreover, the joint offering of this degree aligns with the University of Alaska's *Shaping Alaska's Future* initiative, which calls for innovative collaboration across the university system to promote student success, increase productivity and degree attainment, and support productive partnerships with industry.

Offering the joint UAS-UAF Bachelor of Science degree in Fisheries and Ocean Science with a Concentration in Fisheries Science in Juneau capitalizes on: (a) strong student interest in fisheries in Southeast Alaska; (b) on the prominent role of marine fisheries in the region's economy; (c) and on the exceptional field-based opportunities at UAS for fisheries instruction, to include internships with industry and practicum opportunities.

The joint UAS-UAF Bachelor of Science degree in Fisheries and Ocean Science with a Concentration in Fisheries Science program directly supports UA/UAF/UAS priority objectives outlined in the Rasmuson Fisheries Expansion *Charting a New Course for Fisheries Undergraduates in Alaska*. The major elements of this expansion that this program proposal supports are:

- The joint offering between UAS and UAF of the current Bachelor of Sciences degree in fisheries.
- A focus on experiential, hands-on learning for students through internships and research.
- Broad geographic availability for students across Alaska through advanced distance learning and technology.
- Increased recruitment and retention of rural Alaskan and Alaska Native students into fisheries careers.

8. Effects of program on other academic units (e.g. GER course requirements)

The following UAS courses are required as pre-requisites for required courses for this program: MATH S105 *Intermediate Algebra*, MATH S151 *College Algebra for Calculus*, MATH S152 *Trigonometry*, and SOC S101 *Introduction to Sociology*. In addition, the undergraduate FISH courses listed in the proposed course catalog and offered by the College of Fisheries and Ocean Sciences at UAF may experience slight to modest increases in enrollment both distance in in person at the Lena Point facility.

9. Availability of appropriate student services for program participants

Student services available at UAS include the Egan Library, Food Services, Health and Counseling services, On-Campus housing, the Learning / Testing Center, Native and Rural Center, Student Government opportunities, and a recreation center.

10. Opportunities for research and community engagement for admitted undergraduate students

Research opportunities exist for Joint UAS-UAF Fisheries and Ocean Science with a Concentration in Fisheries Science program students in the way of BIOL 396/398/498 enrollment with faculty in the program, internships (for upper division elective credit) with agencies/local biologists, and independent project development with a mentor through the UAS URECA Fellowship program.

11. Outline of schedule for implementation of the program

The proposed program has been approved the UAS Curriculum Committee (1/20/2017) and is projected to be available in the 2017/2018 UAS Academic Catalog for admissions and enrollment in fall 2017.

12. Projection of enrollments and graduates over next five years

Projection of enrollment headcount for the first five years of the new joint UAS-UAF Bachelor of Science Fisheries and Ocean Science with a Concentration in Fisheries Science program is based on preliminary results of two years of increased recruitment and outreach efforts by the Department of Natural Sciences faculty working in collaboration with UAS admissions and recruiting staff. Targeted recruitment of students interested in science degrees including fisheries, marine biology, biology and environmental science degree programs was funded at UAS by the Technical Vocational Education Program (TVEP) initiative for the joint Bachelor of Science degree program. UAS has had a significant increase in applications and admissions as a result of increased outreach and recruitment within Alaska.

Headcount - Fall Semester			5-Year Average					Current Year	Program admissions open fall 2017				
DEGREE	Major	Major Description	AY12	AY13	AY14	AY15	AY16	AY17	Year 1	Year 2	Year 3	Year 4	Year 5
New BS	FOSF	Fisheries & Ocean Science							6	10	14	18	18
BS	MBIO	Marine Biology	21	21	18	21	15	18	18	18	18	18	18
BS	PMMB	Pre-Major Marine Biology	29	31	28	23	19	22	22	22	22	22	22
BS	BIOL	Biology	21	22	24	18	13	9	9	9	9	9	9
BS	PMBI	Pre-Major Biology	20	23	21	26	29	28	28	28	28	28	28
BA	BIOA	Biology	8	12	16	11	7	6	6	6	6	6	6
BA	PBIA	Pre-Major Biology	17	10	4	3	5	6	6	6	6	6	6
Total			116	119	111	102	88	89	95	99	103	107	107
						Year 1 Year 2 Year 3			TVEP Program Funding				

Graduates are not anticipated until the second year of the program, with transfer students completing in the second and third years after the program's opening. The number of graduates is projected based on the five year historical average of the existing marine biology and biology degree programs offered by the department. It is anticipated that by the fifth year of the new joint BS program there will be an average of four students per year graduating from the joint UAS-UAF Bachelor of Science Fisheries and Ocean Science with a Concentration in Fisheries Science program.

