



CURRICULUM
Bachelor of Science in Fisheries
First Year

| 1st Semester | | | 2nd Semester | | |
|------------------|-----------------------------------|-------|------------------|-------------------------------------|-------|
| Course Number | Course Title | Units | Course Number | Course Title | Units |
| GE Core 1 | | 3 | GE Core 3 | | 3 |
| GE Core 2 | | 3 | GE Elect 1 | | 3 |
| Fish 100 | Introduction to Fisheries Science | 3 | Chem 23 | Inorganic Analytical Chemistry | 3 |
| Physics 21 | Introductory Physics | 4 | Chem 23.1 | Inorganic Analytical Chemistry, Lab | 2 |
| Bio 14 | Integrative Biology | 5 | Fish 101 | Aquatic Fauna and Flora | 4 |
| PE 1 | Foundations of Physical Fitness | (2) | Fish 102 | Ichthyology | 4 |
| NSTP 1 | National Service Training Program | (3) | PE 2 | Swimming | (2) |
| | | | NSTP | | (3) |
| Sub-Total | | 18 | Sub-Total | | 19 |

Second Year

| 1st Semester | | | 2nd Semester | | |
|------------------|----------------------------|-------|------------------|-------------------------------------|-------|
| Course Number | Course Title | Units | Course Number | Course Title | Units |
| GE Core 4 | | 3 | GE Elect 3 | | 3 |
| GE Elect 2 | | 3 | Fish 125 | Aquaculture Technologies | 5 |
| Fish 106 | Aquatic Ecology | 3 | Fish 137 | Fish Capture Technology | 3 |
| Fish 154 | Fisheries Microbiology | 3 | Fish 156 | Fisheries Post Harcest Technologies | 5 |
| Fish 181 | Oceanography and Limnology | 3 | Fish 175 | Coastal Resource Management | 3 |
| Math 50 | Applied Calculus | 4 | PE 2 | | (2) |
| PE 2 | | (3) | | | |
| Sub-Total | | 19 | Sub-Total | | 19 |

Third Year

| 1st Semester | | | 2nd Semester | | |
|------------------|-----------------------------|-------|------------------|----------------------------------|-------|
| Course Number | Course Title | Units | Course Number | Course Title | Units |
| GE Core 5 | | 3 | GE Core 6 | | 3 |
| GE Elect 4 | | 3 | GE Elect 5 | | 3 |
| Fish 110 | Fisheries Organic Chemistry | 5 | Stat 102 | Statistical Methods in Research | 3 |
| Fish 119 | Fisheries Engineering | 3 | Fish 117 | Health Management in Aquaculture | 3 |
| Elective 1 | | 3 | Fish 120 | Fisheries Biochemistry | 3 |
| Elective 2 | | 3 | Fish 196 | Methods of Research | 3 |
| | | | Elective 3 | | 3 |
| Sub-Total | | 20 | Sub-Total | | 21 |

MIDYEAR

| | | |
|----------|-----------|---|
| Fish 195 | PRACTICUM | 3 |
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Fourth Year

| 1st Semester | | | 2nd Semester | | |
|------------------|-------------------------------------|-------|------------------|---|-------|
| Course Number | Course Title | Units | Course Number | Course Title | Units |
| GE Core 7 | | 3 | PI 100 | The Life and Works of Jose Rizal | 3 |
| Fish 104 | Intro to Fisheries Entrepreneurship | 3 | Fish 118 | Fisheries Laws, Policies and Institutions | 3 |
| Fish 109 | Physiology of Aquatic Organism | 3 | Fish 124 | Fisheries Extension | 3 |
| Fish 147 | Fish Genetics | 3 | Fish 150 | Fisheries Management | 5 |
| Flective 4 | | 3 | Elective 5 | | 2-4 |
| Fish 200* | Undergraduate Thesis | 2-4 | Fish 200 | Undergraduate Thesis | (2) |
| Sub-Total | | 17-19 | Sub-Total | | 16-20 |

TOTAL NO. OF UNITS 154-156

***Students can take Fish 200 once in the first semester (4 units) or twice (2 units each)
 This can also be taken as early as Midyear of the third year**



