At Meeting No. 515 held on 26 March 2018, the Graduate Council approved the attached proposal that is now submitted to the Faculty Senate.

SECTION I
ABSTRACT AND BACKGROUND INFORMATION

ABSTRACT (modified from proposal)
The URI Graduate Certificate in Fisheries Aquaculture provides students with degrees in biological or environmental fields focused on advanced training needed to find professional employment in the areas of Aquaculture and Fisheries. The program also allows students to complete the requirements of the American Fisheries Society (AFS) Professional Certification Program at the Associate Fisheries Professional (AFP) level.

BACKGROUND (modified from proposal)
The goals of this program are consistent with the specific objectives of Professional Certification from the American Fisheries Society, which are (as stated in their webpage): “(1) to provide governmental and nongovernmental agencies and organizations, private firms, courts, and the general public with a definitive minimum standard of experience and education for aquaculture and fisheries professionals; and (2) to foster broader recognition of fisheries professionals as well educated and experienced, acting in the best interest of the public.” These goals are consistent with the goals of our graduate certificate program.

SECTION II
RECOMMENDATION
The Graduate Council approved the proposal to create a GRADUATE CERTIFICATE IN AQUACULTURE AND FISHERIES at its Meeting No. 515 held on 26 March 2018, and forwards it to the Faculty Senate with a recommendation for approval.
A Proposal for: GRADUATE CERTIFICATE IN AQUACULTURE AND FISHERIES

Date: 2/23/18

A. PROGRAM INFORMATION

A1. Name of institution  University of Rhode Island

A2. Name of department, division, school or college
   Department - FISHERIES, ANIMAL AND VETERINARY SCIENCE (FAVS)
   College - ENVIRONMENT AND LIFE SCIENCES (CELS)

A3. Title of proposed program and Classification of Instructional Programs (CIP) code
   Program title - GRADUATE CERTIFICATE IN AQUACULTURE AND FISHERIES
   Classification code (CIP) - 01.0303 (Aquaculture)

A4. Intended initiation date of program change. Include anticipated date for granting first degrees or certificates, if appropriate.
   Initiation date  Fall 2018
   First degree date  May 2019

A5. Intended location of the program  University of Rhode Island, Kingston, RI

A6. Description of institutional review and approval process
   Approval Date  2/23/18
   Department
   College
   CAC/Graduate Council
   Faculty Senate
   President of the University

A7. Summary description of proposed program (not to exceed 2 pages)

A8. Signature of the President

______________________________
David M. Dooley
A9. Person to contact during the proposal review
   Name: Marta Gomez-Chiarri
   Title: Professor and Chair, FAVS
   Phone: 401-874-2917
   Email: gomezchi@uri.edu

A10. List and attach any signed agreements for any cooperative arrangements made
     with other institutions/agencies or private companies in support of the program.
     none

B. RATIONALE: There should be a demonstrable need for the program.

   B1. Explain and quantify the needs addressed by this program, and present evidence that
       the program fulfills these needs.

   The URI Graduate Certificate in Fisheries Aquaculture provides students with degrees in biological
   or environmental fields focused advanced training needed to find professional employment in the
   areas of Aquaculture and Fisheries. The program also allows students to complete the requirements
   of the American Fisheries Society (AFS) Professional Certification Program at the Associate Fisheries
   Professional (AFP) level. On completion of the Aquaculture and Fisheries graduate certificate,
   students will have the knowledge and skills to: (1) apply knowledge in a variety of disciplines and
   practical skills to address real-world problems in food security, as it relates to seafood; and (2) find
   employment in agencies and businesses involved in research, scholarly, and problem-solving
   endeavors in the field of Aquaculture and Fisheries.

   The goals of this program are consistent with the specific objectives of Professional Certification
   from the American Fisheries Society, which are (as stated in their webpage): “(1) to provide
   governmental and nongovernmental agencies and organizations, private firms, courts, and the
   general public with a definitive minimum standard of experience and education for aquaculture and
   fisheries professionals; and (2) to foster broader recognition of fisheries professionals as well-
   educated and experienced, acting in the best interest of the public.” These goals are consistent with
   the goals of our graduate certificate program.

   B2. What is the economic need and workforce data related to the program?
   Aquaculture and Fisheries professionals work on meeting the growing demands for food security
   and environmental stewardship in an era of population growth and environmental change.
   Aquaculture is one of the fastest growing sectors in US Agriculture, and Americans only produce
   about 5% of the seafood they eat (NOAA National Marine Fisheries Statistics, 2017).

   B3. Provide information on jobs available as a result of successfully completing the
   certificate or degree: job titles, job outlook/growth, and salaries.
   According to the Bureau of Labor Statistics, employment of agricultural and food scientists is
   projected to grow around 9% from 2012 to 2022, about as fast as the average for all occupations. We
   envision that the emphasis in environmental and social sustainability of our programs will provide
   our students with an advantage in the job market, since job sectors addressing population growth,
   economic conditions, and environmental concerns (i.e. environmental scientists, climate change
   analysts, chief sustainability officers) are expected to grow faster than average. Salaries for
professionals with graduate certificates that can work in government or non-profit organizations start at $40,000, with a median pay of $68,910 in 2016.

C. INSTITUTIONAL ROLE: The program should be clearly related to the published role and mission of the institution and be compatible with other programs and activities of the institution.

C1. Explain how the program is consistent with the published role and mission of the institution and how it is related to the institution’s academic planning.

This program builds upon and complements undergraduate and graduate programs at URI in Aquaculture and Fisheries Science. The University of Rhode Island has one of the oldest and few stand-alone Bachelor in Science programs in Aquaculture and Fisheries in the U.S.; it is also the only AFS program in the New England region, with students qualifying for regional tuition. Moreover, our MS and PhD graduate programs in Aquaculture and Fisheries (Masters in Environmental Science and Management professional program, the 5-year Masters in Oceanography, and the research-based MS and PhD in Biological and Environmental Sciences) have experienced recent growth, mainly due to an influx of international students funded by the governments from Indonesian and Ghana. This growth is fueled by internationally-known successful research and outreach programs in Aquaculture and Fisheries at URI. This new professional Graduate Certificate program is consistent with and strengthens the core mission of the Department of Fisheries, Animal and Veterinary Sciences (FAVS), which is to perform teaching, research, and outreach supporting the sustainable production and care of terrestrial and aquatic animals used by humans, either for food, work, research, or pleasure/companionship. This mission is at the core of the Land Grant and Sea Grant missions of URI. Moreover, FAVS research, teaching and outreach missions fundamentally support the creation and maintenance of jobs in the areas of food and marine sciences, two areas of strength in Rhode Island’s economy that are the center of the State’s economic development plans (tourism, marine trades, food systems, seafood).

This program fits the URI Academic Plan in the following ways: 

Goal 1. Transform undergraduate and graduate student learning and academic support with a firm commitment to student success and the development of knowledgeable, skilled, and engaged citizens prepared for an ever-changing world. Our society is in need of citizens able to address how to provide safe, healthy, and economically, culturally, and ecologically sustainable food to a growing population. This program is designed to provide students with the tools needed to addressing those challenges. 

Goal 2: Achieve high-impact, translational, and innovative research, scholarship, and creative work addressing State, regional, and world challenges to improve health, environmental sustainability, economic development, and quality of life. Aquaculture and Fisheries are areas of growth worldwide, and a major focus of the Rhode Island economic plan. Our programs support the development of a blue, sustainable food economy. 

