

 FLORIDA ATLANTIC UNIVERSITY	NEW COURSE PROPOSAL Undergraduate Programs		UUPC Approval <u>1-27-2025</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____	
	Department Biology College Science (To obtain a course number, contact erudolph@fau.edu)			
Prefix Zoo Number 4407	(L = Lab Course; C = Combined Lecture/Lab; add if appropriate) Lab Code	Type of Course <div style="border: 1px solid red; padding: 2px;">Lecture</div>	Course Title Biology of sharks and rays	
Credits (See Definition of a Credit Hour) 3	Grading (Select One Option) Regular <input checked="" type="radio"/> Sat/UnSat <input type="radio"/>	Course Description (Syllabus must be attached; see Template and Guidelines) This course covers the biology, ecology, physiology, behavior, and taxonomy of elasmobranch fishes, the sharks, skates, and rays. Content will include a review of extant families and contemporary topics in elasmobranch biology through readings from a required textbook and primary scientific literature. Students will be evaluated using responses through online platforms, presentations, participating in classroom discussions, and other assignments.		
Effective Date (TERM & YEAR) Fall 2025	Prerequisites, with minimum grade* Evolution (PCB 3674); B		Corequisites	Registration Controls (Major, College, Level) Biology, Science, undergraduate
*Default minimum passing grade is D-. Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course				
WAC/Gordon Rule Course <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See WAC Guidelines .		Intellectual Foundations Program (General Education) Requirement (Select One Option) None General Education criteria must be indicated in the syllabus and approval attached to the proposal. See Intellectual Foundations Guidelines .		
Minimum qualifications to teach course Faculty must have a background in organismal biology or ecology				
Faculty Contact/Email/Phone Marianne Porter, mporte26@fau.edu		List/Attach comments from departments affected by new course		
Approved by Department Chair <u>SL Milton</u> College Curriculum Chair <u>[Signature]</u> College Dean <u>[Signature]</u> UUPC Chair <u>Korey Sorge</u> Undergraduate Studies Dean <u>Dan Meeroff</u> UFS President _____ Provost _____			Date 1-3-25 1-15-25 <u>1-20-25</u> 1-27-2025 1-27-2025 _____ _____	

Email this form and syllabus to mianning@fau.edu seven business days before the UUPC meeting.



FLORIDA ATLANTIC UNIVERSITY

ZOO 4407

Biology of Sharks and Rays

Date: Tuesday, Thursday 12:30 PM - 1:50 PM

Building: Behavioral Sciences Boca **Room:** 303

3 Credit(s)

Fall 2025 - 1 Full Term

Instructor Information

Marianne Porter

Email: mporte26@fau.edu

Office: Sanson Sciences 211

Office Hours: Tuesdays: 2:00-4:00; Thursdays 2:00-3:00

Phone: use email please

Course Description

Prerequisite: Evolution, PCB 3674; B

This course covers biology, ecology, physiology, behavior and taxonomy of the elasmobranch fishes, the sharks, skates, and rays. Content will include a review of extant families and contemporary topics in elasmobranch biology through readings from a required textbook and primary scientific literature. Students will be evaluated using responses through online platforms, presentations, participating in classroom discussions, and other assignments.

Instructional Method

In-Person

Traditional concept of in person. Mandatory attendance is at the discretion of the instructor.

Required Texts/Materials

Shark Biology and Conservation

Authors: Abel and Grubbs

Publisher: The Johns Hopkins University Press

Publication Date: 2020

Primary literature citations will be chosen by students to discuss each week and student will download pdf papers from the FAU library website. Please check Canvas for the citations from the primary literature. It will be updated as we move along through the semester.

Packback

Participation is a requirement for this course, and the Packback Questions platform will be used for online discussion about class topics. Packback Questions is an online community where you can be fearlessly curious and ask open-ended questions to build on top of what we are covering in class and relate topics to real-world applications.

Shark Biology & Conservation

ISBN: 9781421438368

Publisher: The Johns Hopkins University Press

Shark Biology and Conservation

ISBN: 9781421438375

Publisher: The Johns Hopkins University Press

Packback Questions with Instruct (Acc Code)

Publisher: Packback Inc.

Course Objectives/Student Learning Outcomes

By the end of this course, students will have been exposed to all of the currently recognized families of elasmobranch fishes. They will have a knowledge of the phylogeny of the group, as well as its evolution. They will be familiar with the present state of knowledge regarding their biology, physiology, biomechanics, and behavior. Human interactions with the group, including fisheries, will also be discussed. Students may have opportunities to participate in shark longline fishing and tagging as well as dissections to study external and internal anatomy of representative species.

Faculty Rights and Responsibilities

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise. To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the Student Code of Conduct [University Regulation 4.007](#).

Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

Course Evaluation Method

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

I. Each week assigned students will present to the class a review of their assigned elasmobranch orders (see attached schedule). This professionally presented summary of their order should be accompanied by adequate visual aids (powerpoint presentation). Limit presentation to 10 minutes maximum, and some orders will require much less. Students will prepare a handout that should be distributed on the class Canvas page that includes the following information:

- i a list of all families within the order.
- ii a description of the diagnostic characters of the families within the order.
- iii a review of the global and habitat distribution of its members.
- iv a brief review of its biology, ecology, food habits, etc.

PDF versions of the handout should be made available to the instructor before class.

II. Each week we will cover a different chapter from the required text (Tuesday) and then discuss a paper from the scientific literature on the same topic (Thursday). Students will ask a question and answer a question using the class Packback platform.

III. 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. Students will earn their participation grade by contributing in class.

IV. A final presentation on a topic of the student's choosing will be presented in class during the student symposium. The talk will not exceed 12 minutes, including questions and answers. Each student will choose a topic in consultation with the instructor.

This course is designed to have a significant student presentation / peer engagement component. Class discussions will focus on contemporary issues in shark biology through presentations and discussions of assigned readings. Each week we will cover a different chapter from the required text and papers from the primary literature. The course is comprised of the following assignments:

- Packback (20% of grade)
 1. Paper Q and A (10% of grade): We will be using Packback as tool in class this semester for 15% of your grade; please see the description below. This tool will help us prepare for discussions of the literature in class. Before we go over the paper in class students will use Packback to Ask and a question and Answer a Question.
 2. Chapter preparation packback (10%): BEFORE each chapter presentation, students will ask a question and answer a question on packback about the chapter. What was something you didn't totally understand. This will allow students to learn more and demonstrate that they have mastered the information in the book chapter.
- Order presentation (15% of grade): Students will prepare a presentation and handout about the different orders of elasmobranch fishes.
- Participation (20%): Attendance and participation is important as we discuss chapters and the primary literature.
- Student symposium (45% of grade)
 1. A final presentation on a topic of the undergraduate student's choosing will be submitted as a recorded video at the end of the semester.
 2. End of semester presentation (20%)
 3. Rough draft (5%)
 4. Idea development (5%)

5. In preparation for the symposium, students will prepare an annotated bibliography (15 points) with at least five sources from the primary literature.
6. The talk will not exceed 12 minutes and will be uploaded to canvas by the due date. Each student will choose a topic in consultation with the instructor.

Evaluation

1. Packback Q and A 20%
2. Shark symposium (45%)
3. Presentation 20%
4. Idea development 5%
5. Presentation rough draft 5%
6. Annotated bibliography (15%)
7. Family presentation 15%
8. Participation 20%: a large portion of this will be assigned during the final presentations.

Total: 100%

Participation: Students will be required to provide peer-review, through packback, class discussions, questions presentations.

Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

Attendance Policy Statement

Students are expected to attend all their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal

obligations, or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances, and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

In the event a student is ill and misses class, it is the student's responsibility to contact Dr. Porter as soon as practical to get their makeup work. If a student misses a paper discussion, they will individually answer the associated questions in Packback. If a student misses a chapter presentation, the student will individually complete the Packback. If a student misses another assignment, they should contact Dr. Porter about turning their work in late. **Make up for participation points can be done by leading a paper discussion or some reasonable alternative such as summarizing the paper read that week in at least 750 words.**

Please note that students will not be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities. These students can make up missed work without any reduction in the student's final course grade. **Make up for participation points can be done by leading a paper discussion or some reasonable alternative such as summarizing the paper read that week in at least 750 words.** Reasonable accommodation must also be made for students participating in a religious observance. Please let Dr. Porter know as soon as possible if you have a University-approved activity or if you will miss class to observe a religious holiday. Also, note that grades of Incomplete ("I") are reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances.

Religious Accommodation Policy Statement

In accordance with the rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. University Regulation 2.007, Religious Observances, sets forth this policy for FAU and may be accessed on the FAU website at www.fau.edu/regulations.

Any student who feels aggrieved regarding religious accommodations may present a grievance to the executive director of The Office of Civil Rights and Title IX. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination.

Time Commitment Per Credit Hour

For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

Course Grading Scale

Letter Grade	Letter Grade
A	90 - 100%
B	80 - 89.9%
C	70 - 79.9%
D	60 - 69.9%
F	Below 60

Grade Appeal Process

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

[University Regulation 4.002](#) of the University Regulations contains information on the grade appeals process

Policy on Make-up Tests, Late work, and Incompletes

Student participation in class sessions and discussion are an integral part of this course. and students will be graded on their participation.

