

AQUACULTURE AND FISHERIES SCIENCE

EFFECTIVE FALL 2025

Student: _____

ID No.: _____

Advisor: _____

I. GENERAL EDUCATION (min 40 cr)

Knowledge

- A1. STEM
A2. Social & Behavioral Science
A3. Humanities (e.g. MAF300)
A4. Arts & Design

Competencies

- B1. Written Communications
B2. Communicate Effectively
B3. Math, Stats, & Comp. Literacy
B4. Information Literacy

Responsibilities

- C1. Civic Knowledge & Responsibility
(e.g. MAF100,220)
C2. Global responsibilities
C3. Diversity & Inclusion
(e.g. MAF300, SAF383)

Integrate & Apply

- D1. Integrate & Apply (e.g. AFS300,440)

Grand Challenge

- G. Grand Challenge

Course No. Grade Cr.

--	--	--

--	--	--

II. PRE-PROFESSIONAL & BASIC SCIENCES

Course Description: Course No. Grade Cr.

A. Introductory Professional Courses (10 credits)

Foods from the Sea (3; F) (A1,G)	AFS 105G		3
Foods from the Sea Lab (1; F)	AFS 106		1
Intro to Resource Econ (3; F,S) (A2)	EEC105		3
Natural Resource Conserv (3; F,S) (A1)	NRS100		3

B. Basic Sciences (24 credits)

Biology (8 cr)

Principles of Biology I (3; F,S) (A1)	BIO 101		3
Principles of Biology I Lab (1; F,S) (A1)	BIO 103		1
Principles of Biology II (3; F,S) (A1)	BIO 102		3
Principles of Biology II Lab (1; F,S) (A1)	BIO 104		1

Chemistry (4 cr)

CHM 101 or 103 (3; F,S) (A1)			3
CHM 102 or 105 (1; F,S)			1

Additional Basic Sciences* (min 12 cr)

Math (MTH103/111/131/141) (A1,B3)			
Add'l Basic Sci (Physical Sciences)			
Add'l Basic Sci (Ecology/Ecosystem)			
Add'l Basic Sci (Computational/Stats)			

Course Credits Required: 120

Course Credits Completed:

III. PROFESSIONAL COURSES (min. 30 cr total)

Course Description: Course No. Grade Cr. Off.

A. Foundational Courses (10 cr that count as supporting electives)

Shellfish Aquaculture	AFS 201(3,1)			F
Finfish Aquaculture	AFS 202(2,1)			S
Fisheries Science	AFS 215 (2,1)			Alt.F(o)

B. Concentration Courses (min. 20 cr; 12 from AFS)

Suggested Courses for Aquaculture Focus (choose from):

Crustacean Aquaculture	AFS 362 (3)			Alt S(o)
Marine Finfish Aquaculture	AFS 432 (3)			Alt.S(o)
Salmonid Aquaculture	AFS 483 (3)			Alt.F(o)
Topics in Molluscan Aquaculture	AFS 581 (3)			Alt S(e)
Advanced Aquaculture Systems	AFS 584 (3)			Alt S(e)

Suggested Courses for Fisheries Focus (choose from):

World Fishing Methods and Lab (3,1)	AFS 321/322			Alt.F(e)
Fisheries Ecology (3)	AFS 415			S
Fisheries Stock Management (3)	AFS 531 (3)			S
Ecosystem Based Fishs Sci. & Mngt	AFS 560 (3)			Alt.S(o)

Common courses (choose from):

Diseases of Aquatic Organisms (D1)	AFS 300 (3,1)			S
Aquaculture and the Environment	AFS 425 (3)			F
Aqua. Food Prod., Philippines (D1)	AFS 440 (3)			J-term
Marine Plastic Pollution (2,1)	AFS 488 (3)			S
Advanced Diseases Aquatic Org	AFS 500 (3)			Alt F(e)
General Oceanography	OCG 301 (3)			F
Marine Biology	BIO 360 (3,1)			F,S
Fish Physiology	AFS 486 (3)			F
Additional Concentration Course**				
Additional Concentration Course**				
Additional Concentration Course**				

IV. EXPERIENTIAL LEARNING COURSES (min 3, maximum 12)

Course Description: Course No. Grade Cr. Off.