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| Course Number | Course Title | Units | Course Number | Course Title | Units |
|---------------|---|-----------|---------------|--|---------------|
| | GE COURSES | 36 | | ELECTIVES | 14-16* |
| | Required GE Courses (Core) | 21 | Fish 107 | Aquatic Invertebrates | 3 |
| Kas 1 | Kasaysayan ng Pilipinas | 3 | Fish 111 | Phycology | 3 |
| Ethics 1 | Ethics & Moral Reasoning in Everyday Life | 3 | Fish 115 | Nutrition of Aquatic Animals | 3 |
| Arts 1 | Critical Perspective in the Arts | 3 | Fish 116 | Hatchery Management | 3 |
| STS 1 | Science, Technology and Society | 3 | Fish 131 | Aquatic Ecosystems Health & Mgt | 3 |
| Math 50 | Mathematics, Culture and Society | 3 | Fish 134 | GIS & Remote Sensing for Fisheries | 3 |
| Elect GE | Elective GE* | 15 | Fish 140 | Fish Stock Assessment | 3 |
| | *may include Aquatic Science Courses | | Fish 151 | Fishery Product Dev't & Value Addition | 3 |
| | | | Fish 155 | Chemical Evaluation of Water and Aquatic Products | 3 |
| | FOUNDATION COURSES | 21 | Fish 159 | Fish Plant Management | 3 |
| Bio 14 | Integrative Biology | 5 | Fish 160 | Fish Handling & Preservation of Product | 3 |
| Chem 23 | Inorganic Analytical Chemistry | 3 | Fish 167 | Actual Fishing | 3 |
| Chem 23.1 | Inorganic Analytical Chemistry, Lab | 2 | Fish 169 | Fisheries Biotechnology | 3 |
| Math 50 | Applied Calculus | 4 | Fish 171 | Food Eng'g Applications in Fisheries | 3 |
| Physics 21 | Introductory Physics | 4 | Fish 176 | Community-Based Coastal Resource Mgt | 3 |
| Stat 102 | Statistical Methods in Research | 3 | Fish 177 | Ocean Res Utilization & Conservation | 3 |
| | | | Fish 182 | Field Oceanography | 2 |
| | CORE COURSES | 80 | Fish 185 | Navigation and Seamanship | 3 |
| Fish 100 | Introduction | 3 | Fish 197 | Special Topics in Fisheries** | 3 |
| Fish 101 | Aquatic Fauna and Flora | 4 | Fish 191 | Philippine Fishing Grounds | 2 |
| Fish 102 | Ichthyology | 4 | Bio 150 | Intro to Molecular & Cell Biology | 3 |
| Fish 104 | Intro to Fisheries entrepreneurship | 3 | Bio 151 | Environment Management | 3 |
| Fish 106 | Aquatic Ecology | 3 | Bio 152 | Principles of Molecular Bio & Biotech | 3 |
| Fish 109 | Physiology of Aquatic Organisms | 3 | Bio 189 | Technical Writing for Life Sciences | 3 |
| Fish 110 | Fisheries Organic Chemistry | 5 | MCB 120 | Microbial Physiology | 3 |
| Fish 117 | Health Management in Aquaculture | 3 | MCB 150 | Microbial Ecology | 3 |
| Fish 118 | Fisheries Laws, Policies and Institutions | 3 | Comm 12 | Technical Communications | 3 |
| Fish 119 | Fisheries Engineering | 3 | Chem 184 | Chemistry of Food and Food Products | 3 |
| Fish 120 | Fisheries Biochemistry | 3 | CMSC 11 | Introduction to Computer Science | 3 |
| Fish 124 | Fisheries Extension | 3 | Math 153 | Computer Programming 1 | 3 |
| Fish 125 | Aquaculture Technologies | 5 | Econ 11 | Introductory Economics | 3 |
| Fish 137 | Fish Capture Technology | 3 | Econ 102 | Microeconomics | 3 |
| Fish 147 | Fish Genetics | 3 | Econ 174 | Fisheries Economics | 3 |
| Fish 150 | Fisheries Management | 5 | Acctg 1 | Fundamentals of Management Acctg | 3 |
| Fish 154 | Fisheries Microbiology | 3 | BA 101 | Introduction to Business Management | 3 |
| Fish 156 | Fisheries Post Harvest Technologies | 5 | CM 102 | Introduction to Cooperatives | 3 |
| Fish 175 | Coastal Resource Management | 3 | Mgt 170 | Introduction of Marketing Management | 3 |
| Fish 181 | Oceanography and Limnology | 3 | | | |
| Fish 195 | Practicum | 3 | | *a) To include all other 100 –level courses approved by the CFOS faculty | |
| Fish 196 | Methods of Research | 3 | | b) A BS Fish student should enroll in at least two (2) Fisheries Electives | |
| Fish 200 | Undergraduate Thesis | 4 | | | |
| | | | | **Student enrolls Fish 195 in UPV and may attend classes in foreign universities where UPV or UP System has an existing MOA/MOU and earns credit | |



