

# AQUACULTURE AND FISHERIES TECHNOLOGY

EFFECTIVE FALL 2018

Student: \_\_\_\_\_

ID No.: \_\_\_\_\_

Advisor: \_\_\_\_\_

## I. GENERAL EDUCATION (min 40 cr)

	Course No.	Grade	Cr.
<b>Knowledge</b>			
A1. STEM	BIO 101/103		
A2. Social and Behavioral Sciences	EEC 105		
A3. Humanities			
A4. Arts and Design			
<b>Competencies</b>			
B1. Write effectively			
B2. Communicate effectively			
B3. Mathematical, statistical, computation	MTH____		
B4. Information literacy			
<b>Responsibilities</b>			
C1. Civic knowledge & responsibility (e.g. MAF100,220)			
C2. Global responsibilities			
C3. Diversity and inclusion (e.g. MAF370)			
<b>Integrate &amp; Apply</b>			
D1. Ability to Synthesize (e.g. AFS300, 440)			
<b>Grand Challenge</b>			
G. Grand Challenge Course	AFS 105G		
Additional General Education			
Additional General Education			
Additional General Education			
Additional General Education			

## II. PRE-PROFESSIONAL & BASIC SCIENCES

<b>A. Introductory Professional Courses (10 credits)</b>			
Foods from the Sea (3,1; F)	AFS105G/106		
Intro to Resource Econ (3; F,S)	EEC105		
Natural Resource Conserv (3; F,S)	NRS100		
<b>B. Basic Sciences (24 credits)</b>			
<i>Biology (8 cr)</i>			
Principles of Biology I (3; F,S)	BIO 101		
Principles of Biology I Lab (1; F,S)	BIO 103		
Principles of Biology II (3; F,S)	BIO 102		
Principles of Biology II Lab (1; F,S)	BIO 104		
<i>Chemistry (4 cr)</i>			
CHM 101 or 103 (3, F,S)	CHM____		
CHM 102 or 105 (1; F,S)	CHM____		
<i>Additional Basic Sciences** (min 12 cr)</i>			
Mathematics (MTH103/111/131/141)	MTH____		
Additional Basic Sci (Physical Sciences)			
Additional Basic Sci (Ecology/Ecosystem)			
Additional Basic Sci (Computational/Stats)			

## III. PROFESSIONAL COURSES (min. 30 cr total)

Course Description:	Course No.	Grade	Cr.	Off:
<b>Foundational Courses (10 cr that count as supporting electives)</b>				
Shellfish Aquaculture	AFS 201 (3,1)			F
Finfish Aquaculture	AFS 202 (2,1)			S
Fisheries Science	AFS 215 (2,1)			S
<b>Concentration Courses (min. 20 cr; 12 from AFS)</b>				
<b>Suggested Courses for Aquaculture Focus (choose from):</b>				
Crustacean Aquaculture	AFS 362 (3)			Alt.S(e)
Marine Finfish Aquaculture	AFS 432 (3)			Alt.S(o)
Salmonid Aquaculture	AFS 483 (3)			F
Topics in Molluscan Aquaculture	AFS 581 (3)			Alt.F(o)
Advanced Aquaculture Systems	AFS 584 (3)			AltS(e)
<b>Suggested Courses for Fisheries Focus (choose from):</b>				
World Fishing Methods and Lab (3,1)	AFS 321/322			F
Fisheries Ecology and Laboratory (3,1)	AFS 415/416			Alt.F(e)
Fisheries Stock Management (3)	AFS 531 (3)			Alt.S(e)
Ecosystem Based Fisheries Sci. & Mngt	AFS 560 (3)			Alt.S(o)
<b>Common courses (choose from):</b>				
Diseases of Aquatic Organisms	AFS 300 (3,1)			F
Aquaculture and the Environment	AFS 425 (3)			Alt.F(e)
Aqua. Food Production, Philippines	AFS 440 (3)			J-term
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***				

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

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

## V. SUPPORTING\*\*\* (min 15) AND OTHER ELECTIVES

<b>Skills and Tools (up to 9 cr)</b>				
Small Boats: Equipment & Operation	AFS 290 (3)			F
Basic Scuba Diving	AFS 270 (3)			F,S
Research Diving Methods	AFS 433 (3)			F,S
<b>Additional supporting and other electives</b>				
_____				
_____				
_____				
Planning for Academic Success	URI101 (1)			F

\* 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, 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 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 Credits Required: 120

Course Credits Completed: \_\_\_\_\_

Approved for Graduation:

Advisor: \_\_\_\_\_ Date: \_\_\_\_\_

**B.S. Aquaculture and Fisheries Science- Effective Fall 2018**

**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	
MTH ____	Precalculus or Applied Calculus I	3	
EEC 105	Introduction to Resource Economics	3	
	*General Education	3	
URI 101	Planning for Academic Success	1	
		<b>15</b>	

\* Counting for General Education

**Freshman Year Spring Semester**

Course Code	Description	Cr	
AFS 202	Finfish Aquaculture	3	
BIO 102/104	Principles of Biology II/ Lab	4	
OCG/GEO	Basic Science (Physical Sci)	3	
	*General Education (e.g. AFS132G)	3	
	*General Education	3	
		<b>16</b>	

\* From General Education Course Offerings

**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 103/105	Introduction Chemistry Lecture/Lab	4	
	Supporting Elective (e.g. skills)	3	
	*General Education	3	
		<b>16</b>	

**Sophomore Year Spring Semester**

Course Code	Description	Cr	
	Concentration Course	3	
	Concentration Course	3	
e.g. BIO 262	Basic Science (Ecology/Ecosystem)	4	
	Supporting Elective (skills)	3	
	*General Education	3	
		<b>16</b>	

**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	
	Concentration Course	3	
	Concentration Course	3	
	Supporting Elective	3	
	Basic Science (Computer Sci/Stats)	3	
	*General Education	3	
		<b>15</b>	

**Junior Year Spring Semester**

Course Code	Description	Cr	
	Concentration Course	3	
	Concentration Course	3	
	Supporting Elective	3	
	**Special Projects or Internship	3	
	*General Education or Elective	3	
		<b>15</b>	

\*\* could be done in the Summer

**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	
	Concentration Course	3	
	Concentration Course	3	
	Supporting Elective	3	
	Basic Science	3	
	*General Education or Elective	3	
		<b>15</b>	

**Senior Year Spring Semester**

Course Code	Description	Cr	
	Concentration Course	3	
	Supporting Elective	3	
	Supporting Elective	3	
	*General Education	3	
	Elective	3	
		<b>15</b>	

**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**

Effective Fall 2018