Graduates			5-Year Average					Current Year	Program admissions open fall 2017				
DEGREE	Major	Major Description	AY12	AY13	AY14	AY15	AY16	AY17	Year 1	Year 2	Year 3	Year 4	Year 5
New BS	FOSF	Fisheries & Ocean Science								1	2	3	4
BS	MBIO	Marine Biology	4	10	6	1	3	5	5	5	5	5	5
BS	BIOL	Biology	3	5	6	7	6	5	5	5	5	5	5
BA	BIOA	Biology	0	5	4	1	6	4	4	4	4	4	4
Total			7	20	16	9	15	14	14	15	16	17	18
						Year 1 Year 2 Year 3			TVEP Program Funding				

13. Availability and quality and/or requirement for new faculty and/or staff to support the program

In spring 2016 the Department of Natural Sciences hired a new tenure-track faculty member, Dr. Michael Navarro, who began his faculty appointment in fall 2016. Dr. Navarro is a fisheries marine biologist and he will contribute new course offerings for this joint degree (e.g. Introduction to Marine Fisheries, Oceanography). The other fisheries-specific courses required for the joint bachelor's degree program will be offered in person or videoconference technology by UAF faculty in the College of Fisheries and Ocean Sciences. Other biology and marine biology courses will be offered in person by existing UAS faculty. No additional new faculty or staff are required to offer the joint bachelor's degree program in Juneau.

14. Library, equipment, and similar resource requirement, availability, appropriateness, and quality

UAS has videoconference equipment set-ups in rooms across campus, including one in the Anderson building where most biology and marine biology courses are offered. The Egan Library supports scholarship, research, and creative activities at UAS by providing relevant, diverse, and well-maintained collections, by helping individuals evaluate and efficiently use those resources, and by creating a welcoming environment for all.

15. New facility or renovated space requirements

Existing facilities at UAS and UAF are sufficient to support the joint bachelor's degree program.

16. Other special needs or conditions that were considered in the program's development

The FISH courses offered by UAF faculty for the joint degree program will be offered either in person by UAF faculty at their Lena Point facility in Juneau, or via videoconference from the Fairbanks campus. UAS has several videoconference equipment set-ups in rooms across campus, including one in the Anderson building where most biology and marine biology courses are offered.

17. Consultant reviews, reports from visitations to other institutions, or names and opinions of personnel consulted in preparing the proposal

The joint UAS-UAF Bachelor of Science Fisheries and Ocean Science with a Concentration in Fisheries Science program is consistent with and supportive of the Strategic Pathways Phase 2 [Fisheries Team Report](#) Option 3 – Jointly Offered Programs with Stronger Integration between UAF and UAS.

18. Concurrence of appropriate advisory councils

A UAS Biology/Marine Biology/Fisheries Advisory Committee meeting was scheduled for February 10, 2017 but due to schedule conflicts will be rescheduled for March 2017. Updates can be provided for reviewers after the committee meets.

19. Projected cost of all required resources, revenue from all sources and a budgetary plan for implementing and sustaining the program

The UAS budgets for implementing the new joint UAS-UAF Bachelor of Science Fisheries and Ocean Science with a Concentration in Fisheries Science program in Juneau are administered within the Biology/Chemistry program budgets in the Department of Natural Sciences in the School of Arts & Sciences. The permanent program budgets include instruction (72320/105010) and support staff (72303/105010). The implementation of the new joint program was supported by a three-year (FY16-18) start-up funding initiative from the UA Technical Vocational Education Program (TVEP) FSMI UAS-UAF Fisheries BS TVEP16 (72306/105010).

The first year of the joint program development and implementation plan was FY16 when the UA TVEP funding was received. A term-faculty to support program recruitment and instruction was hired in spring 2016 with these funds in partnership with ANSEP. The UA TVEP funding is projected to continue through FY18 and support the term faculty position as well as program development and recruiting activities during implementation of the joint degree program. In FY17 UAS reallocated internal general fund to the base of program revenue to support the addition of the new tenure-track faculty member in marine fisheries.

A sustainable program budget can be achieved by program years five (FY20) with reasonable budget assumptions that include: modest expenditure increases for salary/benefits from FY18-FY20 (1%/year); modest growth in program tuition/fee revenue (3.5%) after the program opens for admission and enrollment in FY18, consistent with enrollment growth projected in Item 12 (page 10); and continued partnership support from the ANSEP program for faculty academic support activities on the Juneau Campus.