Goal 3: Advance the internationalization of the University, develop students as globally engaged citizens, and develop meaningful international strategic partnerships. We have been leaders at URI in the development of globally-relevant programs, establishing international partnerships in teaching, research, and outreach. This program builds upon these local and global programs in aquaculture and fisheries. 

Goal 4: Diversity & Inclusion: Our programs place an emphasis on the intrinsic value of preserving local food cultures and biodiversity, which is reflected in our courses, research, extension, and service efforts.
D. INTER-INSTITUTIONAL CONSIDERATIONS: The program should be consistent with all policies of the Council on Postsecondary Education pertaining to the coordination and collaboration between public institutions of higher education.

D1. Estimate the projected impact of this program on other public higher education institutions in Rhode Island (e.g. loss of students or revenues), provide a rationale for the assumptions made in the projections, and indicate the manner in which the other public institutions were consulted in developing the projections. Have you communicated with other institutions about the development of this program and have any concerns been raised related to role, scope, and mission or duplication.

There are no similar programs in the State or the region, and, to our knowledge, the only other potentially similar graduate certificates in Aquaculture and Fisheries are at Oregon State University and University of Florida. This newly proposed program at URI, which integrates both Aquaculture and Fisheries, will provide another option to students with BS degrees in marine and environmental sciences to pursue professional careers in Aquaculture and Fisheries. As such, this program, which can be completed within the 4 years of a BS degree, complements the 5 year Masters of Oceanography at URI and the Masters in Environmental Science and Management (which takes about 1.5 years beyond the completion of the BS). The proposed graduate certificate will strengthen higher education through RI and the region.

D2. Using the format prescribed by the Council on Postsecondary Education, describe provisions for transfer students (into or out of the program) at other Rhode Island public institutions of higher education. Describe any transfer agreements with independent institutions. The institution must also submit either a Joint Admissions Agreement transition plan or the reason(s) the new program is not transferable (see Procedure for Strengthening the Articulation/Transfer Component of the Review Process for New Programs).

Not applicable. Students in programs that qualify to apply for the Graduate Certificate are under existing agreements for undergraduate programs already established at URI.

D3. Describe any cooperative arrangements or affiliations with other institutions in establishing this program. (Signed copies of any agreements pertaining to use of faculty, library, equipment, and facilities should be attached.)

None

D4. How does this program align to academic programs at other institutions?

Students in biological, environmental or marine related majors at other institutions will be able to apply to complete this graduate certificate (see application information below in D6).

D5. Are recipients of this credential accepted into programs at the next degree level without issue?

Yes

D6. How does this program of study interface with degree programs at the level below them?

This graduate certificate proposal builds upon recent revisions to the Aquaculture and Fisheries Technology program (AFS). A revised curriculum advising sheet for the AFS undergraduate major
has been included in the proposal, showing how both programs integrate (see attached documentation). Students from other marine related programs will also be able to apply as soon as they fulfill requirements in the application process. These are:

Admission requirements: Applications should include: 1) college transcripts certifying successful completion of a bachelors degree in a biological, agricultural, or environmental field, 2) two letters of recommendation from peers, mentors, or colleagues attesting to your ability to complete graduate-level coursework, and 3) a personal written statement explaining why you are seeking a University of Rhode Island graduate certificate in fisheries and aquaculture. **GREs are not required.** Students are responsible for meeting the prerequisite requirements for individual courses, as applicable. Accepted applicants will be advised on which course prerequisites should be fulfilled prior or during the first semester in the program.

Graduate students currently enrolled at URI fill out the “Request to change/Add a Degree Program” form and have it approved by the certificate coordinator, Dr. Gomez-Chiarri. Currently enrolled undergraduate students can enroll in the certificate program but must apply through the Graduate School. Undergraduate students will receive their Certificate only after they have received their bachelor’s degree. Applications for **Fall semester admission should be completed by 10 August** and applications for **Spring semester admission should be completed by 1 December**

D7. If external affiliations are required, identify providing agencies. (Indicate the status of any arrangements made and append letters of agreement, if appropriate.) None needed. This program builds upon and takes advantage of the resources already available for the undergraduate and graduate programs in Aquaculture and Fisheries at URI.

D8. Indicate whether the program will be available to students under the New England Board of Higher Education’s (NEBHE) Regional Student Program (RSP).

Yes

E. PROGRAM: The program should meet a recognized educational need and be delivered in an appropriate mode.

E1. Prepare a typical curriculum display for one program cycle for each sub-major, specialty or option, including the following information:

   a. Name of courses, departments, and catalog numbers and brief descriptions for new courses, preferably as these will appear in the catalog.

Catalog description: Program requirements: 15 credits of graduate coursework that consists of at least 12 credits from courses in Aquaculture and Fisheries Science (AFS) at the 400 level or above. The remaining credits (3) are to be chosen from a variety of courses in marine, environmental, and social sciences at the University of Rhode Island, including but not limited to courses at the 400 or above level in BIO, EEC, MAF, NRS, and OCG. Course selection will be made in consultation between the student and their program advisor. Students are responsible for meeting the prerequisite requirements for individual courses, as applicable.

No new courses are proposed as part of this program – it relies on existing courses at URI.
b. Are there specializations and/or tracks/options/sub-plans/concentrations? If so, describe required courses in area of specialization or tracks/options/sub-plans/concentrations.

None.

c. Course distribution requirements, if any, within program.

15 credits of graduate coursework that consists of at least 12 credits from courses in Aquaculture and Fisheries Science (AFS) at the 400 level or above. These courses will be chosen in consultation with the advisor (Gomez-Chiarri), based on: (a) previous courses taken by the student as part of the his/her undergraduate major; and (b) the student’s specific career goals.

d. Total number of free electives available after specialization requirements are satisfied.

Of the 15 credits required, 3 will be electives to choose from a variety of courses in marine, environmental, and social sciences at the University of Rhode Island, including but not limited to courses at the 400 or above level in BIO, EEC, MAF, NRS, and OCG. Course selection will be made in consultation between the student and their program advisor.

e. Total number of credits required for completion of program or for graduation. Present evidence that the program is of appropriate length as illustrated by conformity with appropriate accrediting agency standards, applicable industry standards, or other credible measure, and comparability of lengths with similar programs in the state or region.

This program builds upon the recently revised undergraduate major in Aquaculture and Fisheries Science (120 credits). A total of 135 credits (15 credits added to the 120 credits of the undergraduate major) will be required. A typical curriculum sheet is attached to the form.

f. Identify any courses that will be delivered or received by way of distance learning (refer to Policy on Distance Learning, Council on Postsecondary Education, State of Rhode Island and Providence Plantations).

None

g. Is the program content guided by program-specific accreditation standards or other outside guidance?

No

E2. Describe certification/licensing requirements, if any, for program graduates and the degree to which completion of the required course work meets said requirements. Indicate the agencies and timetables for graduates to meet those requirements.

None

E3. Include the learning goals (what students are expected to gain, achieve, know, or demonstrate by completion of the program) and requirements for each program.
Learning goal: On completion of the Aquaculture and Fisheries graduate certificate, students will possess the research, scholarly, and technical and problem-solving skills necessary for employment in businesses and agencies, or in advanced study in the field of Aquaculture and Fisheries.

