HOW THIS SYLLABUS IS ORGANIZED

The syllabus is meant to be a complete document and everything in the syllabus is important. The most important things come first. The syllabus also contains links to more detailed descriptions like this one, http://ctaar.rutgers.edu/integrity/policy.html#Integrity, on academic integrity which is very important.

Web site: https://sakai.rutgers.edu/portal Email: robertsc@rutgers.edu

Professor: Dr. Rob Scott Office: BIO 210
Web: http://www.rci.rutgers.edu/~robertsc/ Office hours: TBD

Teaching Assistants:

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Office hours</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fred Foster</td>
<td>BIO310</td>
<td>Thursdays, 1:30-3:30 pm</td>
<td><a href="mailto:Fred.Foster@Rutgers.edu">Fred.Foster@Rutgers.edu</a></td>
</tr>
<tr>
<td>Mareike Janiak</td>
<td>BIO 310</td>
<td>Thursdays 1-3 pm</td>
<td><a href="mailto:mareike.janiak@rutgers.edu">mareike.janiak@rutgers.edu</a></td>
</tr>
<tr>
<td>Alex Pritchard</td>
<td>BIO 306</td>
<td>Tuesday, 3:15-5:15 pm</td>
<td><a href="mailto:Alexander.Pritchard@Rutgers.edu">Alexander.Pritchard@Rutgers.edu</a></td>
</tr>
<tr>
<td>Sarah Hlabik</td>
<td>203D</td>
<td>T12-1pm; F11am-12pm</td>
<td><a href="mailto:sarah.hlubik@rutgers.edu">sarah.hlubik@rutgers.edu</a></td>
</tr>
</tbody>
</table>

BOX 1

Core Curriculum Learning Goals Met by this Course

- **NS: Natural Sciences**
  - Understand and apply basic principles and concepts in the physical or biological sciences.
  - Explain and be able to assess the relationship among assumptions, method, evidence, arguments, and theory in scientific analysis.

- **HST: Historical Analysis**
  - Explain and be able to assess the relationship among assumptions, method, evidence, arguments, and theory in social and historical analysis.
  - Explain the development of some aspect of a society or culture over time, including the history of ideas or history of science.

PREREQUISITES

This is an introductory course and there are no prerequisites. Lectures and laboratories will cover the basic concepts that are required to understand the material. A science background is not necessary for the successful completion of the course.

REQUIREMENTS FILLED BY THE COURSE

The course fills a requirement of the major in Evolutionary Anthropology, the minor in Evolutionary Anthropology, or the minor in Anthropology. Additionally, the course serves as a prerequisite for a Certificate in Evolutionary Medicine.
REQUIRED TEXTS

The Alternative Introduction to Biological Anthropology by Jonathan Marks.

Your Inner Fish: A Journey into the 3.5-Billion-Year History of the Human Body by Neil Shubin. There will be a writing assignment on the book which will be half of your Writing Assignment grade.

Some other readings will be provided on sakai in Resources as pdf documents or as links.

OTHER REQUIREMENTS

An i>clicker student remote is also required for the class.

Lab assignments, review sheets, class announcements, etc. can be downloaded from the class Sakai site. Enter this site via the Rutgers Sakai portal (http://sakai.rutgers.edu/portal).

CATALOG DESCRIPTION

Evolutionary processes, including adaptation and speciation; fossil and archaeological records of human morphological and social-behavioral evolution

COURSE OBJECTIVES

- Understand the biology, ecology and behavior of a number of living primate species, including humans.
- Understand the application of the scientific method (i.e., how to construct and test a hypothesis). [EA1]
- Be able to summarize and describe simple quantitative and qualitative observations and react to such observations critically. [EA2]
- Understand the theory of evolution at both the molecular and organismal levels. [EA1]
- Understand the nature of the fossil record and the geologic context of fossils.
- Understand the evidence for primate and human evolution.
- Understand how the biology, ecology and behavior of extinct human species is reconstructed.
- Be able to discuss critical events and ongoing issues in human evolution.
- Begin to develop skills needed to be a critical consumer and ultimately user of the primary scientific literature (e.g., access and use Web of Science, critical consumption of online information). [EA3]

