

**Faculty of Science Course Syllabus  
Department of Biology**

BIOL4510  
Cultural Evolution  
Fall 2019

**Instructor(s):** Hal Whitehead LSC3076 hwhitehe@dal.ca

**Lectures:** Mon, Weds 14:35-15:55 LSC 202

**Laboratories:** None

**Tutorials:** None

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### **Course Description**

Culture is socially learned and group-specific information or behaviour. This course explores the nature of culture across the animal kingdom, how it evolves, and its relationship to ecology, genetic evolution and conservation. Students consider and discuss the controversies and uncertainties as to the role of culture in biology.

### **Course Prerequisites**

BIOL 2040 (Evolution), and BIOL 3062 (Behavioural Ecology) or PSYO 3162 (Advanced Animal Behaviour)

### **Course Objectives/Learning Outcomes**

How biologists view the concept of culture.

How animals learn socially.

Why culture is a system of heritability.

How culture evolves.

The breadth of culture across the animal kingdom.

How the capacity of culture may have evolved.

How culture affects genetic evolution.

The role of culture in ecology

### **Course Materials**

Students will need access to parts of the following:

Richerson and Boyd 2005. *Not by genes alone: how culture transformed human evolution*. Chicago University Press

Whitehead and Rendell 2015. *The cultural lives of whales and dolphins*. University of Chicago Press

## Course Assessment

Component	Weight (% of final grade)	Date
Midterm exam	20%	16 Oct
Final exam	20%	3 Dec
Discussion participation	5%	(1 <sup>st</sup> half)
Discussion participation	5%	(2 <sup>nd</sup> half)
Introduce discussion paper	15%	
Quizzes on discussion papers	15%	
Final paper	20%	4 Dec

### **Assignments**

*Midterm exam:* This will be an in-class, short-answer exam on topics in first half of class (students answer ca. 10 questions out of 12)

*Final exam:* This will be an in-class, short-answer exam on topics in second half of class (students answer ca. 10 questions out of 12)

*Discussion participation:* Students will be marked on their participation in the discussion for each lecture (2 marks for attendance; 3 marks for brief remark; 4 marks for substantial remark(s); 5 for important intervention(s)). Discussion participation marks will be averaged over all first-half lectures (except the introduction to the class), and then over all second-half lectures. In each half of the class, one missed class will be allowed.

*Introduce discussion paper:* Students will each introduce one discussion paper (a list will be available on Brightspace). Students will be allocated to papers and dates randomly. The introduction will last less than 5 minutes and not use Powerpoint or any other visual aid.

*Quizzes on discussion papers:* At the beginning of each class, students will have a one-question quiz on the assigned paper. Answers will be a phrase or less. There will be a maximum of one point per quiz. Students can miss two quizzes.

*Final paper:* Students will be given a list of potential topics for their final paper (or they can suggest their own). The papers will be in scientific format with citations to the primary literature. The papers should start with a brief summary aimed at a general readership. The

paper must be less than 4 pages ( $\geq 11$  point font) long, excluding reference list and tables and figures.

### **Other course requirements**

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### **Plagiarism**

Do not plagiarize (including self-plagiarize)! I catch plagiarizing students quite often. If you are uncertain of what is and is not acceptable, ask me, or see [http://www.dal.ca/dept/university\\_secretariat/academic-integrity/plagiarism-cheating.html](http://www.dal.ca/dept/university_secretariat/academic-integrity/plagiarism-cheating.html)

### **Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale**

A+ (90-100)	B+ (77-79)	C+ (65-69)	D	(50-54)
A (85-89)	B (73-76)	C (60-64)	F	(<50)
A- (80-84)	B- (70-72)	C- (55-59)		

### **Course Policies**

10% off for each day late for assignments, without medical (etc.) excuse

Projects should be carried out individually

Plagiarism software (e.g. Urkund) may be used on Final papers

### **Course Content**

#### **Preliminary list of 80 min lectures/discussions:**

- Introduction to class
- What is culture?
- What is social learning?
- Types of culture
- How culture evolves
- Conformism and symbolic marking
- Culture in fish, rodents
- Culture in insects
- Culture in birds: songs
- Culture in birds: feeding and migration
- Culture in monkeys
- Culture in apes
- Culture in toothed whales
- Culture in baleen whales
- Culture in humans: foraging, tools
- Culture in humans: society and culture

Culture in humans: language and communication  
How is human culture different?  
The evolution of cultural capacity  
Culture and ecology  
Culture and conservation  
Gene-culture coevolution

## University Policies and Statements

**This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate**

### Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

**Information:** [https://www.dal.ca/dept/university\\_secretariat/academic-integrity.html](https://www.dal.ca/dept/university_secretariat/academic-integrity.html)

### Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

**Information:** [https://www.dal.ca/campus\\_life/academic-support/accessibility.html](https://www.dal.ca/campus_life/academic-support/accessibility.html)

### Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

**Code:** [https://www.dal.ca/dept/university\\_secretariat/policies/student-life/code-of-student-conduct.html](https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html)

### Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

**Statement:** <http://www.dal.ca/cultureofrespect.html>

### Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) ([elders@dal.ca](mailto:elders@dal.ca)).

**Information:** [https://www.dal.ca/campus\\_life/communities/indigenous.html](https://www.dal.ca/campus_life/communities/indigenous.html)

**Important Dates** in the Academic Year (including add/drop dates)

[https://www.dal.ca/academics/important\\_dates.html](https://www.dal.ca/academics/important_dates.html)

**University Grading Practices**

[https://www.dal.ca/dept/university\\_secretariat/policies/academic/grading-practices-policy.html](https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html)

**Missed or Late Academic Requirements due to Student Absence (policy)**

[https://www.dal.ca/dept/university\\_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html](https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html)

## **Student Resources and Support**

### **Advising**

**General Advising** [https://www.dal.ca/campus\\_life/academic-support/advising.html](https://www.dal.ca/campus_life/academic-support/advising.html)

**Science Program Advisors:** <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

**Indigenous Student Centre:** [https://www.dal.ca/campus\\_life/communities/indigenous.html](https://www.dal.ca/campus_life/communities/indigenous.html)

**Black Students Advising Centre:** [https://www.dal.ca/campus\\_life/communities/black-student-advising.html](https://www.dal.ca/campus_life/communities/black-student-advising.html)

**International Centre:** [https://www.dal.ca/campus\\_life/international-centre/current-students.html](https://www.dal.ca/campus_life/international-centre/current-students.html)

### **Academic supports**

**Library:** <https://libraries.dal.ca/>

**Writing Centre:** [https://www.dal.ca/campus\\_life/academic-support/writing-and-study-skills.html](https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html)

**Studying for Success:** [https://www.dal.ca/campus\\_life/academic-support/study-skills-and-tutoring.html](https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html)

**Copyright Office:** <https://libraries.dal.ca/services/copyright-office.html>

**Fair Dealing Guidelines** <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

### **Other supports and services**

**Student Health & Wellness Centre:** [https://www.dal.ca/campus\\_life/health-and-wellness/services-support/student-health-and-wellness.html](https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html)

**Student Advocacy:** <https://dsu.ca/dsas>

**Ombudsperson:** [https://www.dal.ca/campus\\_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html](https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html)

### **Safety**

**Biosafety:** <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

**Chemical Safety:** <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

**Radiation Safety:** <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

**Scent-Free Program:** <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>