The Student Learning Outcomes related to this goal are:

1. Apply knowledge from a variety of disciplines to solve real world problems in aquaculture and fisheries.
2. Evaluate the importance of diversity, equity and justice, as well as the role of social factors (e.g. culture, economics, policy) on aquaculture and fisheries from local to global scales.
3. Demonstrate the basic technical skills necessary for work in aquaculture and fisheries.

E4. Demonstrate that student learning is assessed based on clear statements of learning outcomes and expectations.

The student learning outcomes, which are consistent with the learning outcomes of the B.S. in the Aquaculture and Fisheries Technology (recently renamed Aquaculture and Fisheries Science), will be assessed by the Graduate Certificate Committee using the same rubrics used to assess the AFS B.S., but focusing on the 400 and above level courses (see supporting materials included at the end of the proposal form).

E5. Provide an assessment plan detailing what a student should know and be able to do at the end of the program and how the skills and knowledge will be assessed. Consult with the Office of Student Learning, Outcomes Assessment, and Accreditation (SLOAA) to prepare a Learning Outcomes Assessment Plan for student learning assessment. Following consultation, submit a final draft of the plan to the Chair of the Learning Outcomes Oversight Committee (LOOC) for approval by the full Learning Outcomes Oversight Committee.

See assessment plan attached to the proposal.

F. FACULTY AND STAFF: The faculty and support staff for the program should be sufficient in number and demonstrate the knowledge, skills, and other attributes necessary to the success of the program.

F1. Describe the faculty who will be assigned to the program. Indicate total full-time equivalent (FTE) positions required for the program, the proportion of program faculty who will be in tenure-track positions, and whether faculty positions will be new positions or reassignment of existing positions. What are the minimal degree level and academic/technical field requirements and certifications required for teaching in this program?

No new resources are needed. The program will be coordinated by the Chair or the Department of Fisheries, Animal and Veterinary Science, Professor Marta Gomez-Chiarri (Aquatic Animal Health). Faculty involved in delivering the program include Assistant Professors Austin Humphries (Ecosystem Based Fisheries Science) and Coleen Suckling (Sustainable Aquaculture), Full Professors Terence Bradley (Finfish Aquaculture Development, Systems, Physiology) and Michael Rice (Shellfish Aquaculture Development), and the staff from the Fisheries Outreach Center (Kathy Castro, Laura Skrobe, and Mitch Hatzipetro). A core committee initially composed by Gomez-Chiarri, Bradley, and Rice will be involved in admission of students, advising, and program evaluation.
There are no new positions or reassignments. The faculty and staff listed above are already involved in delivering the courses and advising students as part of their current duties in the AFS BS and CELS graduate programs.

G. STUDENTS: The program should be designed to provide students with a course of study that will contribute to their intellectual, social, and economic well-being. Students selected should have the necessary potential and commitment to complete the program successfully.

G1. Describe the potential students for the program and the primary source of students. Indicate the extent to which the program will attract new students or will draw students from existing programs and provide a specific rationale for these assumptions. For graduate programs, indicate which undergraduate programs would be a potential source of students.

Students currently enrolled in BS programs will be able to complete requirements for the graduate certificate within the 4 years required to complete their BS degree (135 credits spread in 4 years; see AFS BS revised milestones attached). Students holding a BS degree already would be able to complete requirements for the graduate certificate in either 1 semester at full time (depending on courses needed based on their career goals) or 2 semesters (7-8 credits per semester). Part-time students from industry or government would be able to complete the certificate in 4 semesters.

We expect the following students will be interested in the program:
   (1) Students currently enrolled in the BS in Aquaculture and Fisheries
   (2) Students currently involved in the undergraduate programs in Marine Biology, Marine Affairs, and Natural Resources Sciences.
   (3) Graduates from these programs at URI mentioned above
   (4) Students with a BS in marine or environmental sciences majors from other universities.

We expect that these students will seek this graduate certificate program so they can:
   (1) Improve specific skills in aquaculture and fisheries (for students currently in the AFS program or having completed the program).
   (2) Add skills in aquaculture and fisheries to their current or previous majors (for students from other majors in biological and environmental sciences).
   (3) Determine their interest and ability to perform graduate-level work before committing to a graduate program.
   (4) Add a graduate certificate to their major without increasing time to graduation (in the time-frame.

Students will be selected by the Program Coordinator (Gomez-Chiarri) with the aid of a committee composed of two other members of the aquaculture and fisheries faculty and staff listed above. Selection will be based on the following criteria: 1) current enrollment or completion of Bachelors in Science or Bachelors in Arts in a biological, agricultural, or environmental field (based on college transcripts), 2) ability to complete graduate-level coursework (based on two letters of recommendation from peers, mentors, or colleagues), and 3) match or fit of career goals with program (based on a personal written statement explaining why the student is seeking a University
of Rhode Island graduate certificate in fisheries and aquaculture). *GREs are not required.* Students are responsible for meeting the prerequisite requirements for individual courses, as applicable. Students accepted into the program will be advised on which course prerequisites should be fulfilled prior or during the first semester in the program.

Graduate students currently enrolled at URI would fill out the “Request to change/Add a Degree Program” form and have it approved by the certificate coordinator, Dr. Gomez-Chiarri. Currently enrolled undergraduate students will be able enroll in the certificate program but must apply through the Graduate School: [https://web.uri.edu/graduate-school/apply/](https://web.uri.edu/graduate-school/apply/). Undergraduate students will receive their Certificate only after they have received their bachelor’s degree.

We expect that employees from international agencies or governments (such as the Indonesia Ministry of Fisheries or Ghana Higher Education institutions) will be interested in the program. This program will also be useful for employees in State (Rhode Island Department of Environmental Management), Federal (NOAA NMFS, US EPA, USDA ARS) or non-governmental (The Nature Conservancy, Save the Bay) agencies.

We expect to attract about 5 – 10 per year initially, building up to 10 - 15 per year. The number of initial graduates will be about 5 - 10, based on students currently enrolled in relevant majors.

**H. EVALUATION: Appropriate criteria for evaluating the success of a program should be developed and used.**

**H1. List the performance measures by which the institution plans to evaluate the program. Indicate the frequency of measurement and the personnel responsible for performance measurements. Describe provisions made for external evaluation, as appropriate.**

**a. Performance measures to evaluate the program.**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Successful Beyond Expectations</th>
<th>As Expected</th>
<th>Does Not Meet Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of applicants per year. The larger this number, the more successful the program. If we get no applicants in the first three years, we will assume we misjudged the marketplace. Since all the classes used to meet the requirements for the certificate are already being taught, there will be no impact if the program is poorly subscribed.</td>
<td>Over 15</td>
<td>1-15</td>
<td>0</td>
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<tr>
<td>Number of matriculating students. We will monitor the number of students actively pursuing a certificate. Because we might be hosting part-time students who need extra time to complete the requirements for the certificate, the number of matriculating students will give us a good indication of program vitality.</td>
<td>Over 10</td>
<td>1-10</td>
<td>0</td>
</tr>
<tr>
<td>Number of certificates granted per year. A student should be able to complete the certificate in two semesters if they take three classes per semester. Part-time students should be able to complete the program in four</td>
<td>Over 10</td>
<td>1-10</td>
<td>0</td>
</tr>
</tbody>
</table>
semesters. If students fail to complete the requirements in these time windows, we will have to determine what the obstacles are.

| Student diversity. We will advertise the certificate to reach students representing a diversity of cultures, genders, ages, and stage of career. | Equitable distribution of students across all diversity categories | Some representation of diversity categories but not spread evenly | No students from underrepresented diversity categories |

I. IS THE PROGRAM FINANCIALLY VIABLE?

II. ALL PROPOSALS: Complete the Rhode Island Office of Postsecondary Commissioner Budget Form demonstrating that existing funds are sufficient for carrying out the program. The completed proposal with Budget Form requires review by the URI Budget and Financial Planning Office. Proposers shall request a Statement of No Financial Impact from the URI Budget and Financial Planning Office.