Special Problems/Indep. Study	AFS 391/2 (1-3)			F,S,Sm
AFS Internship	AFS 399 (1-6)			F,S,Sm
Special Projects	AFS 491/2 (1-3)			F,S,Sm
AFS Teaching Practicum	AFS 498			F,S

V. SUPPORTING ELECTIVES*** (min 15 + addtl. 10 from Sect. III.A.)

Skills and Tools (up to 9 cr)

Basic Scuba Diving	AFS 270 (3)			F,S
Small Boats: Equipment & Operation	AFS 290 (3)			F
Laboratory Research Skills	AFS 291 (1)			F,S
Underwater Photography & Film	AFS 395 (3)			S
Underwater Photography & Film Lab.	AFS 397 (1)			S
Research Diving Methods	AFS 433 (3)			F,S

Additional supporting and other electives

& Part of the Marine Technology Certificate (15 cr. total)

* **Suggested Basic Science (check General Education catalog):** 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 course in Geology (GEO), Oceanography (OCG), Physics (PHY); Ecology/Ecosystem Science: e.g. BIO262, NRS212, NRS223, or 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 Aquaculture (AFS), Marine Biology (BIO), Oceanography (OCG), Ecology/Ecosystem (NRS), Marine Affairs (MAF), and Economics (EEC). Maximum 3 cr total of AFS 491/2 can be counted as concentration. AFS 391, 399, 498 do not count towards concentration

*** **Suggested Supporting Electives:** courses 100 or above in Economics (EEC, ECN), Business (ACC, BAI, FIN, INE, MGT, MKT, SCA), Marine Affairs (MAF), Math (MTH), Anthropology (APG), Marine Bio (BIO), Geology (GEO), Natural Resource Sciences (NRS), Oceanography (OCG), Animal and Veterinary Sciences (AVS), and Sustainable Agriculture & Food Systems (SAF). Additionally, students are encouraged to consider any courses required for the Innovation and Entrepreneurship Certificate are accepted (INE149, INE247, INE249, INE349). No more than 9 cr of 100 level courses can count towards supporting elective requirement.

B.S. Aquaculture & Fisheries Science

Effective Fall 2025

Aquaculture & Fisheries Science Courses		
Course Code	Course (Semester offered, credits)	GenEd Outcome
AFS 102	Introductory Aquaculture (3 crs)	
AFS 105G	Food from the Sea (3 crs)	A1, G
AFS 106	Food from the Sea Lab (1 cr)	
AFS 132G	Sustainable Agriculture, Food Systems, and Society (3 crs)	A2, G
AFS 170X	Basic Watermanship Techniques for Field Work (3 crs)	
AFS 190	Issue in Biotechnology (3 crs)	A1
AFS 201	Shellfish Aquaculture (4 crs)	
AFS 202	Finfish Aquaculture (3 crs)	
AFS 215	Fisheries Science (3 crs)	
AFS 270	Basic Scuba Diving in Science and Technology (3 crs)	
AFS 290	Small Boats: Their Equipment and Operation (3 crs)	
AFS 291	Laboratory Research Skills (1 cr)	
AFS 300+ Courses qualify for the concentration requirement		
AFS 300	Diseases of Aquatic Organisms (4 crs)	D1
AFS 321	World Fishing Methods (3 crs)	
AFS 322	Laboratory for World Fishing Methods (1 cr)	
AFS 362	Crustacean Aquaculture (3 crs)	
AFS 391	Special Projects and Independent Study (1-3 crs)	
AFS 392	Special Projects and Independent Study (1-3 crs)	
AFS 395	Underwater Photography and Film (3 crs)	
AFS 396	Marine Technical Practicum (3 crs)	
AFS 397	Underwater Photography and Film Laboratory (1 cr)	
AFS 399	Aquaculture and Fisheries Internship (1-6 crs)	
AFS 415	Fisheries Ecology (3 crs)	
AFS 416	Fisheries Ecology Laboratory (1 cr)	
AFS 425	Aquaculture and the Environment (3 crs)	
AFS 432	Marine Finfish Aquaculture (3 crs)	
AFS 433	Research Diving Methods (3 crs)	
AFS 440	Aquatic Food Production in the Philippines (3 crs)	D1
AFS 483	Salmonid Aquaculture (3 crs)	
AFS 486	Fish Physiology (3 crs)	
AFS 488G	Marine Plastic Pollution	B1, C1, G
AFS 491	Special Projects (1-3 crs)	
AFS 492	Special Projects (1-3 crs)	
AFS 498	Teaching Practicum in Aquaculture and Fisheries Science (1-3 crs)	
AFS 500	Advanced Diseases of Aquatic Organisms (3 crs)	
AFS 501	Professional Develop. in Fisheries and Aquaculture (1 cr)	
AFS 502	Seminar in Fisheries and Aquaculture (1 cr)	
AFS 503	Pathobiology (3 crs)	
AFS 508	Seminar in Biological Literature (1 cr)	
AFS 515	Fishery Ecology (3 cr)	
AFS 531	Fisheries Stock Assessment (3 crs)	
AFS 532	Experimental Design (3 crs)	
AFS 534	Animal Virology (3 crs)	
AFS 560	Ecosystem-Based Fisheries Science & Management (3 crs)	
AFS 576	Seminar in Genetics of Aquatic Organisms (3 crs)	
AFS 581	Current Topics in Molluscan Aquaculture (3 crs)	
AFS 584	Advanced Aquaculture Systems (3 crs)	
AFS 586	Fish Nutrition (3 crs)	
Additional Concentration and Supporting Elective Courses		
	Additional concentration courses include 300 or above courses in Marine Biology (BIO), Oceanography (OCG), Ecology/Ecosystem (NRS), Marine Affairs (MAF), and Economics (EEC).	
	Additional supporting electives include 200 or above in Economics (EEC, ECN), Business (ACC, BAI, FIN, INE, MGT, MKT, SCA), Marine Affairs (MAF), Anthropology (APG), Marine Bio (BIO), Geology (GEO), Natural Resource Sciences (NRS), Oceanography (OCG), Animal and Veterinary Sciences (AVS), and Sustainable Agriculture & Food Systems (SAF). Additionally, any courses required for the Innovation and Entrepreneurship Certificate are accepted (INE149, INE247, INE249, INE349)	
OCG 301	General Oceanography (3 crs)	

