

Aquaculture Reproductive Techniques

FAS 2263C-22699

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Course Location and Time: Class will meet in BADM 106 or Ruskin Laboratory from 9:30AM-1:00 PM each Tuesday.

Textbook: None strictly required, but Piper's *Fish Hatchery Management* will be used. Handouts will be given as needed.

Course Description: Focuses on the principles of reproductive biology for the aquaculture industry. The primary emphasis will be on freshwater fish reproduction; however, other aquaculture organisms will be discussed.

Course Objectives:

1. Understand the principles of reproductive biology for aquaculture industry.
2. Enhance stock within an aquaculture system.
3. Understanding spawning techniques for aquatic and marine organisms.
4. Use environmental manipulation within a system to achieve spawning goals.
5. Effectively use hormones for aquacultural purposes.
6. Understand and put into practice hybridization, cross breeding, and effective breeding number as conditions permit.

Course web page <http://www.hccfl.edu/faculty-info/ckasper.aspx>

(This is my faculty website. Please check this web page for announcements/updated class schedule)

Prerequisites/Co-requisites: College reading and writing ability is also expected. Course is under guidelines of program major restriction. I.e., you must be enrolled within the Aquaculture Program (seeking an A.S. in Aquaculture or a College Credit Certificate) to take this course.

Portable Electronic Devices: Please discontinue use of all portable electronic devices such as cell phones, beepers, pagers, headphones, iPods, etc. upon entering class. Students may use tape recorders in class, unless they become a distraction.

General Academic Dishonesty Policy: Students must submit their own unique work on all assignments. Indications of cheating during an examination include talking with other students, using non-approved notes, shuffling through notebooks, looking at other's exam papers, etc. Cheating will result in a failing grade and notification of the academic dean for further discipline

Exams and Quizzes: There will be a total of three (3) lecture exams and one final exam. The tests will consist primarily of multiple choice questions. All tentative exam dates are listed in the syllabus. It is the student's responsibility to be present when exams are given as no make-ups will be given. Quizzes will be announced and given in the first part of class unless predetermined by professor and students.

How to do well on exams:

1. Attend lecture: approx. 80% of exam material is covered in the hands-on part of class/lab (the rest of the material can be learned from readings and out of class homework assignments). Some of this material is not easy to get by reading alone, so the only place to learn it well is in the field!

2. Understand the material: It is difficult to respond to my questions correctly unless you know the material! Be sure to use the proper terminology/vocabulary at all times. You want to make clear, concise communication a priority. Remember: Animal welfare may depend on your decision!
3. Use the PowerPoint and handouts as study guides to help you study for exams. They can be found on my faculty webpage: <http://www.hccfl.edu/faculty-info/ckasper.aspx>.
4. Ask questions during class. I do not always have review sessions; so ask if/when something is unclear.
5. Utilize my office hours.
6. Follow directions: If a test question asks for an essay, respond with an essay. If it says answer with complete sentences, don't provide a list of sentence fragments. If I request an explanation of how something works in class. Be brief, but accurate. This helps me know you understand how something works!
7. **Answer the question asked!** Believe it or not, students often miss points for answering a question other than the one asked on the exam. They get off on a tangent, and run with it. More commonly, students miss points for not addressing every part of a multi-part question. They may nail the first 2 parts of a question perfectly, then completely ignore the final part, resulting in a score of 67% for that question. Answer the entire question. Discuss the entire issue.
8. Budget your time wisely. I try very hard to only ask enough questions that you will have time to answer. But, don't waste all your time trying to figure out a 5 point question, leaving you with no time to finish the final 30 point essay question.
9. **Answer all questions** (even if you have to guess): You get credit for all questions answered correctly, and I usually give out partial credit for questions answered partially correctly. You get zero credit for questions left blank. Therefore, it is in your best interest to at least attempt a response. Even if you're totally wrong, you get the same zero credit you would for a blank, and there may even be some humor value to the response.

General Academic Dishonesty Policy: Students must submit their own unique work on all assignments. Indications of cheating during an examination include talking with other students, using non-approved notes, shuffling through notebooks, looking at other's exam papers, etc. Cheating will result in a failing grade (F) and notification of the academic dean for further discipline.

Exam Policies: During written exams, you can only use a pen, pencil, and the paper I give you to answer the questions (and your brain and body, of course). I have had issues with cheaters in the past, and because of this, the following policies were created.

1. DO NOT sit next to a person that is a study partner. Being a study partner is not an acceptable excuse for sharing similar wrong answers with the person sitting next to you.
2. Place all your books, notes, and electronic devices in your backpack and out of sight during the exam.
3. Spread out. If room allows, make sure there is at least one empty seat between you and your neighbor.
4. No not alter exams that are being returned for a re-grade.
5. Don't start the exam with a full bladder. Use the bathroom BEFORE the exam. If you must use the restroom during an exam, it will cost you 25 points.
6. Don't plagiarize: You earn an F for the course and could be asked to leave the College.
7. Don't use cheat sheets, note cards, calculators, cell phones, or head phones during exams.
8. Any academic misconduct will result in your semester grade being multiplied by a factor of 0 (zero). In other words, the minimum penalty is that you will fail the entire course. More severe forms of cheating and/or unethical behavior could result in more serious sanctions.

Grievance procedure: If a student has a grievance with any aspect of a course, the first step is to meet with the instructor (me) during office hours or by appointment to discuss the problem. This discussion should not take place by e-mail. Student and instructor should both maintain a professional, respectful demeanor during this discussion, and make an honest effort to listen carefully and to understand the other's viewpoint. If the

grievance cannot be resolved by an honest and sincere dialogue between student and instructor, the student may then make an appointment to discuss the problem with the department chair.

