

Sensory Biology & Behavior of Fishes

Course: BSC 6936-019

Instructor: Dr. Stephen Kajiura

Office: Sanson 215; hours: Tue 1:30 - 4:30 pm

Semester: Fall 2006

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An in-depth examination of fish sensory systems and how they are utilized in behavior.

Lecture schedule:

Tue 6:00 - 9:00 pm

SC 141

Aug 22 – Dec 05 2006

See attached schedule for details

Required Text:

Kapoor, BG & TJ Hara (eds). 2001, Sensory Biology of Jawed Fishes, New Insights. Science Publishers Inc., 387 pp.

Content:

This graduate course is designed to have a significant student teaching component. Class discussions will focus on contemporary issues in fish sensory biology through presentations and discussions of assigned readings. The course is comprised of the following assignments:

I. Each week we will cover a different chapter from the required text. For each session, two students will present a summary of the chapter and lead a class discussion on the assigned readings (see attached schedule). Remember, it is the duty of discussion leaders to only answer technical questions about the papers and to keep the discussion moving along. It is the responsibility of each student in the class to critically review each paper and raise their questions to the group. For example, has the author formally stated a hypothesis or question? Is the methodology correct or appropriate? Are the data adequate and have the appropriate statistical analyses been performed? Do the data justify the author's conclusions? *A significant portion of your grade will be based upon your class participation in these discussions for the duration of the course.*

II. A term paper is due in class on December 05. The paper will not exceed 10 pages single spaced (plus references) and will address a topic in sensory biology or behavior agreed upon with the instructor by September 26. The paper can either be in the form of a review or represent results of original research. Each student will present a brief (10min) summary of their topic during class on Dec 05. Plagiarism will not be tolerated and will result in immediate failure.

Grading:

| | |
|--------------------------------------|-----------|
| Presentation & discussion leadership | 40 |
| Participation | 20 |
| Term paper | 30 |
| Symposium presentation | <u>10</u> |
| Total | 100 |

Labs:

Each student will be required to attend 5 lab sessions throughout the semester addressing vision, olfaction, electroreception, electrocommunication and defensive behavior. Count on spending approximately 2 hours on each lab. Multiple sessions of each lab will be conducted throughout the semester and the number of students in each session will be limited to 4. Sign up for lab sessions using Google calendar (instructions below).

Field trips:

A cruise on the R/V Bellows will take place on September 6-8. This trip is strongly recommended, but since the cruise is scheduled over weekdays, exceptions can be permitted. The trip will depart and return from St. Petersburg and include trawling for deep water fishes and long line fishing for deep water and pelagic fishes.

A required field trip to the Keys Marine Laboratory will take place on September 21-24. The field trip will include snorkeling on the reef to observe fish behavior, long line fishing, and possibly gill net fishing. Evening lectures and discussions will complement each day's activities. A lab fee of \$110 per person will be assessed to cover accommodations and boat use at Keys Marine Laboratory.

Students with disabilities:

In compliance with the Americans with Disabilities Act (ADA) students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in SU 133, x73880, and follow all OSD procedures.

Google calendar:

This online scheduling system enables students to sign up for the lab sessions on their preferred dates. To sign up, point your browser to this site: <http://www.google.com/calendar>
Log in using your FAU email account – you will first have to activate your account with Google. Under “My Calendars” you will see a calendar labeled “sensory biology”. Make sure that calendar is checked. Click on a date that you want to participate in one of the labs and add your name. There can be a maximum of 4 people signed up for a lab on any given date.

Lecture schedule:

| Date | Topic (chapter) | Presenters |
|-------------|------------------------------------|-------------------|
| 22-Aug | The brain (9) | |
| 29-Aug | Vision (19) | |
| 05-Sep | Chromatophores (12) | |
| 12-Sep | Lateral line (7) | |
| 19-Sep | Hearing (8) | |
| 26-Sep | Elasmobranch electroreception (11) | |
| 03-Oct | Teleost electroreception (6) | |
| 10-Oct | Taste (13) | |
| 17-Oct | Olfaction (14) | |
| 24-Oct | Schooling | |
| 31-Oct | Foraging | |
| 07-Nov | Mating | |
| 14-Nov | Defense | |
| 21-Nov | Dominance | |
| 28-Nov | Migration | |
| 05-Dec | Student symposium | |