

## Diseases of Aquatic Organisms

Spring Quarter 2018

5-credits

**Instructor:** Dr. Carolyn Friedman  
222B FSH (Fishery Sciences Bldg.)  
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**TA:** TBD

**Workspace:** <https://catalysttools.washington.edu/workspace/fish404/1315/>  
(UWNetID is required)

### Disability

**Accommodations:** If you would like to request academic accommodations due to a disability, please contact Disabled Student Services, 448 Schmitz (206-543-8924 (V/TTY)). If you have a letter from Disabled Student Services indicating you have a disability that requires academic accommodations, please present the letter to the instructor so that we can discuss the accommodations you might need for the class.  
[http://fish.washington.edu/classes/integrity\\_disability.html](http://fish.washington.edu/classes/integrity_disability.html)

### Academic Integrity

**Plagiarism, cheating, and other misconduct are serious violations of your contract as a student.** We expect that you will know and follow the University's policies on cheating and plagiarism. Any suspected cases of academic misconduct will be handled according to University regulations. More information, including definitions and examples of Academic Misconduct, can be found at: <http://depts.washington.edu/grading/issue1/honesty.htm>

**Office hrs:** By appointment

**Lecture:** T/Th 11:30am-12:50pm in FSH Rm 213

**Laboratory:** Th 1:30-4:20pm in FTR Rm 113

**Recommended:** 10 credits of biological science

**Text:** Required readings are located on the course workspace.

### Learning

**objectives:** To develop skills and acquire knowledge to be able to understand animal health, the relationship between host, pathogen and the

environment, disease management and ecological impacts of disease in aquatic systems. Specifically, this course will help you to learn how to diagnose diseases of shellfish and finfish as well as introduce students to diseases of marine mammals. Students will learn both traditional and new molecular approaches to disease diagnosis; treatment and/or management options for diseases will also be explored.

- Skill objectives:**
- Speaking
  - Writing
  - Critical thinking and problem solving
  - Collaborating with other students
  - Gathering, reading, and reporting on current events related to aquatic animal health
  - Participation in discussions
  - Interaction with aquatic pathology professionals

**Evaluation system:**

	<u>% of course grade*</u>
<b>CLASS PARTICIPATION</b> .....	<b>5</b>
Exam 1 .....	20
Exam 2 .....	20
Lab session .....	30
2% participation	
3% notebook	
20% lab reports	
5% lab presentation	
Final exam .....	25
<b>TOTAL</b>	<b>100</b>

\*subject to change

**Exams:** Approximately 80% of the material on the exams will be from information presented in lecture, and approximately 20% will be from the assigned reading. Study questions will be distributed approximately one week prior to the exams. Class time and/or a special review session will be scheduled for discussion and to answer questions.

The two exams will consist of:

- 3-4 case studies in which you will be presented with a situation or dilemma. Your charge will be to provide the best solution and to justify your answer.
- Short answer (problems, definitions, compare-and-contrast, etc.) and matching.

The final exam will consist of a detailed case study to be presented in scientific paper format or a comprehensive exam (to be determined). Tentative final exam is scheduled for Wednesday, June 11, 10:30-12:20 in FSH 107.

**Lab session: Thursday 2:30-4:50 pm**

Lab notebooks are required and will be periodically examined. An example lab notebook will be available during the first lab period.

Case study lab reports are required (n=2). These will entail a series of reports written as short scientific papers regarding each lab case study. All lab reports will be structured with the following: Title, Author(s), Introduction, Methods, Results, Discussion, and References. Each report requires at least four cited references from peer reviewed journal papers. Peer-reviewed journals include titles such as: Journal of Fish Diseases, Diseases of Aquatic Organisms, Aquaculture. Book chapters, web sites, technical memoranda and magazine articles (except Nature and Science) are **NOT** considered peer-reviewed articles. If you are unsure, please ask as we are happy to help.

Students must also prepare and deliver an oral presentation based on a particular disease topic. All presentations will be given during the last lab period (week 10).

**Late policy:**

Points will be deducted from all assignments turned in late. Scores will be reduced 5% for each day late (including weekend days).

**Reading assignments:**

All readings are posted on the class workspace. Additional readings may be added periodically to complement the lecture series.

Course Syllabus					
Week/Day		Date	Lecturer	Topic	Laboratory section (Thurs)
Week 1	T (1)	Mar 27	Friedman	Course overview; Introduction: Infectious diseases	<i>Note: please refer to lab syllabus for specific laboratory information</i>  Safety Intro & Histology
	Th (2)	Mar 29	Friedman	Emerging diseases and climate change <b>and paper discussion</b>	
Week 2	T (3)	Apr 3	Friedman	Traditional and Molecular techniques in disease diagnosis <b>and paper discussion</b> <b>CHANGE TO INCLUDE MORE VALIDATION</b>	Case study 1
	Th (4)	Apr 5	Friedman	Immunology of marine invertebrates	
Week 3	T (5)	Apr 10	Friedman	Genetic Basis of Disease Resistance	Case study 1
	Th (6)	Apr 12	Friedman	Water Quality	
Week 4	T (7)	Apr 17	Friedman	<b>EXAM 1</b>	Case study 1
	Th (8)	Apr 19	Friedman	Coral Disease and Begin Mollusc Bacterial Diseases	
Week 5	T (9)	Apr 24	Friedman	Bacterial and Viral pathogens of molluscs	Case study 1
	Th (10)	Apr 26	Friedman	Protistan, Fungal and Metazoan parasites of molluscs	

<b>Week 6</b>	<b>T (11)</b>	<b>May 1</b>	Friedman	Crustacean normal anatomy; Bacterial and fungal disease	<b>EXAM 2 during lab session</b>
	<b>Th (12)</b>	<b>May 3</b>	Friedman	Viral and protistan diseases of crustaceans	
<b>Week 7</b>	<b>T (13)</b>	<b>May 8</b>	Purcell	Fish and mammalian immunology and normal anatomy	Case Study 2
	<b>Th (14)</b>	<b>May 10</b>	Harvell/Eisenlord	Wasting diseases of Washington state intertidal/subtidal species	
<b>Week 8</b>	<b>T (15)</b>	<b>May 15</b>	Friedman	Fungal/Protistan diseases of fish	Case study 2/3
	<b>Th (16)</b>	<b>May 17</b>	Kurath	Viral diseases of fish	
<b>Week 9</b>	<b>T (17)</b>	<b>May 22</b>	Friedman	Bacterial diseases of fish and Use of therapeutants in aquaculture	Finish Case studies 2/3
	<b>Th (18)</b>	<b>May 25</b>	Wood	Fishing influence on metazoan parasites of fish	
<b>Week 10</b>	<b>T (19)</b>	<b>May 29</b>	Winton	Influences of diseases on populations	Oral Presentations
	<b>Th (20)</b>	<b>May 31</b>	Friedman	Marine mammal diseases and review	