

Aquaculture Field Techniques FAS 1404C-22698

Instructor: Dr. Craig S. Kasper
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Class Schedule: Mondays (9:30 AM – 1:00PM), BADM 106 and Ruskin Teaching Lab

Office hours: My office hours are immediately following most classes, or by appointment as needed.

Text: *Aquaculture Desk Reference* (Creswell). Handouts as needed. (Provided by instructor).

Course Description: This course is designed to teach the practical aspects of establishing a fish farm, setting up ponds or indoor recirculating aquaculture system, maintaining environmental conditions, and stocking, grading, harvesting and transporting of fish.

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/Corequisites: College reading and writing ability is expected.

Course Objectives: Upon completion of this course you will be able to:

- A. Explain the basic techniques for building aquaculture ponds, raceways and recirculating aquaculture systems.
- B. Identify the water quality measurements necessary for accurate fish rearing.
- C. Understand aquifer water quality in Florida.
- D. Perform water chemistry/quality measurements and understand their importance as they relate to fish production.
- E. Produce aquatic animals/plants.
- F. Identifying, utilizing and maintaining various filter systems associated with aquaculture.
- G. Know how to manage water quality and fertilization to enhance pond primary productivity.
- H. Understand and apply the correct techniques for proper water quality management.
- I. Cultivate, measure and feed various phyto- and zooplankton to larval fish.
- J. Apply various aeration techniques to increase water dissolved oxygen concentration for enhanced fish health and production.
- K. Construct and maintain a closed aquaculture system.
- L. Construct, manage and maintain a cage system.
- M. Understand and apply various feeding regimes for different aquaculture operations.
- N. Measure density of organisms in various aquaculture operations to maximize growth.

Attendance: I will take attendance each day. Class attendance and participation in greenhouse work counts as 20% of your course grade. Not all information that will appear on exams comes from the text book. Since this is a practical, hands-on class, much of what you learn will occur best by doing. Therefore, attendance and participation is essential and necessary to earn a good grade.

Exams: **Four** (4) exams will be given during the semester. Exams will be given during normal class period. It is the responsibility of the student to be aware of the dates of exams. **Format:** Exam questions will be written as “scantron-type” questions (multiple-choice, matching, and true-false) and essay questions. No make-up exams will be given. Each exam will count 20% of your overall grade.

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 regrading 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.

Request for Accommodations: If, to participate in this course, you require an accommodation due to a physical or learning impairment, you must contact the Office of Services to Students with Disabilities (BSSB 109) (813) 259-6035, or (813) 253-7035.

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.

Aquaculture Field Techniques 1404C (Spring 2012)

DATE	Note Set	TOPIC
Jan 9	1	Course Introduction/Syllabus/Greenhouse/Ruskin Overview/ Establish greenhouse work schedule for semester. Homework: Read syllabus.
Jan 16	2	No class (MLK Day)
Jan 23	3	Working Indoor Tanks: Fish Handling/Grading/Harvesting (Bag out for sales/Tour of Ekkwill)
Jan 30	4	Estimating Population Size: Sampling Techniques, Counting vs. estimation (fish and eggs) Homework: Population size calculations
Feb 6		Exam 1 (100 pts)
Feb 13	5	Water Quality a. Water Quality Measurement Techniques in the Field b. Establishing and Maintaining Water Quality
Feb 20	6	No class (President's Day)
Feb 27	7	Feeding Techniques: Small vs. Large Scale
March 5	8	Recirculating Aquaculture Systems: Setup, Maintenance, Troubleshooting Homework: Volume Calculations/Tank volume turnover (flow rates)
March 12	9	Exam 2 (100 pts)
March 19	10	No classes for Spring Break
March 26		a. Air Systems: Setup, Maintenance, Troubleshooting b. Filtration Systems: Farm Scale Compare/contrast, setup, and maintenance.
April 2	11	Small Equipment Maintenance/Repair/Troubleshooting
April 9	13	Exam 3 (100 pts)
April 16	14	a. PVC 101: Pipe Measurement, Cutting, Gluing b. Electrical Wiring 101
April 23	15	Pond Seining Techniques
April 30		Data collection: Harvest planning
May 7		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.