B.S. Aquaculture and Fisheries Science- Effective Fall 2025

Sample 4 Year Plan

College of the Environment and Life Sciences

Freshman Year *Fall* Semester

Course Code	Description	Cr	
AFS 105G/106	Food from the Sea Lec/ Lab	4	
BIO 101/103	Principles of Biology I/ Lab	4	
EEC 105	Introduction to Resource Economics	3	
	*General Education	3	
	*General Education	3	
URI 101	Planning for Academic Success	1	
* Counting for General Education		15-18	

Freshman Year *Spring* Semester

Course Code	Description	2020 - 2021	Cr	
AFS 202	Finfish Aquaculture		3	
BIO 102/104	Principles of Biology II/ Lab		4	
	Basic Science (Physical Sci)		3	
MTH _____	Precalculus or Applied Calculus I		3	
	*General Education		3	
* From General Education Course Offerings			16	

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

Sophomore Year *Fall* Semester

Course Code	Description	Cr	
AFS 201	Shellfish Aquaculture	3	
NRS 100	Natural Resource Conservation	3	
CHM	Introduction Chemistry Lecture/Lab	4	
	Supporting Elective	3	
	Concentration (e.g. AFS 321/322)	3	
* From General Education Course Offerings		16	

Sophomore Year *Spring* Semester

Course Code	Description	Cr	
e.g. AFS 362/432	Concentration Course	3	
	Concentration Course	3	
	Basic Science (Ecology/Ecosystem)	4	
	Supporting Elective	3	
	*General Education	3	
* From General Education Course Offerings			16

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.

Junior Year *Fall* Semester

Course Code	Description	Cr	
e.g. BIO360, OCG301	Concentration Course	3	
e.g. AFS 483, 415	Concentration Course	3	
	Supporting Elective	3	
	Basic Science (Computer Sci/Stats)	3	
	*General Education	3	
		15	

Junior Year *Spring* Semester

Course Code	Description	Cr	
e.g. AFS 300	Concentration Course	3	
e.g. AFS 432	Concentration Course	3	
	Supporting Elective	3	
	**Special Projects or Internship	3	
	*Gen Ed or Free Elective	3	
** could be done in the Summer			15

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.

Senior Year *Fall* Semester

Course Code	Description	Cr	
e.g. AFS 486	Concentration Course	3	
e.g. BIO, MAF, NRS	Concentration Course	3	
	Supporting Elective	3	
	Basic Science	3	
	*Gen Ed or Free Elective	3	
		15	

Senior Year *Spring* Semester

Course Code	Description	Cr	
e.g. AFS 584	Concentration Course	3	
e.g. AFS 488	Supporting Elective	3	
	Supporting Elective	3	
	*General Education	3	
	*Gen Ed or Free Elective	3	
			15

Year 4 Milestones: Earn 120 credits and a GPA of 2.0 or higher in CUM and CON. Complete all remaining required courses.

Total Credits to Graduate = 120

Please Note: This document is for **planning purposes only** and does not equate or replace your major specific curriculum sheet. **This is NOT your Curriculum Sheet.** This tool can be used to map out your individual 4-year plan while at URI. **This form is not to be turned in as part of your Graduation Application.**

Name: _____
Major: _____

Student ID: _____
Subplan: _____

Course Code	Description	Sem.	Cr

Course Code	Description	Sem	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem	Cr

Course Code	Description	Sem	Cr

Course Code	Description	Sem	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem	Cr

Total Credits Earned:	
-----------------------	--

Course Code	Description	Sem.	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem.	Cr

Course Code	Description	Sem.	Cr

Total Credits Remaining for Graduation:	
---	--