No additional resources are needed since the program uses existing resources for the Aquaculture; no new expenditures will be incurred. Current funding as it exists is enough for carrying out the proposed program. See attached budget sheets and Statement of No Financial Impact from the URI Budget and Financial Planning Office.

Attachments:
1. Catalog Program Description.
3. Graduate Program Assessment Plan
4. Aquaculture and Fisheries B.S. advising sheet integrated with graduate certificate.
5. Comparison of requirements of the American Fisheries Society (AFS) Professional Certification Program at the Associate Fisheries Professional (AFP) level with the course work provided by the Graduate Certificate in Aquaculture and Fisheries.
6. Support from other departments
7. Library Impact
8. Budget sheets and No impact letter
Graduate Certificate in Fisheries and Aquaculture Science

The URI Graduate Certificate in Fisheries Aquaculture provides students with degrees in biological or environmental fields focused advanced training needed to find professional employment in the areas of Aquaculture and Fisheries. The program also allows students to complete the requirements of the American Fisheries Society (AFS) Professional Certification Program at the Associate Fisheries Professional (AFP) level. On completion of the Aquaculture and Fisheries graduate certificate, students will have the knowledge and skills to: (1) apply knowledge in a variety of disciplines and practical skills to address real-world problems in food security, as it relates to seafood; and (2) find employment in agencies and businesses involved in research, scholarly, and problem-solving endeavors in the field of Aquaculture and Fisheries.

Students completing the Aquaculture and Fisheries Graduate Certificate program will practice advanced skills in class projects and specialty courses that take advantage of resources in marine sciences at the University of Rhode Island, including the Fisheries Center, freshwater aquaculture facilities, the Commercial Fisheries Center (a partnership with non-profit commercial fisheries associations), the Blount Aquaculture Research Laboratory, the Tuna Aquaculture Research Facility, and several research and teaching vessels. The Aquaculture and Fisheries Graduate Certificate does not require any new classes or FTEs. A broad set of existing class options can accommodate students from programs within or beyond the University of Rhode Island pursuing to complement their major in marine or aquatic sciences, environmental sciences, or marine affairs, with additional targeted skills and knowledge in aquaculture and fisheries.

Admission requirements: Applications should include: 1) college transcripts certifying current enrollment or successful completion of a bachelor's degree in a biological, agricultural, or environmental field, 2) two letters of recommendation from peers, mentors, or colleagues attesting to your ability to complete graduate-level coursework, and 3) a personal written statement explaining why you are seeking a University of Rhode Island graduate certificate in fisheries and aquaculture. GREs are not required. Accepted applicants will be advised on which course prerequisites should be fulfilled prior or during the first semester in the program.

Graduate students currently enrolled at URI fill out the “Request to change/Add a Degree Program” form and have it approved by the certificate coordinator, Dr. Gomez-Chiarri. Currently enrolled undergraduate students can enroll in the certificate program but must apply through the Graduate School: https://web.uri.edu/graduate-school/apply/. Undergraduate students will receive their Certificate only after they have received their bachelor's degree. Applications for Fall semester admission should be completed by 10 August and applications for Spring semester admission should be completed by 1 December.

Program requirements: 15 credits of graduate coursework that consists of at least 12 credits from courses in Aquaculture and Fisheries Science (AFS) at the 400 level or above. The remaining credits (3) are to be chosen from a variety of courses in marine, environmental, and social sciences at the University of Rhode Island, including but not limited to courses at the 400 or above level in BIO, EEC, MAF, NRS, OCG, and WRT. Course selection will be made in consultation between the student and the program faculty advisor. Students are responsible for meeting the prerequisite requirements for individual courses, as applicable.
1. Students applying for admission into the Aquaculture and Fisheries Certificate Program must do so through the URI Graduate School admission system. Applicants must have a bachelor’s degree from an accredited University or College. URI Undergraduate students may apply to the certificate program after completion of at least 75 credits.
2. Apply to enroll through the Graduate School for the certificate of interest. (http://web.uri.edu/graduate-school/admission/). Indicate your expected graduation date.
3. Currently enrolled undergraduate students do not need to submit GRE scores or letters of recommendation.
4. Requirements may be satisfied by completing 15 credits from the courses listed below.
5. Students must receive a minimum grade of C in each class and an overall average of B (3.0) or higher.
6. Applicants may not transfer courses into a Graduate Certificate Program that were taken at institutions other than URI.
7. Courses may not be taken under pass-fail grade option.
8. Students must complete all certificate program requirements within 5 years of their date of matriculation.
9. Undergraduate students must register for at least one credit in a semester after they have been conferred their BSc degree.
10. Completion of your undergraduate degree - Attach a copy of this form to your undergraduate Intent to Graduate Application and drop off the packet to the Office of Academic & Student Affairs, 130 CBLS. Upon certification of your undergraduate degree the Dean will send an email to the Graduate School to confirm the courses listed below were not used toward the completion of an undergraduate degree.

Requirements: 12 credits to choose from the following core courses in consultation with your advisor:

AFS 415/416: Fisheries Ecology (Lec and Lab)*
AFS 425: Aquaculture and the Environment
AFS 426: Ecological Aquaculture
AFS 432: Marine Finfish Aquaculture
AFS 440: Aquatic Food Production in the Philippines**
AFS 483: Salmonid Aquaculture
AFS 486: Fish Physiology
AFS 500: Advanced Diseases of Aquatic Organisms*
AFS 503: Pathobiology
AFS 531: Fisheries Stock Assessment
AFS/OCG 560: Ecosystem-Based Fisheries Science & Management
AFS 581: Current Topics in Molluscan Aquaculture
AFS 584: Advanced Aquaculture Systems
AFS 586: Fish Nutrition

*Course revisions recently approved by CAC  **This course is a new course; approval pending

Additional 3 Credits from the core courses or from the following strengthening courses
(examples of selected courses from BIO, EEC, MAF, NRS, OCG, WRT).
BIO 412/512: Evolution and Diversity of Fishes
BIO 418: Ecology of Marine Plants
BIO 441/541: Environmental Physiology of Animals
BIO 455: Marine Ecology
EEC 440: Benefit-Cost Analysis
EEC/MAF 514: Economics of Marine Resources
MAF 413: Peoples of the Sea
MAF 461: Coastal Zone Management
MAF 465: GIS Applications in Coastal and Marine Management
MAF 582: Coastal Ecosystem Governance
MAF 521: Coastal Zone Law
NRS 509: Concepts in GIS and Remote Sensing in Env Science
NRS 414/514: Climate Change Science and Policy
NRS 501: Foundations of Restoration Ecology
NRS 527: Marine Protected Areas: An Interdisciplinary Analysis
NRS 532: Conservation Biology and Resource Economics
NRS 543: Public Engagement with Science
OCG 670: Fish Population Dynamics
OCG 673: Fisheries Oceanography
WRT 533: Graduate Writing in the Life Sciences

Students are responsible for meeting the prerequisite requirements for individual courses, as applicable.