A five-year (FY16-FY20) projected program budget summary of expenditures and revenues is provided in the attached table (see page 13).

**Joint UAS/UAF B.S Degree in Fisheries and Ocean Science with a Concentration in Fisheries Science
UAS Biology & Chemistry Program Five-Year Projected Revenue and Expenditure Summary**

EXPENDITURES	Actual	Authorized	Projected	Projected	Projected
	Expenditure	Budget	Budget	Budget	Budget
	TVEP Year 1	TVEP Year 2	TVEP Year 3	Year 4	Year 5
	FY16	FY17	F18	FY19	FY20
Code					
1000 Salaries & Benefits*					
New Tenure-Track Faculty in Marine Fisheries					
72320 Biology & Chemistry		\$ 90,000	\$ 90,900	\$ 91,809	\$ 92,727
TVEP Term Faculty					
72306 FSMI-UAS Fisheries TVEP16	\$ 90,720	\$ 69,000	\$ 69,690		
Biology & Chemistry Personal Services					
72320 Biology & Chemistry	\$ 919,700	\$ 909,100	\$ 918,191	\$ 927,373	\$ 936,647
Administrative support					
72303 - Math Science Support Staff	\$ 204,631	\$ 218,361	\$ 220,545	\$ 222,750	\$ 224,978
* assumes 1% average annual increase					
2000 Travel					
72320 Biology & Chemistry	\$ 11,700	\$ 11,700	\$ 11,700	\$ 11,700	\$ 11,700
72306 FSMI-UAS Fisheries TVEP16	\$ 1,700	\$ 12,200	\$ 10,370	\$.	\$.
3000 Contractual Services					
72320 Biology & Chemistry	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
72306 FSMI-UAS Fisheries TVEP16	\$ 6,100	\$ 3,000	\$ 2,550		
4000 Commodities					
72320 Biology & Chemistry	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000	\$ 24,000
72306 FSMI-UAS Fisheries TVEP16	\$ 400	\$ 6,000	\$ 5,100	\$.	\$.
5000 Equipment					
6000 Student Aid	\$ 21,000	\$ 21,000	\$ 21,000	\$ 21,000	\$ 21,000
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Subtotal personal services	\$ 1,215,100	\$ 1,286,500	\$ 1,299,300	\$ 1,241,900	\$ 1,254,400
Subtotal non-personal services	\$ 89,900	\$ 102,900	\$ 99,700	\$ 81,700	\$ 81,700
<hr/>					
Total Expenditures	\$ 1,305,000	\$ 1,389,400	\$ 1,399,000	\$ 1,323,600	\$ 1,336,100
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REVENUES	Actual Revenue	Authorized	Projected	Projected	Projected
	TVEP Year 1	Budget	Budget	Budget	Budget
	FY16	TVEP Year 2	TVEP Year 3	Year 4	Year 5
	FY16	FY17	F18	FY19	FY20
Code General Fund					
UAS Reallocation for Operating Funds					
9210 72320 Biology & Chemistry	\$ 610,300	\$ 607,600	\$ 707,600	\$ 707,600	\$ 707,600
9210 72303 Math & Natural Sciences Support Staff	\$ 204,631	\$ 218,361	\$ 218,361	\$ 218,361	\$ 218,361
9212 72306 FSMI-UAS Fisheries TVEP16	\$ 98,980	\$ 96,300	\$ 81,900	\$.	\$.
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SubTotal General Fund	\$ 913,900	\$ 1,022,300	\$ 1,007,900	\$ 926,000	\$ 926,000
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Non General Fund					
Tuition and Fees					
72320 Biology & Chemistry					
9106 Lower Division Tuition	\$ 173,000	\$ 169,100	\$ 175,019	\$ 181,144	\$ 187,484
9107 Upper Division Tuition	\$ 156,600	\$ 138,400	\$ 143,244	\$ 148,258	\$ 153,447
9159 Lab/Materials Fees	\$ 32,500	\$ 36,700	\$ 37,985	\$ 39,314	\$ 40,690
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ANSEP Partner contribution					
72320 Biology & Chemistry	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000	\$ 29,000
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Sub Total Non General Fund	\$ 391,100	\$ 373,200	\$ 385,200	\$ 397,700	\$ 410,600
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Total Revenue	\$ 1,305,000	\$ 1,395,500	\$ 1,393,100	\$ 1,323,700	\$ 1,336,600
<hr/>					
Net Budget (Revenue - Expense)	FY16	FY17	F18	FY19	FY20
	\$.	\$ 6,100	\$ (5,900)	\$ 100	\$ 500

3.5% = net tuition and program growth projection