DETAILED COURSE DESCRIPTION

This course examines patterns of anatomical, behavioral, and genetic similarities and differences among living primates and humans, and the evidence for human evolution as reconstructed from the fossil record. We will survey the origin and evolution of the human species. As we attempt to pinpoint the timing and circumstances of the origins of human distinctiveness, and to trace its evolution through the fossil record, evolutionary theory will be an important guide. We will explore a wide range of evidence from the natural and social sciences relevant to understanding our origins. Our goal is to understand the place of humans in the natural world and contemplate why and when we became human. Along the way, we will address questions such as:

- Does the popular conception of race have a real biological basis?
- What were the circumstances under which humans began to walk on two legs and developed large brains?
- Is warfare an inevitable expression of genes acquired from a predatory, "killer-ape" past?
- Who were the "ape-men", the "cave-men", the Neanderthals?
- Who started the first campfire, first spoke of an event in the past or a plan for the future, and painted the first artwork?
- What might the future hold for the human species?
Students are often interested in the questions “How will my grade be assigned?” and “What will be on the test?” The answer to both of these questions relates to the Course Objectives (see above) and the Rutgers SAS Core Curriculum Learning Goals fulfilled by this course. Your grade will be higher if course assignments show your achievement of Course Objectives and Core Curriculum Learning Goals is higher. All exam questions and writing assignments are explicitly tied to one or more learning goals.

Final grades are assigned at or just slightly below the standard Rutgers cut-offs (90%, 85%, 80%, 75%, 70% and 60%). There is no “curve” or “rounding-up.” Requests for higher grades after grades have been assigned are denied except in the case of genuine errors in assigning of grades.

In some cases, students may have cause to quibble about issues and some random noise creeps into grades. These issues are dealt with and remedied on a course-wide basis. Indeed, remedies are already built into the syllabus: the outside lecture extra credit option already exists and exams include some extra credit questions. Other remedies could include dropping the lowest quiz grade or setting grade cut-offs just slightly below the standard Rutgers cut-offs.
Assessment of Core Curriculum Learning Goals Met by this Course

Learning Goals can be assessed because writing assignments and exam questions are linked and built around at least one learning goal. The overall degree to which this course achieves the core curriculum learning goals will be determined using evaluative rubrics applied to a selected writing assignment (describe-and-explain essay).

Sub-samples of students will be evaluated for each learning goal with rubrics for a selected lab assignment.

GRADED COURSE WORK

Exams
There will be two exams, a midterm and final, which will test students’ substantive knowledge of the class material including lectures (both inside and outside of class), films, and readings. To pass the course both exams must be taken. The final will be cumulative in that the second part of the course builds on the first part.

In a course such as this with an enrollment exceeding 250 students, we are forced to rely on Scantron, multiple choice type exams. This means that in total you will answer ~200 of these style questions over the course of the mid-term and final.

Laboratory Section (Assignments, Quizzes, Attendance, Participation)

No lab sections meet during the first week of class! Labs begin January 26!

Active participation in weekly laboratory sections, supervised by teaching assistants, is mandatory. Your participation grade (~5% of final grade) will be based on your active and informed participation in class discussions and activities. Attendance is separate from participation. Attendance will be recorded and is 10% of your grade.

Periodic in-lab quizzes and assignments will count for 10% of your grade and will be assigned zero grades in cases of unexcused absence from lab.

Schedule: Labs begin during the second week of classes.

Writing Assignments
Two short writing assignments will be submitted on sakai added and graded by your TA. Writing assignment grades will contribute ~15% to your final grade. The writing assignments will be:

1. A book review and report of Your Inner Fish by Neil Shubin (2 pages)
2. A describe-and-explain essay on a selected topic related to one of the Core Curriculum Learning Goals fulfilled by this class. This assignment may be linked with a visit to American Museum of Natural History (3 pages)!

All writing assignments must be formatted with double-spaced 12 pt Times New Roman font and 1 inch margins. Punctuation must also have the same formatting.

Writing assignments are due electronically on sakai to your TA no later than NOON on the Friday of the week in which they are due.

DO NOT PLAGIARIZE. Turn-It-In is used on each writing assignment and identifies cases of suspected plagiarism which will be investigated. The University Academic Integrity Policy will be enforced.

More details on the writing assignments will be made available on https://sakai.rutgers.edu/portal and in lab section.

In-Lecture Quizzes
You will only succeed in this course if you come to lecture and recitation, pay attention and participate in class, and prepare for class. Short quizzes will be given in lecture and will cover previous lectures and required readings.

