

regimes, clinical signs of disease, and management practices. It will also introduce students to general definitions used in the other fish health and related courses.

6. Subject content structure:

| Content | Hours | Objectives |
|--|-----------|--|
| Chapter 1. Introduction to fish health | 15 | |
| 1.1. Introduction to fish diseases and health | 3 | 4.1.1, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| 1.2. Fish Anatomy, physiology and concepts of fish health | 6 | 4.1.1, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| 1.3. Pathological changes related to disease and health management | 6 | 4.1.1, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| Chapter 2. Infectious and non-infectious diseases in fish | 15 | |
| 2.1. Viral diseases | 3 | 4.1.2, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| 2.2. Bacterial diseases | 3 | 4.1.2, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| 2.3. Fungal diseases | 3 | 4.1.2, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| 2.2. Parasitic diseases | 3 | 4.1.2, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| 2.2. Non-infectious diseases | 3 | 4.1.2, 4.2.4, 4.3.1, 4.3.2, 4.3.3 |
| Chapter 3. Principles of disease diagnosis, prevention and treatment of fish diseases | 15 | |
| 3.1. Principles of disease diagnosis | 5 | 4.1.3, 4.2.2, 4.2.5, 4.3.1, 4.3.2, 4.3.3 |
| 3.2. Prevention of fish diseases | 5 | 4.1.3, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |
| 3.3. Treatment of fish diseases | 5 | 4.1.3, 4.2.1, 4.3.1, 4.3.2, 4.3.3 |

7. Teaching method:

- Theory
- Case study and report students
- Questions and discussions. Topic reports

8. Duties of student:

Students have to do the following duties:

- Lecture/Class attendance: 80% of lectures
- Attend oral presentations and all exams..

9. Assessment of student learning outcomes:

9.1. Assessment

| No. | Point components | Rules and Requirement | Weights | Objectives |
|-----|--|---|------------|------------|
| 1 | Attendance, participation, diligence and professionalism . | <ul style="list-style-type: none"> - Participate in all class of theory, exams, and laboratory exercises - The instructor should be notified in advance of known absence. | 10% | |
| 2 | Scores of short exams and oral presentations. | <ul style="list-style-type: none"> - Mid-term exams - Oral presentation: Written (50%) and oral (50%) presentations will be made. | 20% 20% | |
| 3 | Scores of final exam | - Final exam | 50% | |

9.2. Grading

- Grading components and final test scores will be marked on a scale of 10 (0 to 10), rounded to one decimal place.
- Subject score is the sum of all the components of the evaluation multiplied by the corresponding weight. The subject score is marked on a scale of 10 and rounded to one decimal place, then is converted to A-B-C-D score and score on a scale of 4 under the academic provisions of the University.

10. Materials:

Materials information

[1] Health Maintenance and Principal Microbial Diseases of Cultured Fishes. J. A. Plumb.

[2] Fish Disease: Diagnosis and Treatment. Edward J. Noga. 2010. Wiley–Backwell Publishing. Second edition, 519 pages

[3] Asia Diagnostic Guide to Aquatic Animal Diseases. Melba G. Bondad-Reantaso (2001).. FAO fisheries technical paper 402/2.

www.fao.org/docrep/005/Y1679E/Y1679E00.HTM.

[4] Manual of diagnostic Tests for Aquatic Animals, 2003. <http://www.oie.int>

[5] Fish Diseases and Disorders. Woo, P. T. K. 2011. Vol. 1, 2, 3. CAB International, Wallingford, U. K.

11. Self-study Guide:

| Week | Content | Theory (hours) | Practice (hours) | Students' duties |
|------|---|----------------|------------------|---|
| 1 | Chapter 1 1.1. Introduction to fish diseases and health | 2 | 0 | Reading lecture notes and Textbooks [1] |
| 2 | Chapter 1: 1.2. Fish Anatomy, physiology | 2 | 0 | Reading lecture notes and Textbooks [1] |
| 3 | Chapter 1: 1.2. Concepts of fish health | 3 | 0 | Reading lecture notes and Textbooks [1] |
| 4 | Chapter 1: 1.3. Pathological changes related to disease | 3 | 0 | Reading lecture notes and Textbooks [1] |
| 5 | Chapter 1: 1.3. Fish health management | 5 | 0 | Reading lecture notes and Textbooks [1] |
| 6 | Chapter 2: 2.1 Viral diseases | 3 | 0 | Reading lecture notes and Textbooks [5] |
| 7 | Chapter 2: 2.2 Bacterial diseases | 3 | 0 | Reading lecture notes and Textbooks [5] |
| 8 | Chapter 2: 2.3 Fungal diseases | 3 | 0 | Reading lecture notes and Textbooks [5] |
| 9 | Chapter 2: 2.4 Parasitic diseases | 3 | 0 | Reading lecture notes and Textbooks [5] |
| 10 | Chapter 2: 2.5. Non-infectious diseases | 5 | 0 | Reading lecture notes and Textbooks [5] |
| 11 | Chapter 3: 3.1 Principles of disease diagnosis | 3 | 0 | Reading lecture notes and Textbooks [2] [3] [4] |
| 12 | Chapter 3: | 3 | 0 | Reading lecture notes and Textbooks [2] [3] |

| | | | | |
|-----------|---|---|---|---|
| | 3.1 Principles of disease diagnosis | | | |
| 13 | Chapter 3: 3.2 Prevention of diseases | 5 | 0 | Reading lecture notes and Textbooks [1] [2] |
| 14 | Chapter 3: 3.3 Treatment of fish diseases | 5 | 0 | Reading lecture notes and Textbooks [1] [2] |
| 15 | Topic presentations and discussions | 3 | 0 | Course review |

**ON BEHALF OF RECTOR
DEAN/ DIRECTOR**

Can Tho,/...../20...
HEAD OF DEPARTMENT