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<thead>
<tr>
<th>Student’s Name (Please Print)</th>
<th>Phone Number</th>
<th>Student ID Number</th>
</tr>
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<tbody>
<tr>
<td>Undergraduate Major/ Graduation Date (Month/Year)</td>
<td>Certificate Matriculation Date</td>
<td>Certificate Completion Date</td>
</tr>
<tr>
<td>Course Number</td>
<td>Course Title/Semester/Year</td>
<td>Credits</td>
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<td>Total:</td>
<td></td>
<td>3.0 GPA or Higher</td>
</tr>
</tbody>
</table>

Aquaculture and Fisheries Graduate Program Director, Marta Gomez-Chiarri (gomezchi@uri.edu) Date

CELS Dean’s Signature Date
The Graduate School requests that each program have clearly articulated program goals (Section I) and student learning outcomes statements linked to curriculum and course experiences/requirements (Section II). This assessment plan will help programs determine the extent to which these outcomes are successfully being met through courses and other program requirements. As part of the plan, each program will also create an assessment timeline (Section III) indicating when and how learning outcomes assessment will take place.\textsuperscript{1, 2}

**Program Information:**

<table>
<thead>
<tr>
<th>Program:</th>
<th>Graduate Certificate in Aquaculture and Fisheries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic year plan submitted:</td>
<td>Spring 2018</td>
</tr>
<tr>
<td>Degree(s):</td>
<td>Graduate Certificate</td>
</tr>
<tr>
<td>Department Chair:</td>
<td>Marta Gomez-Chiarri</td>
</tr>
<tr>
<td>Program Director:</td>
<td>Marta Gomez-Chiarri</td>
</tr>
<tr>
<td>Accredited Program:</td>
<td>X No ☐ Yes, next accreditation report due:</td>
</tr>
<tr>
<td>Published learning outcomes (provide URL):</td>
<td>Proposed new program</td>
</tr>
</tbody>
</table>

**I. Program Goals:** Broad, general statements of what it means to be an effective program in terms of student learning outcomes; what the program wants students to know and be able to do upon completion of the program. Goals should relate to the mission of the department, college, and university in which the program resides. Success in achieving Goals is evaluated directly or indirectly by measuring specific outcomes (Section II) related to the goal.

**Goal - On completion of the Aquaculture and Fisheries graduate certificate:**

| #1 | Graduates will possess the research, scholarly, and technical and problem-solving skills necessary for employment in businesses and agencies, or in advanced study in the field of Aquaculture and Fisheries |

\textsuperscript{1} If you have questions or need assistance, please contact: Office of Student Learning, Outcome Assessment, and Accreditation 874-9517; 874-9379

\textsuperscript{2} Accredited programs can provide supplemental documents that indicate the answers to these questions as long as specific page references are provided in each cell of the tables in this form. When the answers are not accessible in that way, cutting and pasting will be required.
### Graduate Program Student Learning Outcomes Assessment Plan
For Accredited and Non-Accredited Programs

#### II. Curriculum Mapping:

### Program: Aquaculture and Fisheries Graduate Certificate

#### Map Key

- I = Outcome Introduced
- R = Outcome Reinforced
- E = Outcome Emphasized

#### Student Learning Outcomes (Competencies) by Goal:

<table>
<thead>
<tr>
<th>Goal #1</th>
<th>1.1. Apply knowledge from a variety of disciplines to solve real-world problems in aquaculture and fisheries</th>
<th>Course Numbers/Program Requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>1.2. Evaluate the importance of diversity, equity and justice, as well as the role of social factors (e.g. culture, economics, policy) on aquaculture and fisheries from local to global scales.</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>1.3. Demonstrate the technical skills necessary for work in aquaculture and fisheries</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>1.4. Create local and global solutions to complex challenges in aquaculture and fisheries</td>
<td>E</td>
</tr>
</tbody>
</table>

* Courses are grouped by the learning outcomes associated area of focus. Students select from these groups of courses depending on interest in focus area (career interests) and courses already taken previously. #1: Common courses to both Aquaculture and Fisheries; #2: Courses with a focus on aquaculture; #3: Courses with a focus on Fisheries; #4: Support courses providing technical skills related to field work in aquaculture and fisheries; #5: Electives.

**Students select one elective from one or the other group of courses depending on background, skills needed for professional work, and career interests.

**NOTE regarding “E” designation:** This is a graduate certificate and students must have graduate standing to be accepted. The certificate proposal defines the specific majors and course work that integrate directly into this certificate. Prior learning is expected to provide the introductory/reinforcement experience and opportunity for student preparedness for admittance to the certificate program. This course experiences in this map Emphasize the learning outcomes to mastery through the opportunity to apply prior learning.

Updated: 6.2013
### III. Assessment Timeline:

Indicates when and how student learning will be assessed based on clear statements of learning outcomes and expectations. Refer to the curriculum map to draft a student learning outcomes assessment timeline. Specify a 6-year plan for assessment (3 two-year periods) in which you will assess all of your program’s Goals with at least one student learning outcome representing each Goal.

<table>
<thead>
<tr>
<th>Academic Years</th>
<th>Outcome(s)</th>
<th>Course(s) and Other Program Requirements</th>
<th>Assessment Evidence (direct/indirect)</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment Reporting Period 1</strong>&lt;br&gt;2016-18</td>
<td>WHICH outcome(s) will you examine in each period (by number, i.e. 1.1 etc.)?</td>
<td>WHERE will you look for evidence of student learning (i.e., what course(s)/program requirements)? Designate for each outcome.</td>
<td>WHAT student work or other evidence will you examine in order to generate conclusions and recommendations? Designate for each requirement.</td>
<td>HOW will you look at the evidence; what means will you use to quantify the evidence? Designate for each source of evidence.</td>
</tr>
<tr>
<td>#1. Describe the knowledge necessary for professional or academic work in the field of aquaculture and fisheries. This includes knowledge in the areas of ecology, oceanography, biology, physiology, pathology, nutrition, and genetics.</td>
<td>AFS 500 and 432 or 560 and or 531</td>
<td>Final Projects in AFS 500 (Diseases), AFS 432 (Marine Finfish Ecology) for aquaculture and AFS 560 (EBFSM), AFS 531 for fisheries</td>
<td>Projects for 5 students will be assessed using a modification of the GenEd STEM Knowledge rubric. At least 75% of students should reach the mastering level.</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment Reporting Period 2</strong>&lt;br&gt;2018-20</td>
<td>#2. Evaluate the importance of diversity, equity and justice, as well as the role of social factors (e.g. culture, economics, policy) on aquaculture and fisheries from local to global scales.</td>
<td>AFS425, 560</td>
<td>Final projects in AFS 425 (Aquaculture and the Environment) and AFS 560 (Ecosystem Based Fisheries Science and Management)</td>
<td>Projects will be evaluated using a compilation of the Global Awareness and Social Responsibilities rubrics. At least 75% of students should reach the mastering level.</td>
</tr>
<tr>
<td><strong>Assessment Reporting Period 3</strong>&lt;br&gt;2020-22</td>
<td>#4. Create local and global solutions to complex challenges in aquaculture and fisheries.</td>
<td>AFS 500 and 432 or 560 and or 531</td>
<td>Final Projects in AFS 500 (Diseases), AFS 432 (Marine Finfish Ecology) for aquaculture and AFS 560 (EBFSM) and AFS 531 for fisheries;</td>
<td>Projects will be assessed using a modification of the Integrate and Apply rubric.</td>
</tr>
</tbody>
</table>
## I. GENERAL EDUCATION (min 40 cr)

