

Ecology and Evolution of Fishes – Winter 2019
BIOL 3080/MARI 3080

Lectures (MWF 12.30-13.30)

Computer Science Room 127

Instructor: Dr. Jeff Hutchings (office: LSC 4076; jhutch@dal.ca)

Teaching Assistant: Julie Charbonneau (office: LSC 4080; Julie.Charbonneau@dal.ca)

Note: Page numbers referred to below are either those in Barton (2007) *Bond's Biology of Fishes* (on Reserve in Killam Library) or they are from material available on Brightspace.

KEY DATES

16 JANUARY: INTRODUCTORY QUIZ (5%)
4 FEBRUARY: MID-TERM EXAM (25%)
1 MARCH: FISH IDENTIFICATION TEST 1 (15%)
18 MARCH: FISH IDENTIFICATION TEST 2 (15%)

Jan	07-M	Lecture 1	Diversity and Early Evolution of Fishes (BOND 19-29; 80-86)
Jan	09-W	Lecture 2	Agnathans (hagfish, lampreys) to Placoderms (BOND 89-108)
Jan	11-F	Lecture 3	Chondrichthyes (chimaeras, sharks, skates, rays) (BOND 109-126)
Jan	14-M	Lecture 4	Acanthodii, Sarcopterygii ('spiny sharks' to lungfishes) (BOND 129-143)
Jan	16-W		INTRODUCTORY QUIZ
Jan	18-F	Lecture 5	Chondrostei to Ostariophysi (sturgeons to electric eels) (BOND 147-189)
Jan	21-M	Lecture 6	Esociformes to Lophiiformes (pikes to anglerfishes) (BOND 193-227)
Jan	23-W	Lecture 7	Acanthopterygii I; Mugiliformes to Perciformes (mulletts:basses) (BOND 229-249)
Jan	25-F	Lecture 8	Acanthopterygii II; Perciformes (basses to gobies) (BOND 251-279)
Jan	28-M	Lecture 9	Acanthopterygii III; Perciformes (Gobiidae) to Tetraodontiformes (BOND 251-279)
Jan	30-W	Lecture 10	Evolutionary Patterns and Trends in Fishes
Feb	01-F		Munro Day – No Lecture
Feb	04-M		MIDTERM EXAM
Feb	06-W	Lecture 11	Current Research on Fishes
Feb	08-F	Lecture 12	Current Research on Fishes
Feb	11-M	Lecture 13	Sustainable Seafood Movement
Feb	13-W	Lecture 14	Corporate Social Responsibility (CSR) and Sustainable Seafood
Feb	15-F		No Class
Feb	18-22		STUDY BREAK – No Lectures
Feb	25-M	Lecture 15	Movement and Locomotion (BOND 318-339)
Feb	27-W	Lecture 16	Buoyancy (BOND 318-339)
Mar	01-F		FISH IDENTIFICATION TEST 1

Mar	04-M	Lecture 17	Sound, Electricity & Hearing (BOND 363-385)
Mar	06-W	Lecture 18	Respiration and Osmoregulation (BOND 409-479)
Mar	08-F	Lecture 19	Feeding Morphology & Trophic Polymorphisms (BOND 414-421, 426-434)
Mar	11-M	Lecture 20	Reproductive Morphology (BOND 517-534)
Mar	13-W	Lecture 21	Reproductive Strategies
Mar	15-F	Lecture 22	Population Growth (r , fitness) (HUTCH 211-212)
Mar	18-M		FISH IDENTIFICATION TEST 2
Mar	20-W	Lecture 23	Introduction to Life History Theory (BOND 207-216)
Mar	22-F	Lecture 24	Age & Size at Maturity & Reproductive Effort (HUTCH 220-224)
Mar	25-M	Lecture 25	Costs of Reproduction (BOND 218-220)
Mar	27-W	Lecture 26	Alternative Reproductive Strategies (BOND 230-233)
Mar	29-F	Lecture 27	Population Abundance Estimation and Research Surveys
Apr	01-M	Lecture 28	Individual Growth: Ageing Methods & Growth Models I
Apr	03-W	Lecture 29	Individual Growth: Ageing Methods & Growth Models II
Apr	05-F	Lecture 30	Stock and Recruitment
Apr	08-M	Lecture 31	Target and Limit Reference Points

Evaluation

Conversion of Numeric Grades to Letter Grades

Introductory Quiz	5%		
Fish Identification Test 1	15%	A+	90-100
Midterm Exam	25%	A	85-89.9
Fish Identification Test 2	15%	A-	80-84.9
Final Exam	40%	B+	75-79.9
		B	70-74.9
Total	100%	B-	65-69.9
		C+	62-64.9
		C	58-61.9
		C-	55-57.9
		D	50-54.9
		F	< 50