

**Evolution, Conflict, & Society**  
**UNST 235**

**Instructor:**

Dr. Randall Hayes  
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**Office Hrs: TBA (check Blackboard course > Faculty Information)**

**Required Texts:**

1. Wilson, D.S., *Evolution For Everyone: How Darwin's Theory Can Change the Way We Think About Our Lives*, (New York, NY: Delta Trade Paperbacks), 2007.
2. Buss, D.M., *Evolutionary Psychology: The New Science of Mind*, (Boston, MA: Allyn & Bacon), 1999.

**Readings: Additional readings as assigned.**

**Course Description:** Why do humans fight wars? Why do we keep pets? Why do we speak different languages? This course examines human activity through the lens of evolutionary biology. We will learn biological concepts of evolution, focusing particularly on variation (differences between organisms), heredity (information transfer between generations), and selection (survival of the “fittest,” carefully defined). These concepts will require that we learn tools--for measuring and describing variation, for instance. We will then apply these tools to human **behaviors**, such as mating, parenting, and drug addiction; **organizations**, such as sororities and corporations; and **events**, such as dances, famines and wars. We will pay particular attention to the ways in which different environments select for cooperative strategies vs. competitive ones. Thus evolutionary change through time will serve as a conceptual framework that will help students to reason about many complex and dynamic systems that they will encounter in advanced specialist courses.

**Course Organization and Evaluation:** The course periods will consist of lecture, discussion, and active learning (individual and group exercises.) Time may be given in sessions for students to spend time in the library, at the computer center, or for working on problems. *Students should bring a scientific calculator to every class.* Formative evaluations will be given consistently through the term, and may consist of things such as one minute papers, muddiest points, pro & con grids, and concept maps. Also, formative assessments will be conducted throughout the course using the Turning Point Classroom response system. The summative evaluation will consist of four in-class examinations, daily reading web quizzes, several short reaction papers, and one research poster project.

**Prerequisites:** The prerequisites for this class are completion of the UNST foundation courses (100, 110, 120, 130, & 140.) The other prerequisite is an inquisitive mind. Students should be warned that this class will build on the analytical reasoning skills you developed in UNST 130 and therefore does require use of mathematical and statistical tools. I will review all the mathematics required to comprehend the topics addressed in the course. Since we will be working mostly at the level of information (genes as sequences of letters: ATCG), detailed knowledge of biological chemistry is not required.

**Readings:** These will be assigned weekly from the required texts and also from additional journal and magazine articles from the primary research literature as they become relevant. Whenever additional readings are assigned, there will be a 1 page typed summary and critique of them due at the next class. Finally, all lecture notes will be made available on Blackboard, after the lecture is given in class.

**Grading:** The final grade will consist of four in-class comprehensive tests [0.40], quizzes (clicker and paper) [0.20], final project [0.20], and homework [0.20].

**Clickers:** We will be using the Turning Point Classroom response system, all students should have their TP clickers from last year, if not you can purchase one at the bookstore. Students should have their clicker at each class.

### **Turnitin**

All written materials in this class will be turned in electronically via Turnitin.com. Access to this web site will be given to you by the instructor. Turnitin compares your writing with virtually every reference that exists on the internet as well as a bank of student papers that have been submitted from all over the world. Its purpose is to help students learn the difference between proper citation and quotation of other authors' work and plagiarism (copying others writing without citation.)

The URL for turnitin.com is: <http://www.turnitin.org/static/home.html>

You will go there and create a user profile using the following information:

<b>class ID:</b>	tba
<b>password</b>	GCWilliams

### **Enrollment:**

All students must be officially enrolled in the course by the end of the first week of the semester. No requests to add the course will be approved by the professor. Enrolling officially and on time is solely the responsibility of each student.

**Students with a disability are responsible for making their needs known to the instructor and seeking necessary assistance in a timely manner.**

### **Attendance/Participation:**

University Studies strives to professionalize its students; therefore, regular attendance and punctuality are mandatory in all UNST courses. Attendance will be taken at the beginning of each class. Tardiness will not be tolerated. Absent or tardy students are responsible for any missed class work, including any changes to the syllabus or assignments announced in class. In short, absences and tardiness can/will diminish your grade. If you suffer prolonged illness or misfortune, you should consider dropping the course. Persistent tardiness and failure to observe established classroom etiquette will lead to failure of the course. Student athletes must submit a schedule of days they will be absent within the first week of classes.

Students will automatically receive an “F” for missing the equivalent of two weeks of class (six absences for a M, W, F schedule; four absences for a T, R schedule). At half the allotted absences (three absences for a M, W, F schedule; two absences for a T, R schedule), students are required to meet with instructor for a mandatory one-on-one conference concerning their performance in class. Students are responsible for checking her/his email for instructor communication. If the instructor does not receive a response regarding an attendance conference, the opportunity is revoked.

Absence or tardiness is **only** excused for emergency situations. Students are responsible for submitting acceptable documentation for the excused absence within one week of the absence. Examples of acceptable documentation include:

- Written doctor’s note specifically requesting an excused absence (with the specific time and date on the notification)
- Obituary or service
- An official written summons to court

Persistent tardiness and failure to observe established classroom etiquette will not be tolerated. *All cell phones and personal pagers must be tuned off for the duration of the class period.*

### **Timely Submission of Work**

All assignments are due on the dates indicated in the schedule. Late work will not be accepted. Exceptions will be made only in cases of emergencies involving family, medical, or religious reasons and must be arranged *before* the assignment is due. You can reach either professor by e-mail or by leaving a phone message. Employment or other academic pressures do not constitute an excuse. Please note all due dates on the syllabus and plan ahead. There is no provision in this course for additional papers for extra credit or to substitute for requirements.