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Course No.</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. STEM</td>
<td>BIO 101/102*</td>
<td></td>
</tr>
<tr>
<td>A2. Social and Behavioral Sciences</td>
<td>EEC 105*</td>
<td></td>
</tr>
<tr>
<td>A3. Humanities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4. Arts and Design</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Competencies

| B1. Write effectively | | |
| B2. Communicate effectively | | |
| B3. Mathematical, statistical, computation | MTH1 | |
| B4. Information literacy | | |

### Responsibilities

| C1. Civic knowledge & responsibility | | |
| C2. Global responsibilities | | |
| C3. Diversity and inclusion | | |

### Integrate & Apply

| D1. Ability to Synthesize | AFS 300 | |

## III. PROFESSIONAL CONCENTRATION (min 42 cr total)

### Foundational Courses (10 cr, count as supporting electives)

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Course No.</th>
<th>Grade</th>
<th>Off.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shellfish Aquaculture</td>
<td>AFS 201 (3,1)</td>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Finfish Aquaculture</td>
<td>AFS 202 (2,1)</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Fisheries Science</td>
<td>AFS 215 (2,1)</td>
<td>S</td>
<td></td>
</tr>
</tbody>
</table>

### Concentration Courses (min 32 cr @ 300 or above, 12 @ 400 or above, 24 from AFS)

#### Suggested Courses for Aquaculture Focus (choose from):

<table>
<thead>
<tr>
<th>Competencies</th>
<th>Suggested Courses</th>
<th>Course No.</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1. Write effectively</td>
<td>Crustacean Aquaculture</td>
<td>AFS 362 (3)</td>
<td>Alt.S(e)</td>
</tr>
<tr>
<td>B2. Communicate effectively</td>
<td>Marine Finfish Aquaculture</td>
<td>AFS 432 (3)</td>
<td>Alt.S(o)</td>
</tr>
<tr>
<td></td>
<td>Salmonid Aquaculture</td>
<td>AFS 483 (3)</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>Topics in Molluscan Aquaculture</td>
<td>AFS 581 (3)</td>
<td>Alt.F(o)</td>
</tr>
<tr>
<td></td>
<td>Advanced Aquaculture Systems</td>
<td>AFS 584 (3)</td>
<td>AltS(e)</td>
</tr>
</tbody>
</table>

#### Suggested Courses for Fisheries Focus (choose from):

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Suggested Courses</th>
<th>Course No.</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1. Civic knowledge &amp; responsibility</td>
<td>World Fishing Methods and Lab</td>
<td>AFS 321/322</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>Fisheries Ecology and Laboratory</td>
<td>AFS 415/416</td>
<td>Alt.F(e)</td>
</tr>
<tr>
<td></td>
<td>Fisheries Stock Management</td>
<td>AFS 531 (3)</td>
<td>Alt.S(e)</td>
</tr>
<tr>
<td></td>
<td>Ecosystem Based Fisheries Sci. &amp; Mngt</td>
<td>AFS 560 (3)</td>
<td>Alt.S(o)</td>
</tr>
<tr>
<td></td>
<td>Fish Population Dynamics</td>
<td>OCG 670 (3)</td>
<td>Alt S</td>
</tr>
<tr>
<td></td>
<td>Fisheries Oceanography</td>
<td>OCG 673 (3)</td>
<td>Alt S</td>
</tr>
</tbody>
</table>

#### Common courses (choose from):

| Diseases Aquatic Organisms | AFS 300 (3,1) | F |
| Aquaculture and the Environment | AFS 425 (3) | Alt.F(e) |
| Aq. Food Production Philippines | AFS 440 (3) | J term |
| General Oceanography and/or | OCG 301 (3) | F |
| | Marine Biology | BIO 360 (3,1) | F,S |
| | Fish Physiology | AFS 486 (3) | F |
| | Additional Concentration Course*** | | |
| | Additional Concentration Course*** | | |

## IV. INTERNSHIPS/INDEPENDENT PROJECTS (min 3, <12)

### Skills and Tools (up to 9 cr)

| Special Project/Independent Study | AFS 391/2 (1-3) | F,S,Sm |
| Special Project/Independent Study | AFS 491/2 (1-3) | F,S,Sm |

## V. SUPPORTING*** (min 21) AND OTHER ELECTIVES

### Additional supporting and other electives

| Additional supporting and other electives | | |
|------------------------------------------| | |

- Some courses may count for more than one category. If so, do not double count credits in the total count.
- **Suggested Basic Science (check General Education catalog)**
  - Math: Calculus (MTH131) is required for a fisheries focus; otherwise, either MTH103 or MTH111 fulfill the requirement; **Chem**: At least 2 sem. of Chem are needed if you plan to go to grad school (e.g. add CHM124/126).
  - **Physical Sci**: any basic course in Geology (GEO), Oceanography (OCG), Physics (PHY), Ecology/Ecosystem Science: e.g. BIO262, NRS212, NRS223, NRS234G; **Computer Sci and Statistics** : any course in CSC or STA (100, 200, 300 level; e.g. STA220 or STA308).
- ***Suggested Additional Concentration**: 300 or above courses in AFS, Marine Bio (BIO), Oceanography (OCG), Ecology/Ecosystem (NRS), Marine Affairs(MAF), Economics(EEC). **Suggested Supporting Electives**: courses 200 or above in Economics (EEC, ECN), Business (BUS), MAF, Anthropology(APG), Marine Bio(BIO), GEO, NRS, OCG, Animal and Veterinary Sciences (AVS), Sustainable Agriculture & Food Systems (SAF)
### Course Code | Description | Cr
--- | --- | ---
*AFS 105G/106 | Food from the Sea Lec/ Lab | 4
*BIO 101/103 | Principles of Biology I/ Lab | 4
*MTH _____ | Precalculus or Applied Calculus I | 3
*EEC 105 | Introduction to Resource Economics | 3
URI 101 | Planning for Academic Success | 1

* General Education

**Total Credits to Graduate:** 135

---

### Year 1 Milestones: Earn at least 30 credits and a GPA of 2.0 or higher. Meet with your Advisor for AFTC option discussion.

### Year 2 Milestones: Earn at least 64 credits and a GPA of 2.0 or higher. Meet with your Advisor to discuss major, internships and research opportunities.

### Year 3 Milestones: Earn at least 85 credits and a GPA of 2.0 or higher. Meet with your Advisor to prepare intent to graduate application for fall submission.