**Extra Credit**
You may earn 2 points of extra credit toward your final grade by attending an additional outside University-sponsored lecture approved by your TA and writing a one paragraph summary statement about the lecture. The statement will be submitted on sakai and run through Turn-It-In. Plagiarism is still plagiarism even if it involves extra credit and the penalties are the same.

**Optional Co-Curricular Movie Night**
Details still to be worked out --- but we hope to show some movies of interest on some Wednesday evenings – possibly with some associated extra credit.

**COURSE POLICIES**

**Academic Integrity**
All students must strictly adhere to the Rutgers Academic Integrity Policy, which identifies and defines violations including cheating, fabrication, facilitating academic dishonesty, plagiarism, and denying others access to information or material. Full definitions of each of these violations, as well as the consequences of violating the Academic Integrity Policy, are available as part of the student handbook. For details see: [http://ctaar.rutgers.edu/integrity/policy.html#Integrity](http://ctaar.rutgers.edu/integrity/policy.html#Integrity). *You are responsible for knowing what constitutes plagiarism and academic dishonesty.*

**Unusual and Extenuating Circumstances (aka “please consult a Dean of Students”)**
In a large class, it is typical that some students will encounter some form of unusual or extenuating circumstances that may affect them as students. The course policy is to help and accommodate such circumstances as appropriate. However, the Professor and Teaching Assistants do not have sufficient qualifications or time to investigate and adjudicate such circumstances. Therefore, in all cases, when *unusual and extenuating circumstances* occur students are strongly encouraged to see a Dean of Students. A Dean of Students may suggest in writing any accommodations that might be appropriate and these may or may not be offered. With respect to *unusual and extenuating circumstances*, a key principle that will guide resolution is the how early the student sought help from a Dean of Students. Thus, as soon as possible after an extreme issue arises, please consult a Dean of Students.

What are unusual and extenuating circumstances? These include things like:
- major disturbances caused by a death in the family or a similar loss
- chronic health problems
- extreme emotional or psychological distress
- mandatory court appearances
- the loss of home or means of support

**Attendance**
You are required to attend all class meetings (lecture and lab). If you expect to miss one or two lectures or one recitation section, please use the University absence reporting website [https://sims.rutgers.edu/ssra/](https://sims.rutgers.edu/ssra/) to indicate the date and reason for your absence. An email is automatically sent to me. *Do not email me about absences outside of this system.* If you expect to miss more than two lectures or more than one recitation section, you must see the Dean of Students who will verify any special circumstances. If you have reported two or more absences and expect another, use the Absence Reporting System and also make an appointment with the Dean of Students. This class operates according to the notify and document principle. What this means is that you must notify the appropriate person or persons (professor and/or teaching assistant) of any circumstance which could require some special permission. In the case of absences, notification must be via the University-wide Absence Reporting System ([https://sims.rutgers.edu/ssra/](https://sims.rutgers.edu/ssra/)) prior to the absence and documentation must be available after the absence. Please note that notification of the absence must be prior to the absence and retroactive notifications are not acceptable. Without notification (before) and documentation (after), a missed lab section will not be excused.
Late Work
Writing assignments are due electronically on sakai to your TA no later than **noon** on the Friday of the week in which they are due. No late papers will be accepted except under very unusual circumstances and with a valid excuse, which must be documented in writing by an appropriate authority (e.g., physician). The occurrence of such unusual circumstances must be brought to the attention of your TA within **48 hours** of the missed deadline. If lateness of work also involves absence from class you must also use the Absence Reporting System (**https://sims.rutgers.edu/ssra/**). Although submission of writing assignments may be allowed by the sakai system after the deadline, this does not mean late submissions will be graded. You are responsible for confirming all electronic submissions on sakai.

Lateness
Please come to class on time – it is very disruptive to professor and classmates when students arrive late to class.

Exams
No make-up exams will be given except under very unusual circumstances and with a valid excuse, which must be documented in writing by an appropriate authority (e.g., physician). Since a missed exam also involves a missed class period, you must use the Absence Reporting System (**https://sims.rutgers.edu/ssra/**) to provide notification of any special circumstances. In addition, contact us (your TA and Prof. Scott) by email within 48 hours of any missed exam. Such very unusual circumstances will need to be verified later and in a timely fashion with appropriate documentation. On exam days, you are **required** to bring your **student ID** and a **pencil**. NO CHEATING will be tolerated, and anyone found cheating will receive an “F” grade for the exam.