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| Course Number | Course Title | Course Description and Prerequisite(s) |
|---------------|---|--|
| Aqua Sci 1 | Fish Makes Sense | The Dynamic Interaction between Man and the Aquatic Environment: Major Fisheries Concepts, Issues and Developments Prereq: None Credit: 3 units (3 hrs/wk) |
| Aqua Sci 16 | Fish Beyond Capture | Processing/Preservation of Fish, Beliefs and recent Developments in Nutrition, Hazards and Utilization of Fish as Food. Prereq: None Credit: 3 units (3 hrs/wk) |
| Fish 100 | Introduction to Fisheries Science | Foundations of Marine Fisheries, Aquaculture, Fish Processing Technology and Fisheries Prereq: None Credit: 3 units (3 hr lec) |
| Fish 101 | Aquatic Fauna and Flora | Biology of Aquatic Organisms, their Distribution and Evolution Prereq: Bio 40 Credit: 4 units (2 hr lect/6 hr lab) |
| Fish 102 | Ichthyology | Morphology, Anatomy, Systematics and Distribution of Fishes, their Interrelationships with other Aquatic Biota Prereq: Bio 14 Credit: 4 units (2 hr lec/6 hr lab) |
| Fish 104 | Intro Fisheries Entrepreneurship | The Study of the Theory and Practice of Entrepreneurship, including the Strategies and Application of the various Management Tasks and Concerns in Planning and Managing a Fisheries Business Prereq: None Credit: 3 units (3 hr lec) |
| Fish 106 | Aquatic Ecology | Fundamentals of Ecology and the Study of different Aquatic Ecosystems Prereq: Chem 23 Credit: 3 units (2 hr lect/3 hr lab) |
| Fish 107 | Aquatic Invertebrates | Morphology, Anatomy and Systematics of Aquatic Invertebrates; their Biology and Interrelationships with other Aquatic Biota Prereq: Fish 101 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 109 | Physiology of Aquatic Organisms | Physiology and Life History of Fishes and Aquatic Invertebrates Prereq: Fish 102 Credit: 3 units (2 hr lec; 3 hr lab) |
| Fish 110 | Fisheries Organic Chemistry | Principles of Organic Chemistry and their Application to Fisheries Prereq: Chem 23 Credit: 5 units (3 hr lec/6 hr lab) |
| Fish 111 | Phycology | Morphology, Physiology, Systematics and Distribution of Aquatic Plants, their role and Interrelationship with other Aquatic Organisms Prereq: None Credit: 3 units (2 hr lect/3 hr lab) |
| Fish 115 | Nutrition of Aquatic Animals | Principles of Nutrition; Nutrient Requirements; Ration Formulation and Practical Feeding of selected Finfishes and Shellfish Prereq: Fish 120 & Fish 109 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 116 | Hatchery Management | Application of the Principles of Reproductive and Larvae Physiology of Aquatic Organisms in the Design, Construction and Management of Hatchery Facilities Prereq: Fish 109 & Fish 125 Credit: 3 units (1 hr lec/6 hr lab) |
| Fish 117 | Health Management in Aquaculture | Biology of Pathogens and Study of other Disease Causative Agents of Aquaculture Organisms and their Prevention and Control Prereq: Fish 102 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 118 | Fisheries Laws, Policies and Institutions | Laws, Policies and Institutions, including National and International laws and treaties affecting exploitation, protection and conservation of fishery and maritime resources Prereq: None Credit: 3 units (3 hr lect) |
| Fish 119 | Fisheries Engineering | Applications of Engineering Principles to Fisheries Prereq: Physics 21 & Fish 125 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 120 | Fisheries Biochemistry | Chemistry of Carbohydrates, Lipids, Proteins and Enzymes with emphasis on Fish and Fishery Products Prereq: Fish 110 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 124 | Fisheries Extension | Introduction to Extension, its Philosophy and Role in Fisheries including Approaches and Methods Prereq: Senior Standing Credit: 3 units (3 hr lec) |
| Fish 125 | Aquaculture Technologies | Principles and Methods of Aquaculture and Application of other Sciences (Physical, Chemical, Biotechnological, Medical) to Cultivation of Aquatic Organisms; recent Development in Aquaculture |