### **Academic Integrity:**

Academic honesty is absolutely essential. Cheating, plagiarism or other academic misconduct will not be tolerated. If you are caught cheating, you will not pass this course and will be subject to any and all penalties specified in the student honor code.

**Learning Objectives**

This course is interdisciplinary. It will utilize subject matter from a variety of academic disciplines, including biology, the humanities, and computer science. Students will read and discuss established evolutionary principles, along with new material as it arises from the primary literature. The pedagogy of this course introduces students to how to think critically about the behavior of evolving systems, whether they are biological, cultural, or digital. This course will specifically address the following University Studies General Education learning goals: 5. use analytical thinking skills to evaluate information critically; 7. apply scientific reasoning skills to model natural, physical, social, and aesthetic phenomena using multiple modes of inquiry; 8. use a wide range of disparate information and knowledge to draw inferences, test hypotheses, and make decisions; 14. understand and apply ethical reasoning principles to resolve moral, social, and professional issues; 16. Understand and promote principles of wellness that include nutrition, exercise, avoidance of mind-altering chemicals, development of healthy relationships and personal growth; 17. Recognize behaviors that place individuals, families and communities at risk.

This course will address a variety of more specific learning objectives. Here are examples of how some of these can be scored along Bloom’s Taxonomy of Learning. Levels 1 – 6 represent more sophisticated understanding of a topic.

<b>Competency</b>	<b>Blooms 1</b>	<b>Blooms 2</b>	<b>Blooms 3</b>
Hypothetical reasoning as it is applied to evolutionary systems.	Remember the three necessary characteristics of any evolving system: variation, heredity, and selection.	Understand how hypothetical reasoning differs from other ways of knowing about evolutionary changes in species.	Apply hypothetical reasoning to the origin and maintenance of particular evolutionary adaptations.
Social construction of race.	Remember the biological and social definitions of race.	Understand how biological tribal tendencies affect social definitions of race.	Apply biological and social concepts of race to studies of nation-level conflicts (wars).

**Higher Level Taxonomies**

<b>Competency</b>	<b>Bloom4</b>	<b>Bloom5</b>	<b>Bloom6</b>
Hypothetical reasoning as it is applied to evolutionary systems.	Analyze evolutionary systems to determine the relative contributions of the three necessary characteristics under different initial environmental conditions.	Evaluate specific hypotheses with regard to evolution of specific cultural systems (ie, language).	Create and test new hypotheses to examine systems not previously addressed by the evolutionary approach (ie, religion).
Social construction of race.	Analyze specific racial conflicts to determine the contribution of biological	Evaluate specific causal arguments concerning biological and social	Create new causal arguments concerning biological and social

	(resource-driven) and social factors.	definitions of race for their validity using evolutionary reasoning.	concepts of race and their impact on global culture.
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### Projected Topics Schedule:

The first two sessions of each week will focus on biological systems, where the principles of evolution are well-understood and where examples are many and well-defined experimentally. The last session of each week will focus on cultural or technical evolution, each of which share characteristics of biological evolution, but which have not been studied as thoroughly.

#### Part I. Three Characteristics of Any Evolving System

##### Weeks 1 -3. Definitions

- a. Variation – measuring, grouping, and classifying differences
- b. Heredity – passing of information between generations
- c. Selection – differential reproductive success

##### Readings:

Buss, Chapters 1 – 2, 13.  
Wilson, Chapters 1 – 5.

#### **First In-class Test: Friday, September 4**

#### Part II. Adaptation Emerges from the Interaction of the Three Necessaries

##### Weeks 4 - 6. How Could You **Prevent** Evolution?

- a. Trade-offs in selection
- b. Co-evolution: interactions between species
- c. Limits of selection: migration, drift, and founder effects

##### Readings:

Buss, Chapter 3  
Wilson, chapters 6 – 17.

##### Weeks 7 – 8. Defining Groups

- d. Speciation: splitting groups
- e. Hybridization: joining groups

##### Readings:

Wilson, chapters 18 – 27.

**Project Outline Due (TBA)**

**Second In-class Test / Midterm Exam: Friday, October 9**

Part III. All in the Family: Evolutionary Games We Play

Weeks 9 – 11. Sex, Mating and Kinship

- a. Sexual strategies
- b. Parenting strategies
- c. Strange bedfellows: unusual kinship situations

Readings

Buss, Chapters 4-8

Wilson, Chapters 28-30

**Third In-class Test: Monday, November 2**

Part IV. Games Between “Unrelated” Groups.

Weeks 12 – 15. Symbiosis Revisited

- a. Altruism
- b. Parasitism
- c. Warfare

Readings

Buss, Chapters 9-12

Wilson, Chapters 31-36

**Thursday November 13<sup>th</sup>: First Draft Project Due**

The project for this semester is a poster which you will have the opportunity to present in the spring at the campus Life Sciences Symposium. This will be in the form of a single giant PowerPoint slide. Directions to follow.

**Final Draft Project due TBA**

**Final Examination: Wednesday December 9, 8-10am**