### Year 4 Milestones: Earn 120 credits and a GPA of 2.0 or higher in CUM and CON. Complete remaining required courses.
## COMPARISON OF REQUIREMENTS FROM THE AMERICAN FISHERIES SOCIETY CERTIFICATION WITH THE PROPOSED AFS GRADUATE CERTIFICATE AT URI

<table>
<thead>
<tr>
<th>Subject Area (American Fisheries Society requirements for certification)</th>
<th>Course Number, Course Title (AFS program URI)</th>
</tr>
</thead>
</table>
| **A. Fisheries and Aquatic Sciences.** Four (4) courses, Two of which must be directly related to fisheries sciences and at least one must cover principles of fisheries science and management. | **AFS105/106G Food from the Sea (4)**  
AFS 201 Finfish Aquaculture  
AFS 202 Shellfish Aquaculture  
**AFS 215 Fisheries Science**  
AFS 290 - Small Boats  
AFS 270 - Basic Scuba Diving  
AFS 300 Diseases of Aquatic Organisms  
AFS 321/322 World Fishing Methods  
AFS 362 Crustacean Aquaculture  
**AFS 391/392, 491/492 Special Projects or Internship**  
**AFS 415/416 Fisheries Ecology (Lecture and Lab)**  
AFS 433 Research Diving  
AFS 425 Aquaculture and the Environment  
AFS 426 Ecological Aquaculture  
AFS 432 Marine Finfish Aquaculture  
AFS 440 Aquatic Food Production in the Philippines  
AFS 483 Salmonid Aquaculture  
AFS 486 Fish Physiology  
**AFS 560 Ecosystem Based Fisheries Science and Management**  
AFS 581 Current Topics in Molluscan Aquaculture  
AFS 584 Advanced Aquaculture Systems  
AFS 586 Fish Nutrition  
**OCG 670 Fish Population Dynamics**  
OCG 673 Fisheries Oceanography |
| **B. Other Biological Sciences courses,** which when added to the above courses must total 30 semester hours. | **BIO101/103 Introduction to Biology I and Lab (4)**  
BIO102/104 Introduction to Biology II and lab (4)  
Basic Science Requirement (Ecosystem Science/Ecology) |
| **C. Physical Sciences courses.** Must total 15 semester hours. | **CHM103/105 (4)**  
Basic Science Requirement (Physical Sciences)  
Supporting electives in GEO, OCG |
| **D. Mathematics and Statistics courses,** which must include one calculus and one statistic or two statistics courses. Must total 6 semester hours. | **MTH103, 111, 131 or 141 (Precalculus or Calculus)**  
STA 220 and STA308 (3) or STA409 (3)  
Computational/Statistical Basic Science |
| **E. Communications courses.** Must total 9 semester hours. | Choose 3 (9 credits) from General Education list fulfilling B1 and B2 outcomes (communication and writing)  
NRS 543 Public Engagement with Science  
WRT 533 Seminar in Graduate Writing in the Life Sciences |
| **F. Human Dimensions courses.** Must total 6 semester hours | **EEC105 Intro to Resource Economics (3)**  
One more APG, MAF or EEC course (suggested from Gened list, counting as supporting electives) |

In red are courses that count for the graduate certificate.  
In black are courses from BS in AFS
Hi, Marta -

The BIO department is fine with having its courses count as electives for this certificate. Best -

Evan

On Sun, Feb 25, 2018 at 2:58 PM, Marta Gomez-Chiarri <gomezchi@uri.edu> wrote:

Hi all,

AFS is submitting a proposal for a Graduate Certificate in Aquaculture and Fisheries, and that includes the option of taking some courses in your programs. I am anticipating that the CAC will ask us for emails from you agreeing that it is OK for us to consider courses from your programs as electives (see catalog description on page 11 for examples of courses that will count for the program). Would you mind taking a quick look at the attached description and let me know:

1) Are the courses included in the proposal being taught?
2) Are we missing any new courses that should be included?
3) Would you support the proposal?

Elaine, let me know if you have any comments about the assessment - I hope it makes sense.

Looking forward to your feedback. Thank you so much for your help, let me know if you have any questions.

Best,

Marta

--

Evan Preisser, Professor & Chair
Department of Biological Sciences
University of Rhode Island
Kingston RI 02881 USA
(p) 401-874-2120
Hi Marta,

I took a quick look at your document and here are my answers to your questions:

1) Are the courses included in the proposal being taught?

First, EEC 514 (which is cross-listed with MAF) is listed twice, so delete one. Second, EEC 543 is not offered, and I do not think it was ever offered since I arrived at URI (summer ’06). EEC 432 is offered but this is a topic-based capstone course, so the topic may not be fisheries or aquaculture related.

2) Are we missing any new courses that should be included?

For those interested in developing a business in aquaculture or fisheries, or in environmental issues surrounding aquaculture (e.g., trade-off b/w economic benefit and env. cost), our popular Benefit-Cost Analysis course may be of interest: EEC 440.

3) Would you support the proposal?

Yes.

Hiro
Dear Dr. Gomez-Chiarri,

The Department of Natural Resources Science (NRS) applauds your proposal for a Graduate Certificate in Aquaculture and Fisheries.

We are fully supportive of students in this certificate taking NRS courses. We have space and are keen to assist with their education.

Best wishes.

Art Gold

Arthur J Gold Ph.D.
Professor and Chair
Dept of Natural Resources Science
University of Rhode Island
Kingston, RI 02881
agold@uri.edu
401 874 2903

http://web.uri.edu/whl/

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Looking forward to your feedback. Thank you so much for your help, let me know if you have any questions.

Best,

Marta
LIBRARY IMPACT STATEMENT (New Program Proposal)
LIBRARIAN’S ASSESSMENT

The Collection Management Officer will complete this form as requested, assessing library materials and collections as detailed below, returning. Subject selectors who receive requests for Library Impact Statements for new programs should forward those requests to the CMO.

Program:  Graduate Certificate in Aquaculture and Fisheries

Department, College:  FAVS, CELS

Faculty Member:  Marta Gomez-Chiarri

Date returned to Faculty:  2/28/18

Librarian Completing Assessment:  Joanna M. Burkhardt

Collection Management Officer:  Joanna M. Burkhardt

Assessment of:

- Suitability of existing library resources;
- New library resources required to support the program;
- Information skills education required by the students; and
- Funds needed for library materials and services.

Please include:

1. What library holdings already exist in relevant subject categories? How much money is now allocated in the program subject area?

The URI Libraries have substantial holdings in relevant subject areas. The allocation for monographs for the 2017-18 fiscal year is approximately $3800 for Fisheries, Animal and Veterinary Science. Other related subject areas also have allocations for purchase of monographs. The cost of journal subscriptions is not broken out by department. However, because the Library subscribes to many relevant databases of journal articles in relevant fields, we can likely provide all the journals this program currently needs.

2. Does URI have the essential journals as noted in the Faculty Questionnaire?

URI currently has access to all the essential journals and databases noted in the Faculty Questionnaire. As long as our funding remains adequate, these resources will be available for students in this program.

3. What new resources are required to support the program (including media, electronic, or other non-print materials)?
As there are no new courses for this program, no new library resources are required to support this program.

4. What information mastery sessions will be required for the students?

   Information Mastery classes are available on request at the University Libraries, should individual instructors want to bring their classes in for instruction.

5. What is the approximate cost to acquire the materials necessary? Which of these will be continuing costs?

   There are no new costs to the library associated with the support of this course.
DATE: March 9, 2018

TO: Dr. Nasser H. Zawia
    Dean, Graduate School

    Andrea Rusnock
    Associate Dean, Graduate School

FROM: Linda Barrett
      Director, Budget and Financial Planning

SUBJECT: Proposal for Graduate Certificate in Aquaculture and Fisheries

As requested in an email from Marta Gomez-Chiarri, Professor and Chairperson of the Department of Fisheries, Animal and Veterinary Sciences, dated February 26, 2018, the Budget and Financial Planning Office has reviewed the budget related to the proposal for a Graduate Certificate in Aquaculture and Fisheries.

The Budget and Financial Planning Office, including communication with Enrollment Services, concurs that the request for a Graduate Certificate in Aquaculture and Fisheries is not anticipated to have an impact on the Fund 100 unrestricted budget as it has been presented.

