Dr. Anthony Siccardi  
E-mail: Asiccardi@ag.tamu.edu  
Phone: (361)-937-2268

Lecture: 5:00-6:40 p.m., Tuesdays (BH-112)  
Laboratory: 7:00-9:30 p.m., Tuesdays (CS-235)  
Office Hours: 4:00-5:00 p.m., Tuesdays (TBA)

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.

Student learning outcomes:  
After taking this course, the student will:  
1. Be able to 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.

Course Materials:  
There is no required text for this course.

Grading:  
Your final grade is based on the accumulation of points according to the following weights (%):

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent of Final Grade</th>
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<tbody>
<tr>
<td>Lecture Exam I</td>
<td>20</td>
</tr>
<tr>
<td>Lecture Exam II</td>
<td>20</td>
</tr>
<tr>
<td>Lab Reports/Lab Practical*</td>
<td>40</td>
</tr>
<tr>
<td>Final Exam**</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
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*A description of the lab portion of the class is described below.

**Entry to the classroom will be closed on the day of final exam as soon as the first student to complete an exam has left the room. Students absent or arriving after room closure will receive a zero for the exam.

11 An appointment can be scheduled for other time upon request
Grading Scale:
A = 100-90 points, B = 89-80 points, C = 79-70 points, D = 69-60 points, F < 60 points.

Class Participation:

Attendance is mandatory. Students are expected to attend all classes and labs. Should you miss a lecture or laboratory session, it is your responsibility to find out what you missed, get notes, learn about changes in the syllabus, etc. 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.

Failure to attend more than two class lectures/lab 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.

Lab Sections & Instructors:

There is only one laboratory section for this course. Laboratory instructor for this course is Dr. Anthony Siccardi (Asiccardi@ag.tamu.edu  361-937-2268).

Academic Integrity:

All students are expected to conform to college level standards of ethics, academic integrity, grammar and spelling; review the appropriate pages of the TAMU-CC catalog and TAMU-CC student handbook. Failure to comply with these rules will result in dismissal from the course.

Academic Dishonesty:

Cheating in any form will absolutely not be tolerated. This includes asking for or providing help on an exam or quiz, plagiarism, or basically doing anything that substitutes one person’s work for another’s. Cases of academic dishonesty will be dealt with severely. Students caught cheating will receive a grade of ‘F’ for the course and the offense will be reported to the student affairs office.

Grade Appeals:

As stated in University Rule 13.02.99.C2, Student Grade Appeals, 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 Rule 13.02.99.C2, Student Grade Appeals, and 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. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.
Disabilities & Veterans Accommodations:
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 or visit Disability Services at (361) 825-5816 in Driftwood 101.

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.

Tentative Course Outline:
This schedule is subject to changes, which will be announced in class.

Jan. 29  Lecture:  Introduction to Disease, Part 1
        Laboratory:  Lab introduction and safety lecture.

Feb. 5  Lecture:  Introduction to Disease, Part 2
        Laboratory:  Shrimp internal/external anatomy

Feb. 12 Lecture:  Immune Response in Aquaculture Animals
        Laboratory:  Fish internal/external anatomy

Feb. 19 Lecture:  First Term Exam: (Covers all material up to this point).
        Laboratory:

Feb. 26 Lecture:  Diseases of a Non-infectious Nature
        Laboratory:  Basic microbial techniques

Mar. 5  Lecture:  Common Bacterial Pathogens of Aquaculture Organisms, Part 1
        Laboratory:  Bacterial pathogen identification, classical

Mar. 12 Lecture:  No Class (Spring Break)
        Laboratory:  No Laboratory (Spring Break)

Mar. 19 Lecture:  Common Bacterial Pathogens of Aquaculture Organisms, Part 2
        Laboratory:  Bacterial pathogen identification, rapid methods

Mar. 26 Lecture:  Protozoans and Parasites
        Laboratory:  Aquaculture parasites, microscopic review
Apr. 2 Lecture: Second Term Exam: (Covers all material covered since exam 1). 
Laboratory: 

Apr. 9 Lecture: Common Viral Pathogens of Aquaculture Organisms, Part 1 
Laboratory: PCR, Part 1 

Apr. 16 Lecture: Common Viral Pathogens of Aquaculture Organisms, Part 2 
Laboratory: PCR, Part 2 

Apr. 23 Lecture: Molds and Fungi 
Laboratory: *Vibrio* sp. enumeration 

Apr. 30 Lecture: Probiotic Bacteria/Aquaculture Health Programs 
Laboratory: Review for lab final practical exam 

May. 7 Lecture: Design of High Health Facilities 
Laboratory: Lab Final Practical Exam 

May. 14 Final Exam. 

**FAMA 5421 – DISEASE AND PARASITES OF AQUATIC ORGANISMS**  
**Spring Semester, 2013**

**Lab Description:**
To gain meaningful hands-on experience in the identification and treatment of diseases and parasites affecting aquaculture production. Particular emphasis will be given to gaining familiarity with molecular and microbial techniques used to identify diseases common to the commercial industry. Also emphasized are internal and external anatomy of fish and shrimp.

**Student learning outcomes:**
After taking this course, the student will:
1. Be able to identify many common diseases and parasites affecting fish and shrimp.
2. Understand proper dissection and microbial techniques required to identify diseases.

**LAB SAFETY:** Some lab procedures will require the use of approved chemical safety goggles and ALL require the use of approved lab coats; these items are available at the university bookstore. Prior to attending labs you will be required to attend a lab safety lecture. If you do not abide by standard lab safety practices within 2 weeks of your first appearance in lab, you will be administratively dropped from the FAMA 5315 class.
LAB REPORTS/PRACTICAL GRADING: 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).

GENERAL:
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.