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| | | Prereq: None Credit: 5 units (3 hr lec/6 hr lab) |
| Fish 131 | Aquatic Ecosystems Health and Management | Assessment and Monitoring of Aquatic Ecosystems Health through the Use of Ecological Indicators and Ecological Risk Analysis to Properly Manage and Sustain Aquatic Ecosystems Prereq: Fish 110 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 134 | GIS and Remote Sensing for Fisheries | Geographic Information Systems and Remote Sensing Applied to Fisheries and Ocean Sciences Prereq: None Credit: 3 units (3 hr lec) |
| Fish 137 | Fish Capture Technology | Overview of Philippine Capture Fisheries; Classification of Fishing Gears' Materials for Fishing Gear; Development of Fishing Gear Technology Prereq: Fish 101; Fish 102 & Math 50 Credit: 3 units (2 hr lec/3 hr lab/field exposure) |
| Fish 140 | Fish Stock Assessment | Methods in Assessing the Size and Status of Fish Stocks Prereq: Math 50, Fish 102 & Fish 137 Credit: 3 units (3 hr lec) |
| Fish 147 | Fish Genetics | Principles of Cellular and Molecular Genetics of Fish and other Aquatic Animals and Plants, to include Breeding and other Genetic Applications Prereq: Fish 102 & Fish 120 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 150 | Fisheries Management | Key Concepts in Fisheries and Ocean Resource Management including Studies of Coastal Communities, Governance, Fish Stock Assessment Methods and its Application in Fisheries Management Prereq: Fish 106 Credit: 5 units (3 hr lec/6 hr lab) |
| Fish 151 | Fishery Product /Development and Value Addition | Developing and Value Adding in Fish and Fishery Products, including Marketing, Packaging and Shelf-life Determination Prereq: Fish 156 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 154 | Fisheries Microbiology | Bacteria, Yeast, Molds and Parasites Associated with Fish, their Characteristics and Importance to Fisheries Prereq: Fish 101 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 155 | Chemical Evaluation of Water and Aquatic Products | Chemical Composition and Standard Methods of Analysis of the Aquatic Environment and Fishery Products Prereq: Fish 156, Chem 23 and Fish 110 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 156 | Fisheries Post Harvest Technologies | Handling, Cold Storage, Curing and Canning of Fish & Fishery Products Prereq: Fish 154 Credit: 5 units (3 hr lec/6 hr lab) |
| Fish 159 | Fish Plant Management | Total Quality Management Application to Fish Processing Plants Prereq: Fish 156 Credit: 3 units (2 hr lect/3 hr lab) |
| Fish 160 | Fish Handling & Preservation of Fish | Handling of Live Fish and Low Temperature Preservation of Fish and Fishery Products Prereq: Fish 156 & Fish 154 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 167 | Actual Fishing | Practical Application of the Principles and Methods of Fishing; Issues related to Fishing; Measures to mitigate the Impacts of Fishing Gears Prereq: Fish 137 Credit: 3 units (1 hr lec/6 hr lab) |
| Fish 169 | Fisheries Biotechnology | Fundamentals of Biotechnology and its Application in the Field of Fisheries Prereq: Fish 147 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 171 | Food Engineering Applications in Fisheries | Principles of Food Engineering Relevant to Fish Processing Operations and their Applications Prereq: Fish 156 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 175 | Coastal Resource Management | Introduction to the Coastal Environment, its Resources and Uses; Resource Issues resulting primarily from human activities; the various role players in Resource Management; the Interdisciplinary and Multi-sectoral Resource Management Strategies at the Local, National and Global Scale Prereq: Fish 106 Credit: 3 units (3 hr lec) |
| Fish 176 | Community-Based Coastal Resource Management | Introduction to Management of Coastal Resources by the Community Members and other Primary Stakeholders, with emphasis on Community Organization Process Prereq: Fish 106 Credit: 3 units (3 hr lec) |



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| Fish 177 | Ocean Resource Utilization and Conservation | Introduction to Ocean Resources, Concepts in its Utilization and Conservation Prereq: Fish 106, Fish 137 Credit: 3 units (3 hr lec) |
| Fish 181 | Oceanography and Limnology | The Study of the Geology, Chemistry and Physics of different Aquatic Environments and their Influence on Life and other Environmental Processes Prereq: Chem 23; Co-requisite: Math 50 Credit: 3 units (3 hr lec) |
| Fish 182 | Field Oceanography | Oceanographic Research Methods, Instrumentation and Analysis Prereq: Fish 181 Credit: 2 units (6 hr lab) |
| Fish 185 | Navigation and Seamanship | Basic Skills in Seamanship and Navigation; Safety at Sea for Fisheries Applications Prereq: Math 150, Fish 137 Credit: 3 units (2 hr lec/3 hr lab) |
| Fish 191 | Philippine Fishing Ground | General Survey of Philippine Fishing Grounds, including the Status of Fisheries Resources and their Utilization Prereq: None Credit: 2 units (2 hr lec) |
| Fish 195 | PRACTICUM | Credit: 3 units |
| Fish 196 | Method of Research | Introduction to Concepts, Principles, and Types of Research, including discussion on designing research proposals, methodologies, research writing, and analysis of data Prereq: Junior Standing Credit: 3 units (3 hr lec) |
| Fish 197 | Special Topics in Fisheries | Areas/Aspects of Fisheries of Special Interest to Undergraduate Students Prereq: Senior Standing Credit: (3 hr lec) |
| | | |
| Fish 200 | Undergraduate Thesis | Prereq: Senior Standing Credit: 4 units |
| Fish 200 | Undergraduate Thesis 1 | Prereq: Senior Standing Credit: 2 units |
| Fish 200 | Undergraduate Thesis 2 | Prereq: Senior Standing Credit: 2 units |