Please let us know if you require any further information.

cc: Donald DeHayes  Dean Libutti
    Laura Beauvais  Matt Bodah
    John Kirby     Marta Gomez-Chiarri
    Cheryl Hinkson Colleen Robillard
    John Humphrey

Office/BudgetImpactStatements/GradCertinaquacultureandfisheries/BudgetImpactStatementLetterFinal

The University of Rhode Island is an equal opportunity employer committed to the principles of affirmative action.
## REVENUE ESTIMATES

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuition: In-State</strong></td>
<td>$13,226</td>
<td>$13,760</td>
<td>$13,760</td>
<td>$13,760</td>
</tr>
<tr>
<td><strong>Tuition: Out-State</strong></td>
<td>$25,854</td>
<td>$26,236</td>
<td>$26,236</td>
<td>$26,236</td>
</tr>
<tr>
<td><strong>Tuition: Regional</strong></td>
<td>$19,840</td>
<td>$20,640</td>
<td>$20,640</td>
<td>$20,640</td>
</tr>
<tr>
<td><strong>Mandatory fees per student</strong></td>
<td>$1,598</td>
<td>$1,712</td>
<td>$1,712</td>
<td>$1,712</td>
</tr>
<tr>
<td><strong>FTE # of New Students: In-State</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>FTE # of New Students: Out-State</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>FTE # of New Students: Regional</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### First Year Students

<table>
<thead>
<tr>
<th></th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-State tuition</td>
<td>$13,226.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
<td>$0.00</td>
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<td>$0.00</td>
</tr>
<tr>
<td>Regional tuition</td>
<td>$19,840.00</td>
<td>$0.00</td>
<td>$20,640.00</td>
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<td>$20,640.00</td>
<td>$0.00</td>
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<tr>
<td>Mandatory fees</td>
<td>$4,794.00</td>
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</table>

### Second Year Students

<table>
<thead>
<tr>
<th></th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-State tuition</td>
<td>$13,226.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Out-State tuition</td>
<td>$25,854.00</td>
<td>$0.00</td>
<td>$26,236.00</td>
<td>$0.00</td>
<td>$26,236.00</td>
<td>$0.00</td>
<td>$26,236.00</td>
<td>$0.00</td>
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<tr>
<td>Regional tuition</td>
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<tr>
<td>Mandatory fees</td>
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### Third Year Students

<table>
<thead>
<tr>
<th></th>
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<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
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<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-State tuition</td>
<td>$13,226.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
<td>$0.00</td>
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<td>$0.00</td>
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<td>$0.00</td>
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<tr>
<td>Out-State tuition</td>
<td>$25,854.00</td>
<td>$0.00</td>
<td>$26,236.00</td>
<td>$0.00</td>
<td>$26,236.00</td>
<td>$0.00</td>
<td>$26,236.00</td>
<td>$0.00</td>
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<tr>
<td>Regional tuition</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Mandatory fees</td>
<td>$0.00</td>
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<td>$0.00</td>
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### Fourth Year Students

<table>
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<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-State tuition</td>
<td>$13,226.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
<td>$0.00</td>
<td>$13,760.00</td>
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<tr>
<td>Out-State tuition</td>
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<td>$26,236.00</td>
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<tr>
<td>Regional tuition</td>
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<td>$0.00</td>
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<td>$0.00</td>
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<td>Mandatory fees</td>
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<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
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</table>

### Total Tuition and Fees

<table>
<thead>
<tr>
<th></th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Tuition and Fees</td>
<td>$63,714.00</td>
<td>$0.00</td>
<td>$108,048.00</td>
<td>$0.00</td>
<td>$109,192.00</td>
<td>$0.00</td>
<td>$109,192.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

### GRANTS

<table>
<thead>
<tr>
<th></th>
<th>Newly Generated Revenue</th>
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<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Grants, Contracts, Other</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
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### TOTAL

<table>
<thead>
<tr>
<th></th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
<th>Newly Generated Revenue</th>
<th>Revenue from existing programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$63,714.00</td>
<td>$0.00</td>
<td>$108,048.00</td>
<td>$0.00</td>
<td>$109,192.00</td>
<td>$0.00</td>
<td>$109,192.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**NOTE:** All of the above figures are estimates based on projections made by the institution submitting the proposal.
# ACADEMIC PROGRAM BUDGET FORM

Use this form for programs that can be pursued on a full-time basis, part-time basis, or through a combination of full-time and part-time attendance. **Page 2 of 3**

This is not a new program, simply adding focus areas to the major

## EXPENDITURE ESTIMATES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Faculty</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Support Staff</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Others</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Fringe Benefits %</td>
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<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total Personnel</strong></td>
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<td><strong>$0.00</strong></td>
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<td><strong>$0.00</strong></td>
</tr>
</tbody>
</table>

## OPERATING EXPENSES

<table>
<thead>
<tr>
<th>Item</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Resources</td>
<td>$0.00</td>
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<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Other (specify)</td>
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<td>$0.00</td>
<td>$0.00</td>
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</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
</tr>
</tbody>
</table>

## CAPITAL

<table>
<thead>
<tr>
<th>Item</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Equipment</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Other</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total Capital</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
</tr>
</tbody>
</table>

## NET STUDENT ASSISTANCE

<table>
<thead>
<tr>
<th>Item</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistantships</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Fellowships</td>
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<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Stipends/Scholarships</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total Student Assistance</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
</tr>
</tbody>
</table>

## TOTAL EXPENDITURES

<table>
<thead>
<tr>
<th>Item</th>
<th>2018/19</th>
<th>2019/20</th>
<th>2020/21</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
<td><strong>$0.00</strong></td>
</tr>
</tbody>
</table>

**NOTE:** All of the above figures are estimates based on projections made by the institution submitting the proposal.
### ACADEMIC PROGRAM BUDGET FORM

Use this form for programs that can be pursued on a full-time basis, part-time basis, or through a combination of full-time and part-time attendance.  **Page 3 of 3**

<table>
<thead>
<tr>
<th></th>
<th>Year 1 2018/19</th>
<th>Year 2 2019/20</th>
<th>Year 3 2020/21</th>
<th>Year 4 2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BUDGET SUMMARY OF COMBINED EXISTING AND NEW PROGRAM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Revenue</td>
<td>$63,714.00</td>
<td>$108,048.00</td>
<td>$109,192.00</td>
<td>$109,192.00</td>
</tr>
<tr>
<td>Total Expenses</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Excess/Deficiency</td>
<td>$63,714.00</td>
<td>$108,048.00</td>
<td>$109,192.00</td>
<td>$109,192.00</td>
</tr>
</tbody>
</table>

| **BUDGET SUMMARY OF EXISTING PROGRAM ONLY** |               |               |               |               |
| Total Revenue        | $0.00         | $0.00         | $0.00         | $0.00         |
| Total Expenses       | $0.00         | $0.00         | $0.00         | $0.00         |
| Excess/Deficiency    | $0.00         | $0.00         | $0.00         | $0.00         |

| **BUDGET SUMMARY OF NEW PROGRAM ONLY** |               |               |               |               |
| Total of Newly Generated Revenue | $63,714.00    | $108,048.00   | $109,192.00   | $109,192.00   |
| Total of Additional Resources Required for | $0.00         | $0.00         | $0.00         | $0.00         |
| Excess/Deficiency    | $63,714.00    | $108,048.00   | $109,192.00   | $109,192.00   |

**NOTE:** All of the above figures are estimates based on projections made by the institution submitting the proposal.