In the event a student is ill and misses class, it is the students responsibility to contact Dr. Porter as soon as practical to get their makeup work. If a student misses a paper discussion, they will individually answer the associated questions in Packback. If a student misses a chapter presentation, the student will individually complete the Packback. If a student misses another assignment, they should contact Dr. Porter about turning their work in late. **Make up for participation points can be**

done by leading a paper discussion or some reasonable alternative such as summarizing the paper read that week in at least 750 words.

Please note that students will not be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities. These students can make up missed work without any reduction in the student's final course grade. Reasonable accommodation must also be made for students participating in a religious observance. Please let Dr. Porter know as soon as possible if you have a University-approved activity or if you will miss class to observe a religious holiday. Also, note that grades of Incomplete ("I") are reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances.

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Artificial Intelligence Preamble

FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work.

FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. [\[Policy 12.16 Artificial Intelligence\]](#)

Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each course. When AI is authorized, the student is also responsible and accountable for the content of the

work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is.

If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the [Florida Atlantic Code of Academic Integrity, Regulation 4.001.](#)

Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit <https://fau.edu/ai/citation>

AI Language Specific To This Course

- AI Prohibited: The use of AI to assist in any work assigned in this specific course is prohibited.
- All writing and presentation assignments should be your own thought and work.

Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual therapy, group therapy, and crisis services, to name a few - offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Student Support Services and Online Resources

- [Center for Learning and Student Success \(CLASS\)](#)
- [Counseling and Psychological Services \(CAPS\)](#)
- [FAU Libraries](#)
- [Math Learning Center](#)
- [Office of Information Technology Helpdesk](#)
- [Center for Global Engagement](#)
- [Office of Undergraduate Research and Inquiry \(OURI\)](#)
- [Science Learning Center](#)
- [Speaking Center](#)

- [Student Accessibility Services](#)
- [Student Athlete Success Center \(SASC\)](#)
- [Testing and Certification](#)
- [Test Preparation](#)
- [University Academic Advising Services](#)
- [University Center for Excellence in Writing \(UCEW\)](#)
- [Writing Across the Curriculum \(WAC\)](#)

Course Topical Outline

Date	Orders	Topics (tentative)
Week 1 Aug 20 and 22		T: Syllabus, intro to class Th: Reading scientific papers; how to publish a scientific paper One packback
Week 2 Aug 27 and 29	Hexanchiiformes	T: Ch 1: Introduction - Elasmobranch Phylogeny Th: Read/ discuss scientific paper; order presentation Two packbacks
Week 3 Sept 3 and 5	Echinorhiniiformes / Pristiophoriformes	Ch 2: Evolution of Sharks Read/ discuss scientific paper Two packbacks
Week 4 Sept 10 and 12	Squatiniiformes	Ch 3: Diversity of Sharks Read/ discuss scientific paper Two packbacks - Idea pitch (30 second pitch)
Week 5 Sept 17 and 19	Squaliiformes	Ch 4: Functional Anatomy of Sharks Read/ discuss scientific paper Two packbacks
Week 5 Sept 24 and 26	Heterodontiiformes	Ch 5: Sensory Biology Read/ discuss scientific paper Two packbacks
Week 6 Oct 1 and 3	Orectolobiiformes	Ch 6: Reproduction Read/ discuss scientific paper Two packbacks
Week 7 Oct 8 and 10	Lamniiformes	Ch 7: Circulation, Respiration, and Metabolism Read/ discuss scientific paper Two packbacks
Week 8 Oct 15 and 17	Carcharhiniiformes	Ch 8: Thermal Physiology, Osmoregulation, Digestion Read/ discuss

		scientific paper Two packbacks
Week 9 Oct 22 and 24	Rajiformes	Ch 9: Ecology Read/ discuss scientific paper Two packbacks
Week 10 Oct 29 and Oct 31	Torpediniformes	Ch 10: Behavior and Cognition Read/ discuss scientific paper Two packbacks
Week 11 Nov 5 and 7	Rhinopristiformes	Ch 11: Fisheries Read/ discuss scientific paper Two packbacks
Week 12 Nov 12 and 14	Myliobatiformes	Ch12: Climate Change and other Human Impacts Read/ discuss scientific paper Two packbacks Nov 12th: Annotated bibliography due
Week 13 Nov 19 and 21		No 19: Read literature/ packback Nov 21: presentation rough drafts are due
Week 14 Nov 26th	Final presentations	Last day of Class on the 26th; first day of presentations. - Students will be assigned presentations for peer review/ asking questions. This will be a large portion of your participation grade.
Week 15 Dec 7th	Final presentations from 10:30-1:00	- Students will be assigned presentations for peer review/ asking questions. This will be a large portion of the participation grade.