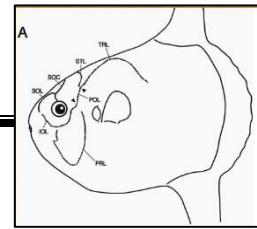


# FAS 6932: TOPICS IN FISH BIOLOGY



Lateral Line System of *Mola mola*

**Instructor:** Dr. Daryl Parkyn

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## **Course Description:**

The course will examine the general biology of fishes, including diversity of fish groups, comparative physiology specific to fishes including swimbladders, swimming, integrative and sensory biology, reproduction, ecological bioenergetics, trophic biology, migration, age and growth, and basic population dynamics as they relate to fisheries. As a graduate course there will be an emphasis on developing tools for interpreting fish oriented scientific literature and communication.

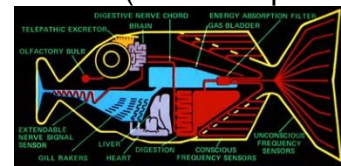
## **Time and Place:**

Online: You will be expected to communicate on a weekly basis with the instructor

## **Course Outcomes:**

On completion of the course, you should have facts at hand, be able to synthesize them into concepts, and develop them into higher-order ideas requiring critical thinking. This is done by you having:

- A working knowledge of general aspects of fish biology and fisheries
- General knowledge of Florida, North American, and Global fishes (no alien/space fishes need be learned, e.g., the babbelfish)
- The ability to synthesize biological information spanning multiple areas (e.g., swim bladder function and its relation to catch-and-release mortality)
- Recognition of large-scale tradeoffs in fish feeding, growth, and reproduction
- Effective written communication skills appropriate for a graduate student.



The babbelfish: A Hitchhiker's Guide to the Galaxy by D. Adams (not covered in course)

## **Course Communication:**

This course will take advantage of e-Learning support (Canvas) to post course information and to allow you access to your grades. Please visit <http://lss.at.ufl.edu> to access the course via the e-Learning link and for information on how use the e-Learning site (Please use the help desk as your first course of action if you have any difficulties).

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Lectures are based on PowerPoint presentations and video clips to facilitate the use of figures and visual representation of fish attributes. There will be videoclips and pdfs provided.

### Course Format and Grading:

This course is offered for three (3) credits in the Fall semester. It consists of weekly lectures and reading assignments.

Lecture exams will be synthetic in nature based on material given during class lectures and assigned readings. In addition, they may incorporate readings from assigned papers. Exam questions may include multiple-choice, matching, true/false, list/explain, and short answers, as well as short essays. The grade point allocation is: A (94-100%), A- (90-93%), B+ (86-89%), B (82-85%), B- (78-81%), C+ (74-77%), C (67-73%), C- (63-66%), D+ (59-62%), D (55-58%), D- (51-54%), and E (<50%).

Due Date (by midnight)	Item	% of Total Grade
August 30	Introduction Video - Introduce Yourself	1
Sep 6	Topical Essay (Topic provided 1 <sup>st</sup> week of classes)	10
Sep 13	Video Presentation of Topic Review	5
Sep 28-Oct 4	Exam 1	15
Oct 11	Grant Proposal (Student Selected topics with instructor approval) (Guidelines provided 1 <sup>st</sup> week of class)	25
Nov 8	Grant Proposal Revisions	10
Dec 12-18	Final Exam 2	25
TBA	Participation (Paper discussions) 1 pt per paper	9
	<b>Total</b>	100

### Reference and Recommended Supplemental Texts

- Helfman, G. S., B. B. Collette, D. E. Facey, and B. W. Bowen. 2009. The Diversity of Fishes, 2<sup>nd</sup> ed. Wiley-Blackwell, West Sussex, UK. \*\*\* **Excellent Book**\*\*\*
- Barton, M. 2007. Bond's Biology of Fishes, 3<sup>rd</sup> edition. Brooks/Cole.
- Bond, C. 1996. Biology of fishes, 2<sup>nd</sup> ed. Saunders College Publishing, Orlando, FL.
- Bone, Q., N.B. Marshall, and J.H.S. Blaxter. 1995. Biology of Fishes, 2<sup>nd</sup> ed. Blackie Academic and Professional, Glasgow (Chapman and Hall, New York).
- Evans, D.H. (ed.). 1998. The Physiology of Fishes. CRC Press, Boca Raton, Florida.
- Hoese, H.D., and R.H. Moore. 1977. Fishes of the Gulf of Mexico, Texas, Louisiana, and adjacent waters. Texas A & M Univ. Press, College Station, Texas. 327 pp.
- Moyle, P.B., and J.J. Cech, Jr. 1996. Fishes: An Introduction to Ichthyology, 3<sup>rd</sup> ed. Prentice-Hall, New Jersey.
- Page, L.M., and B.M. Burr. 2012. A Field Guide to Freshwater Fishes of North America, North of Mexico (Peterson field guide). Houghton Mifflin Co., Boston.
- Robins, C.R., and G.C. Ray. 1986. A Field Guide to Atlantic Coast Fishes of North America (Peterson field guide). Houghton Mifflin Co., Boston.

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### **Academic Honesty:**

In the past several years I have seen an increasing degree of Academic Dishonesty in this course. Plagiarism is by far the most common form of cheating, however, students have been caught using electronic devices during a test. If you do not understand what constitutes plagiarism please contact me. **A student found cheating will receive a ZERO on that assignment and their case will be forwarded to the Student Conduct and Conflict Resolution in the Dean of Students Office.** For repeat offenders with dishonesty on the record, the student honor court may become involved with their case and expulsion can result.

As a result of completing the registration form at the University of Florida, every student has signed the following statement: "I understand that the University of Florida expects it students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

**An Academic Honesty Quiz will be completed as part of your participation grade.**

### **UF Counseling Services:**

Resources are available on-campus for students having personal problems or lacking clear career and academic goals which interfere with their academic performance.

These resources include:

1. University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling;
2. Student Mental Health, Student Health Care Center, 392-1171, personal counseling;
3. Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, sexual assault counseling
4. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

### **Accommodations for Students with Disabilities:**

Students requesting classroom or laboratory 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.

### **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.

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*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*

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<b>Week</b>	<b>Lecture Topics</b>	<b>Activities</b>
August 24 - 30	Fish Diversity, Basic Anatomy	Read Syllabus and understand Honor Code Intro Video due Aug 30
August 31 - Sept 6	Fish Evolution and Diversity Cont'd	Topical Essay Due Sept 6
Sept 7 – 13	Fish Collection and Genetics	Topical Video Due Sept 13
Sept 14 – Sept 20	Origins of Bone and Skeletons, Muscles	Exam 1
Sept 21 – 27	Blood, Circulation and Respiration	
Sept 28 – Oct 4	Buoyancy and Locomotion	
Oct 5 – Oct 11	Osmoregulation	Grant Proposal 1 <sup>st</sup> submission Oct 11
Oct 12 – Oct 18	Locomotion	
Oct 19 – Oct 25	Bioenergetics	
Oct 26 – Nov 1	Sensory Systems	
Nov 2 – Nov 8	Migration	Grant Revisions Due NOV 8
Nov 9 – Nov 15	Reproduction	
Nov 16 – Nov 22	Age and Growth	
Nov 23 – 28	Intro to Fish Population Dynamics	Thanksgiving Nov 26/27
Nov 29 – Dec 6	Fish Conservation	
Dec 12-18	Final Exam	Final Examination