***students can take Fish 200 once in the First Semester (4 u) or twice (2 u each). This can also be taken as early as the midyear of the third year.**

GE Core (21 units)

- Comm 10 Critical Perspective in Communication**
- Arts Critical Perspective in Arts**
- Math 10 Man, Culture and Society**
- Hist 1 Philippine History**
- Wika 1 Wikka, Kultura at Lipunan**
- Ethics 1 Ethics and Moral Reasoning in Everyday Life**
- STS 1 Science, Technology and Society**

GE Electives (15 units)

May include Aquatic Science courses

- Philarts 1**
- SAS 1**
- Science 10**
- Science 11**
- Soc Sci 5**
- Aqua Sci 1**



Name of Student: _____

SN: _____

CHECKLIST
Bachelor of Science in Fisheries
First Year

| 1st Semester | | | 2nd Semester | | |
|--------------|------------------|-----------|--------------|------------------|-----------|
| Grade | Course Title | Units | Grade | Course Title | Units |
| | GE Core 1 | 3 | | GE Core 3 | 3 |
| | GE Core 2 | 3 | | GE Elec 1 | 3 |
| | Fish 100 | 3 | | Chem 23 | 3 |
| | Physics 21 | 4 | | Chem 23.1 | 2 |
| | Bio 14 | 5 | | Fish 101 | 4 |
| | PE 1 | (2) | | Fish 102 | 4 |
| | NSTP | (3) | | PE 2 | (2) |
| | | | | NSTP | (3) |
| | Sub-Total | 18 | | Sub-Total | 19 |

Second Year

| 1st Semester | | | 2nd Semester | | |
|--------------|------------------|-----------|--------------|------------------|-----------|
| Grade | Course Title | Units | Grade | Course Title | Units |
| | GE Core 4 | 3 | | GE Elec 3 | 3 |
| | GE Elec 2 | 3 | | Fish 125 | 5 |
| | Fish 106 | 3 | | Fish 137 | 3 |
| | Fish 154 | 3 | | Fish 156 | 5 |
| | Fish 181 | 3 | | Fish 175 | 3 |
| | Math 50 | 4 | | PE 2 | (2) |
| | PE 2 | (3) | | | |
| | Sub-Total | 19 | | Sub-Total | 19 |

Third Year

| 1st Semester | | | 2nd Semester | | |
|--------------|------------------|-----------|--------------|------------------|-----------|
| Grade | Course Title | Units | Grade | Course Title | Units |
| | GE Core 5 | 3 | | GE Core 6 | 3 |
| | GE Elec 4 | 3 | | GE Elec 5 | 3 |
| | Fish 110 | 5 | | Stat 102 | 3 |
| | Fish 119 | 3 | | Fish 117 | 3 |
| | Elective 1 | 3 | | Fish 120 | 3 |
| | Elective 2 | 3 | | Fish 196 | 3 |
| | | | | Elective 3 | 3 |
| | Sub-Total | 20 | | Sub-Total | 21 |

MIDYEAR

| | | |
|--|--------------------|---|
| | Fish 195 Practicum | 3 |
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Fourth Year

| 1st Semester | | | 2nd Semester | | |
|--------------|------------------|--------------|--------------|------------------|--------------|
| Grade | Course Title | Units | GRade | Course Title | Units |
| | GE Core 7 | 3 | | PI 100 | 3 |
| | Fish 104 | 3 | | Fish 118 | 3 |
| | Fish 109 | 3 | | Fish 124 | 3 |
| | Fish 147 | 3 | | Fish 150 | 5 |
| | Elective 4 | 3 | | Elective 5 | 2-4 |
| | Fish 200 * | 2-4 | | Fish 200 | (2) |
| | Sub-Total | 17-19 | | Sub-Total | 16-20 |

TOTAL NO. OF UNITS – 154-156

*students can take Fish 200 once in the First Semester (4 u) or twice (2 u each). This can also be taken as early as the midyear of the third year.



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