Inclement weather days, instructor illness and conference attendance vs. exams and coursework: If class is cancelled because the campus is closed or because the instructor is ill and there is an exam or coursework due that day, the exam or coursework will automatically be rescheduled for the next regular class meeting.

Grading: The four (4) semester exams will each count for 20% of the total grade. Class attendance and participation will count 20% of the final grade. Grades will be assigned according to the following system.

90-100 = A; 80-89= B; 70-79= C; 60-69 = D; <60 = F

Regrading policy: Return work or exams for regarding within 1 week of it being returned to you. After this 1 week period, regrades will not be considered. Return the graded material plus a written explanation for why you are requesting a regrade. Short answer and essay questions must be written in ink to be considered for a regrade. In an attempt to provide as accurate a grade as possible, I reserve the right to re-grade any and all questions returned for re-grading. Therefore, regrading can result in a lower, higher, or unchanged score.

Late homework: Homework grades will be lowered 5% per calendar day it is late.

Classroom rules and general courtesies: I encourage students to discuss topics and ask questions during lectures. If this causes lectures to run over, we can simply continue where we leave off during the following class meeting. However, discussion not related to class topics (e.g., scheduling conflicts, re-grades, career counseling) should be reserved for office-hours. If you arrive late, pick up any handouts and quietly take a seat, but do not make a habit of arriving late (I will do the same). Synchronize watches now. If you choose to skip or miss class, you'll need to get notes from a fellow classmate. Don't complain to me when YOU miss material because YOU missed class. I will not repeat a lecture for students that miss class. There simply are not enough hours in the day. You might be able to find some material on my webpage. **Turn off any electronic device that might make a noise (e.g., cell phones, watch alarms, pagers).** Don't pass notes or carry out extraneous conversations during class. I do not mind if you have food or drink (room permitting) as long as you recycle or discard the packaging.

Instructional Methods: Overheads, PowerPoint, internet, class discussion, class activities and practical applied training in the greenhouse/laboratory.

Recording of Class Sessions:

A student shall not, without my express authorization, make or receive any recording, including but not limited to audio and video recordings, of any class, co-curricular meeting, organizational meeting, or meeting with me. Further, it is not permissible to post my class lectures/course materials on the web.

Request for Accommodation: Any student whose disability falls within the American Disabilities Act (ADA) and requires accommodations should contact the Office of Services for Students with Disabilities. The Brandon office is located in the Student Service Building Room 109. You may also reach the office by phone at (813) 253-7914. Requests for accommodations should be submitted to the instructor within the first two weeks of the course.

Religious Observances:

HCC will reasonably accommodate the religious observances, practices, and beliefs of students in its admissions, class attendance, and examination policies and work assignments. Students must notify instructors at least one week prior to a religious observance.

Equity Policy:

Hillsborough Community College is an equal access/equal opportunity employer that makes employment and education-related decisions without regard to race, color, gender, religion, national origin, age, disability, sexual orientation, marital status or any other bias that is or may be prohibited by laws. In addition, the college does not discriminate in employment practices or in the admission and treatment of students. HCC is committed to equitable treatment for all students and employees and to a learning and working environment free of discrimination and harassment for current as well as future students and employees. The college provides equal educational opportunities for qualified individuals with disabilities and complies with, as well as, supports the Americans with Disabilities Act. HCC's Equity Officer ensures compliance with federal and state laws prohibiting discrimination and sexual harassment. Employees and students who believe they have been a victim of discrimination or sexual harassment should contact:

Dr. Joan B. Holmes

Special Assistant to the President
for Equity and Special Programs
District Administrative Offices
39 Columbia Drive, Room 718
Tampa, FL 33606
Telephone: 813-253-7043
Email: jholmes16@hccfl.edu

Miscellaneous: You are responsible for any announcements made, or materials circulated in your absence. You are responsible for understanding all policies, deadlines, etc... specified by the HCC Student Handbook. Arrangements can be made for students with learning disabilities only if they provide documentation from an HCC LD advisor.

FAS 2263C LECTURE SCHEDULE (Spring 2012)

DATE	TOPIC	
Jan 10	Introduction/Fish Reproduction Overview Preparing the Breeding Facility: Terminology Old and New	
Jan 17	A. Hatchery Construction/Biosecurity/Management B. Broodstock Acquisition: Gotta Start Somewhere!	
Jan 24	A. Practical and Ethical Issues: Do we need to do this?? (Based on the rest of the syllabus..it must be yes.) B. Invasive Species Discussion	
Jan 31	Exam 1 (100 pts)	
Feb 7	Cell Biology Basics: Observing eggs in development.	
Feb 14	Fundamental Genetics	
Feb 21	Spawning Behaviors	
Feb 28	Exam 2 (100 pts)	
March 6	Fry rearing and post hatch care: specifics	
March 13	Hormones: Which ones and how to use them.	
March 20	Spring Break (No classes)	
March 27	Spawning Techniques: Egg Layers	
April 3	Exam 3 (100 pts)	
April 10	Spawning Techniques: Mouth Brooders	
April 17	Spawning Techniques: Substrate Spawners	
April 24	Spawning Techniques: Live Bearers	
May 1	Exam 4 (100 pts)	

***A note about the Reading.** This is a guide only. We will be covering material from other text pages and sources in lecture. You are expected to read all pages of the assigned chapters before coming to class.