Diseases and Parasites of Aquatic Organisms – FAMA 5315
Department of Life Sciences
Spring 2018

A. COURSE INFORMATION

Course number/section:  FAMA 5315.001 (lecture) & 5315.101 (lab)
Class meeting time:  Tuesdays 5:00-6:40 p.m.
Class location:  BH-202
Lab meeting time:  Tuesday 7:00-9:30 p.m.
Lab location:  CS-235
Course Website:  None

B. INSTRUCTOR INFORMATION

Instructor:  Dr. Anthony Siccardi
Office location:  Texas A&M AgriLife (4301 Waldron Road)
Office hours:  Monday, Wednesday, Friday 8:00 a.m. - 12:00 p.m. and by appointment
Telephone:  361-244-3727
e-mail:  Asiccardi@ag.tamu.edu
Appointments:  Appointments can be made after class, by email or phone

C. COURSE DESCRIPTION

Catalog Course Description
Identification, epizootiology and control of viral, bacterial, fungal, parasitic and nutritional
diseases of commercially cultured mollusks, crustaceans and fish. Safety training given in
SMTE 0092 - Biomedical Laboratory Safety Seminar is required for continued participation
in this course.

Extended Course Description
This course exposes students to fundamental and current disease/health issues pertaining to
the production of aquaculture crops. Optimizing aquaculture production through disease
prevention via practical diagnosis and real-world decision making will be discussed. The
course also covers anatomy and physiology, immunology, virology, bacterial diseases,
nutritional diseases, parasitology, mycoses, larval diseases and general health management.

D. PREREQUISITES AND COREQUISITES

Prerequisites
None

Corequisites
SMTE 0092 – Biomedical Laboratory Safety Seminar
E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s): None Required

Optional Textbook(s) or Other References: None Required

Supplies: Laboratory coat and safety goggles required.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Identify (visually and through microbial and molecular testing) and treat many common diseases and parasites affecting fish and shrimp.

2. Understand how to prevent/reduce disease and parasite outbreaks in aquaculture production facilities.

3. Understand proper dissection and microbial techniques required to identify diseases.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

Class lectures will be delivered through PowerPoint presentations. Presentations will contain embedded videos and pictures (where appropriate) to enhance learning opportunities. Students are expected to participate in class and laboratory discussions.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Your final grade is based on the accumulation of points according to the weights (%) listed in the table below. Exams will be noncumulative. The lab segment of the course generates 40 points out of the 100 total points for FAMA 5315. These 40 points are generated from 8 laboratory reports (24 points) and a lab practical (16 points). Reports will follow the format: title page, introduction (background and relevance), methods and materials, results, discussion. The report should be written in double space. Use of tables in the lab reports is greatly encouraged. The lab practical will be composed of identification, proper technique and written questions. All material covered in the lab is “fair game” for the lab practical.
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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<tbody>
<tr>
<td>Lecture Exam 1</td>
<td>20</td>
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<tr>
<td>Lecture Exam 2</td>
<td>20</td>
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<tr>
<td>Lab Reports/Lab Practical</td>
<td>40</td>
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<td>Final Exam</td>
<td>20</td>
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<td><strong>Total</strong></td>
<td><strong>100</strong></td>
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Grading Scale: A = 100-90 points, B = 89-80 points, C = 79-70 points, D = 69-60, F < 60 point

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>Jan. 16</td>
<td>Lecture: Introduction to Diseases, Part 1</td>
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<td>Lab: Introduction and safety overview</td>
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<tr>
<td>Jan. 23</td>
<td>Lecture: Introduction to Diseases, Part 2</td>
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<td>Lab: Shrimp internal/external anatomy</td>
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<td>Jan. 30</td>
<td>Lecture: Immune Response in Aquaculture Animals</td>
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<td>Lab: Fish internal/external anatomy</td>
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<td>Feb. 6</td>
<td>Lecture: Diseases of a Non-infectious Nature</td>
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<td>Lab: Basic microbial techniques</td>
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<td>Feb. 13</td>
<td><strong>First Term Exam (Covers all material up to this point)</strong></td>
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<tr>
<td>Feb. 20</td>
<td>Lecture: Common Bacterial Pathogens of Aquaculture Organisms, Part 1</td>
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<td>Lab: Bacterial pathogen identification, classical</td>
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<tr>
<td>Feb. 27</td>
<td>Lecture: Common Bacterial Pathogens of Aquaculture Organisms, Part 2</td>
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<tr>
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<td>Lab: Bacterial pathogen identification, rapid methods</td>
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<tr>
<td>Mar. 6</td>
<td>Lecture: Antibiotic resistance in aquaculture</td>
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<td>Lab: Antibiotic resistance</td>
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<tr>
<td>Mar. 13</td>
<td><strong>Spring Break (No Class / No Lab)</strong></td>
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<td>Mar. 20</td>
<td>Lecture: Protozoans and Parasites</td>
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<td>Lab: Aquaculture parasites, microscopic review</td>
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<td>Mar. 27</td>
<td>Lecture: Molds and Fungi</td>
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<td>Lab: <em>Vibrio sp.</em> Enumeration</td>
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<td>Apr. 3</td>
<td><strong>Second Term Exam (Covers all material covered since exam 1)</strong></td>
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<td>Apr. 10</td>
<td>Lecture: Common Viral Pathogens of Aquaculture Organisms, Part 1</td>
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<td>Lab: PCR, Part 1</td>
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<tr>
<td>Apr. 17</td>
<td>Lecture: Common Viral Pathogens of Aquaculture Organisms, Part 2</td>
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<tr>
<td></td>
<td>Lab: PCR, Part 2</td>
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<td>Apr. 24</td>
<td>Lecture: Probiotic Bacteria / Aquaculture Health Programs</td>
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<td>Lab: Review for lab final practical exam</td>
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<td>May 1</td>
<td>Last Lecture: Design of High Health Facilities</td>
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<td>Lab: <strong>Lab Final Practical Exam</strong></td>
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<td>May 8</td>
<td><strong>Final Exam (4:30-7:00 PM, note different start time)</strong></td>
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Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.
J. COURSE POLICIES

Attendance/Tardiness
Attendance is mandatory. Students are expected to attend all classes. Should you miss a lecture or laboratory, it is your responsibility to find out what you missed, get notes, learn about changes in the syllabus, etc. Failure to attend more than two class lectures without the instructor’s prior consent will constitute a loss of 10 points from the student’s final grade. It is the student’s responsibility to check their own personal schedules to insure class attendance.

Late Work and Make-up Exams
There are no excused absences. A missed grade will result in a score of ‘0’ for that assignment. Students with a university approved scheduled absence (athletics, military duty, etc.) must contact the lecture instructor well in advance of a scheduled absence. Exams may be taken early in those specific cases. Students who do not arrange to take exams ahead of time will not be eligible for this special consideration. A written excuse from the university department involved is required.

Extra Credit
None

Cell Phone Use
No cell phone use is permitted in class or lab. Please silence your phones prior to the start of class and lab.

Laptop Use
Laptop and tablets may be used to take notes and follow provided PowerPoint presentations.

Food in Class
No food and drinks are permitted in class or lab.

Missed Exam
A missed grade will result in a score of ‘0’ for that assignment. Students with a university approved scheduled absence (athletics, military duty, etc.) must contact the lecture instructor well in advance of a scheduled absence. Exams may be taken early in those specific cases. Students who do not arrange to take exams ahead of time will not be eligible for this special consideration. A written excuse from the university department involved is required.

Participation
Class participation is expected during lectures and laboratories.

Others
None
K. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a
student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

  http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. **OTHER INFORMATION**

- **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic
Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.