

# Fish and Crustacean Nutrition- FAS 6165

## 1 Overview

This course will acquaint students with basic principles of nutrition and formulation of diets for fish and crustaceans in aquaculture. Lectures will cover digestive physiology, nutrients, feed formulation, and specific nutritional requirements for numerous aquatic organisms.

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Students will be required to give one oral presentations on assigned topics using PowerPoint and narrating it in Voicethread. Students will watch the other student lectures and participate in online discussion of the topics covered.

- 3 Credits
- Fall Semester
- 100% online, asynchronous
- <http://elearning.ufl.edu/>

**Course Prerequisites:** none

**Instructor:** Cortney L Ohs, Ph.D. [cohs@ufl.edu](mailto:cohs@ufl.edu), UF/IFAS Indian River Research and Education Center (IRREC), 2199 South Rock Road Ft. Pierce, FL 34945, 772-577-7348.

- Please use the Canvas message/Inbox feature for fastest response.
- Office hours: available by email or phone; office visits available by appointment.

**Textbook(s) and/or readings:** There is no required text for the course. Online readings will be provided for each learning topic.

## 2 Learning Outcomes

At the end of this course, each student will be able to:

- Describe the basic principles of fish and crustacean nutrition.
- Describe various nutrients and differentiate their utilization in fish and crustaceans.
- Create dietary plans to meet the requirements of various species and life stages of fish and crustaceans.
- Present and communicate knowledge of fish and crustacean nutrition.

## 3 Course Logistics

This course is entirely web-based and students may access lectures, readings, and supporting materials at their own paces. Exams are available only on the dates listed in the syllabus.

Each learning module will have a narrated PowerPoint presentation. Each presentation will have numerous photographs or diagrams and will summarize important information for each topic. You will be able to go back and view and listen to each slide as many times as you wish during the initial viewing

of the lecture or at a later date. Learning modules build on previous modules so you should complete the learning modules in the order presented.

Each learning module has required readings beyond the lecture. This information will be covered on quizzes and exams. These files will all be made available for you to view on your computer, save, or print. There will also be references to additional (optional) readings if you desire further investigation of a topic.

Learning modules covered on the mid-term exam (modules 1-8 and 9 the video field trip) will be available from the beginning of the semester. Learning modules covered on the final exam (modules 10-17) will be available after the mid-term exam.

#### **Technology Requirements:**

- A computer or mobile device with high-speed internet connection.
- A headset and/or microphone and speakers; a web cam is suggested.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser. [What browser am I using?](#)
- Voicethread: <http://ufl.voicethread.com> (more instructions will be provided)

## **3.1 Assignments & Deliverables**

### **Quizzes & Exams**

Each learning module will have a five to ten question quiz. The questions will require the student to go through the PowerPoint presentation, watch any attached videos, and read the assigned readings to answer the questions correctly. These quizzes will contribute to the grade. All quizzes will be taken from your computer.

Mid-term and final exams: Each exam will consist of 50 questions. Some of the questions will come directly from the lecture quizzes. These exams will consist of multiple choice questions and maybe a few matching questions. The mid-term will consist of questions from the first half of the learning modules. The final exam will consist of questions from the last half of the learning modules. The exams will be taken on your computer. Exams are only available on the days indicated.

- March 2 – Mid-term exam available
- April 23 - 29 – Final exam available

### **Discussion Participation**

There will be five discussion topics following different lectures. Students are required to participate in all 5 discussions. Participation can include posting answers or additional, pertinent questions. A robust discussion rather than a few simple answers will make this a more useful enterprise. In particular, students posing questions/thoughts discussed by other students in the class will provide an excellent learning environment. Instructors will assist in moderating to ensure a fact-based discussion.

## Presentation Assignment

A PowerPoint presentation will be developed by the student on an assigned topic and it will be presented and narrated online through a program called Voice Thread. This presentation will be critiqued and discussed online by other students. This presentation and discussion will be equivalent to an exam in points. Students must submit the powerpoint file in addition to recording the lecture in voicethread.

- March 14 – PowerPoint and VoiceThread lecture due
- April 20 – Comments and discussion on VoiceThread lectures due

## 3.2 Grades & Grading Scale

34% or 180 points Quizzes (10 points each)

9% or 50 points Discussion Participation (10 points each)

19% or 100 points Mid-term exam (Learning modules 1-9)

19% or 100 points Powerpoint & Voicethread assignment

19% or 100 points Final exam (Learning modules 10-18)

530 points total

### Grading Scale (%)

A 90-100

B+ 85-89.99

B 80-84.99

C+ 75-79.99

C 70-74.99

D+ 65-69.99

D 60-64.99

E < 60

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

## 4 Course Content

### Learning Modules

- |  |                                 |
|--|---------------------------------|
| 1. Digestive Physiology                      | 10. Catfish                     |
| 2. Energy, Digestibility, Proximate Analysis | 11. Hybrid Striped Bass         |
| 3. Lipids and Fatty Acids                    | 12. Tilapia                     |
| 4. Proteins and Amino Acids                  | 13. Salmon                      |
| 5. Carbohydrates                             | 14. Shrimp and Prawns           |
| 6. Vitamins and Minerals                     | 15. Marine Fish                 |
| 7. Feed Formulation                          | 16. Larval Diets and Live Feeds |
| 8. Feed Manufacture                          | 17. Broodstock                  |
| 9. Virtual Field Trip: Feed Mill Video Tour  |                                 |

## 5 Policies and Requirements

This syllabus represents current plans and objectives for this course. As the semester progresses, changes may need to be made to accommodate timing, logistics, or to enhance learning. Such changes, communicated clearly, are not unusual and should be expected.

### 5.1 Late Submissions & Make-up Requests

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course.

Late writing assignments will be penalized 10% for the first day and 5% per day thereafter unless prior written arrangements are made or there is an exceptional circumstance. Missed exams cannot be taken after the scheduled date without prior written consent of the instructor except under exceptional circumstances.

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues **MUST** be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You **MUST** e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

### 5.2 Communication Courtesy and Professionalism

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. **Respect for individual differences and alternative viewpoints will be maintained in this class at all times.** All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

### 5.3 Semester Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning.

**At approximately the mid-point of the semester**, the School of Forest Resources & Conservation will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required, but encouraged. This is not the UF Faculty Evaluation!

**At the end of the semester**, students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance

on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## 5.4 Academic Honesty Policy

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct or appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated.

Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see:

<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

## 5.5 Inclusive Learning Environment

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

*The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: <http://multicultural.ufl.edu>.

## 5.6 Services for Students with Disabilities:

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to

the student who must then provide this documentation to the Instructor when requesting accommodation. 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

## 5.7 Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

## 6 Campus Helping Resources

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu) | (352) 392-HELP - select option 2 | <http://elearning.ufl.edu>
- Library Help Desk support <http://cms.uflib.ufl.edu/ask>
- SFRC Academic Hub <https://ufl.instructure.com/courses/303721>

### 6.1 Student Life, Wellness, and Counseling Help

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- Counseling and Wellness resources <http://www.counseling.ufl.edu/cwc/>
- U Matter, We Care <http://www.umatter.ufl.edu/>
- Career Connections Center <http://career.ufl.edu/>
- Other resources are available at <http://www.distance.ufl.edu/getting-help> for online students.

### 6.2 Student Complaint Process

The School of Forest Resources & Conservation cares about your experience and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFRC Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- Students in online courses: <http://www.distance.ufl.edu/student-complaint-process>
- Students in face-to-face courses:  
[https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)