



Aquaculture fundamental

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- Cantho University
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1. English for Aquaculture I (AQ203)

- Credits: 3

- Objectives: This course aims to introduce students the methodologies to learn aquaculture and fisheries terms in English that will be used for reading references, listening lectures, giving talk and writing assignment.

- Content: Introduce learning methodologies for technical terms, review briefly on commonly used grammar in science, introduce reading methodologies for technical papers, books, and improve speaking skills.

2. English for Aquaculture II (AQ204)

- Credits: 3

- Objectives: Build skills in using English in science including writing and presenting lecture assignments, giving seminar, and writing thesis.

3. Microbiology (AQ205)

- Credits: 3

- Objectives: This course aims to supply the student: history, achievements and application of microbiology, structures, functions and activities of microbial cells, interaction of microorganisms and environmental factors, roles of microorganisms in aquatic environments.

- Content: History of microbiology and roles of microorganisms in nature and human life, Prokaryotes, Eukaryotes, Virus, Microbial nutrition and growth, Microbial genetics, Aquatic microorganisms and pathogens of aquatic organisms.

4. Introduction to fish science (AQ206)

- Credits: 3

- Objectives: This course aims to introduce the students with most basic concepts, definitions historical development of aquaculture and major aquaculture production systems that will make the students have .. about their aquaculture career.

- Content: This course aims to introduce the students with most basic concepts, definitions historical development of aquaculture and major aquaculture production systems that will make the students have .. about their aquaculture career.

5. Water science (AQ207)

- Credits: 3

- Objectives: To present general information on the properties of water, hydrology, climatology, basic water chemistry, and water quality to students in fisheries, aquaculture, and other areas of agriculture.

- Content: Physical Properties of Water, Hydrology, Dissolved Solids, Dissolved Oxygen and Redox Potential, Particulate Matter, Turbidity, and Color, pH, Carbon Dioxide, and Alkalinity, Total Hardness, Bacteria, Phytoplankton, and Water Quality, Oxygen Production and Demand, Nitrogen, Phosphorus, Sulfur, Micronutrients and Other Trace Elements, Water Pollution, Water Quality Regulations.

6. General ichthyology (AQ208)

- Credits: 4

- Objectives: This course aims to supply the students with: most basic knowledge about the ichthyology, structure and form of fish, classification of fish and shrimp.

- Content: Introduction to ichthyology, structure and form of fish, classification of fish, classification of shrimp.

7. Limnology (AQ209)

- Credits: 4

- Objectives: The course objectives represent a variety of tasks and skills that I expect students to have developed and mastered by the end of the course. Through participating in this course, you will: practice and develop your critical thinking skills (through in-class group discussions, presentations, and laboratory exercises), learn how to read and interpret the scientific literature, and broaden your understanding of freshwater ecosystems (through lectures and lab). My role in this course is to encourage and facilitate your learning and critical thinking about the ecology of freshwater ecosystems in a learning and fun-filled environment. I hope to provide you with a solid foundation of concepts and skills with which you can understand the complexity of freshwater ecosystems.

8. Principles of ecology (AQ210)

- Credits: 2

- Objectives: This course aims to supply the student with knowledge on concepts of ecology, ecosystems, relationships between organism and ecosystems, nature of ecosystems, functions of ecosystems, and aquatic ecosystems as the basics for further study and conservation of ecosystems and biodiversities.

9. Aquatic animal physiology (AQ211)

- Credits: 4

- Objectives: This course aims to supply the student with: general principles of fish and crustacean physiology, functions of organs and glands in the fish and crustacea, response of physiology to external changes, applied Physiology.

- Content: Hematology, Respiration, Digestion, Metabolism, Endocrine system, Osmoregulation, Reproduction, Crustacean molting. The lab study includes hematological method, oxygen consumption and deficit, erythrocyte and leucocyte counting, acute effects of chemicals on aquatic animals, tolerance of temperature and salinities on aquatic animals, activities of air-breathing organs of fishes, osmoregulation of fish, osmoregulation of crustacean, effects of chemicals (or pesticide) on fish osmoregulation, effects of chemicals (or pesticide) on crustacean osmoregulation.

10. Aquatic Animal nutrition (AQ212)

- Credits: 4

- Objectives: This class will emphasize the fundamental and applied aspects of aquatic animal nutrition. Emphasis will be placed on: factor effecting feed utilization, nutrient ingestion/digestion, and nutrient metabolism as it relates to maintenance, growth, and reproduction. Nutritional requirements, feed formulation and feeding practices will be discussed for a variety of marine and freshwater species of commercial interest. Class lectures and test times are subject to change.

- Content: Introduction, Introduction to enzyme, Feed formulation and quality evaluation, Feed processing, Feed management/Open.

11. Principles of Aquaculture (AQ213)

- Credits: 3

- Objectives: Learn the status and future of aquaculture in US and Viet Nam and around the world, Learn the basic principles of aquaculture and understand how they influence the carrying capacity, growth and yield of cultured plants and animals, Apply the principles to selected species to understand how they influence production methods, Learn how major fish and crustacean culture species are farmed.

- Content: Present the principles underlying aquatic productivity and levels of management as demonstrated by present practices of aquaculture around the world: The status of aquaculture world-wide and its role in seafood production; definition of terms used in principles of aquaculture, Factor that control carrying capacity in aquaculture, Factor that influence the growth of aquatic organisms in aquaculture, Factor that influence yield in aquaculture, Role of economic in aquaculture; levels of aquaculture; integrated aquaculture, Use of cages to farms fish; enclosed, water reuse systems, Farming methods for major aquaculture species, Class presentation.

12. Statistics and experimental design (AQ214)

- Credits: 3

- Objectives: This course aims to supply the student with: most basic knowledge about the probability and statistics, methods to design experiments in aquaculture, data collection and analysis.

- Content: Introduction to statistic, hypothesis test, experimental design, regression and correlation analysis, apply statistical software for analyses data.

13. Public speaking (AQ215)

- Credits: 2

- Objectives: This course aims to provide students with the principles in public speaking and guidances in preparing speeches for public speaking.

- Content: Why public speaking is important? Principles in public speaking; Preparing and practicing speaking; Use of visual aids.

14. Scientific research methodology (AQ216)

- Credits: 2

- Objectives: The course aims to introduce student basic knowledge and skill in searching scientific information, writing research proposal, project report and scientific paper, and preparing and presenting oral and poster paper. In addition, an emphasis will also be given on writing thesis proposal and report.

- Content: Scientific information sources and searching, research proposal preparation, research report and paper writing, preparation and presentation of oral and poster paper.

Update by tranxuanloi