Courtesy
You are expected to act with courtesy in lecture and recitation. This includes:

- All cell phones must be turned off (**no texting**)
- Address Prof. Scott as “Professor Scott or Dr. Scott” (not as “Professor”) and address guest lecturers by the appropriate **title** and **name**
- Learn your TA’s name and address them accordingly
- Behave respectfully to instructors and other students
- No Facebooking
- No playing games or cards
- No headphones or listening to music
- Be prepared to discuss
- No reading the newspaper or other non-course material
- Be polite to instructors and other students

Laptop Policy
Laptops for the purpose of taking notes are permitted in **the first two rows of the center aisle only**. “Facebook” or other online activities are prohibited.

Final Exam
The final exam is scheduled for May 11, 2015 from 8 am to 11 am.
## Lecture Schedule, Lab Schedule, and Readings

AIBA = Alternative Introduction to Biological Anthropology  
PDFs on sakai = supplemental articles in date specific folders on sakai

<table>
<thead>
<tr>
<th>Day of the Week</th>
<th>Month</th>
<th>Day</th>
<th>Lecture</th>
<th>Lab Section</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Th</td>
<td>Jan</td>
<td>22</td>
<td>Introduction: evolutionary anthropology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Jan</td>
<td>26</td>
<td>History and theory</td>
<td>1. Scientific Method &amp; Evolution by Natural Selection</td>
<td>AIBA Ch. 1; PDFs on sakai</td>
</tr>
<tr>
<td>Th</td>
<td>Jan</td>
<td>29</td>
<td>History and theory</td>
<td></td>
<td>AIBA Ch. 2; PDFs on sakai</td>
</tr>
<tr>
<td>M</td>
<td>Feb</td>
<td>2</td>
<td>Proteins, genes, and DNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Th</td>
<td>Feb</td>
<td>5</td>
<td>Proteins, genes, and DNA</td>
<td>2. DNA Replication &amp; Protein Synthesis</td>
<td>AIBA Ch. 3</td>
</tr>
<tr>
<td>M</td>
<td>Feb</td>
<td>9</td>
<td>Microevolution: principles of inheritance</td>
<td>3. Mendelian Inheritance and Hardy-Weinberg</td>
<td>AIBA Ch. 3 &amp; 4</td>
</tr>
<tr>
<td>Th</td>
<td>Feb</td>
<td>12</td>
<td>Microevolution: evolutionary forces</td>
<td></td>
<td>AIBA Ch. 5</td>
</tr>
<tr>
<td>M</td>
<td>Feb</td>
<td>16</td>
<td>Macroevolution: speciation and adaptive radiation</td>
<td>4. Taxonomy, Species, Systematics, Phylogeny</td>
<td>have read at least half of Your Inner Fish</td>
</tr>
<tr>
<td>Th</td>
<td>Feb</td>
<td>19</td>
<td>Taxonomy and systematics</td>
<td></td>
<td>AIBA Ch. 6</td>
</tr>
<tr>
<td>M</td>
<td>Feb</td>
<td>23</td>
<td>Non-human primates: Primate diversity</td>
<td></td>
<td>AIBA Ch. 7</td>
</tr>
<tr>
<td>Th</td>
<td>Feb</td>
<td>26</td>
<td>Non-human primates: Social behavior</td>
<td>5. All The Skulls!</td>
<td>AIBA Ch. 8</td>
</tr>
<tr>
<td>M</td>
<td>March</td>
<td>2</td>
<td>Non-human primates: Diet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Th</td>
<td>March</td>
<td>5</td>
<td>Non-human primates: Locomotion</td>
<td>6. The Feeding Game</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>March</td>
<td>9</td>
<td>Modern human variation &amp; adaptation</td>
<td></td>
<td>AIBA Ch. 9; AIBA Ch. 13; PDFs on sakai</td>
</tr>
<tr>
<td>Th</td>
<td>March</td>
<td>12</td>
<td>Midterm</td>
<td>7. Biostratigraphy</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>March</td>
<td>16</td>
<td>Spring Break. No class.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Th</td>
<td>March</td>
<td>19</td>
<td>Spring Break. No class.</td>
<td>No lab</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>March</td>
<td>23</td>
<td>The fossil record: Dating, evolution, fossils, &amp; earth history</td>
<td></td>
<td>Your Inner Fish review due</td>
</tr>
<tr>
<td>Th</td>
<td>March</td>
<td>26</td>
<td>AAPA meetings. No class.</td>
<td>No lab</td>
<td>PDFs on sakai</td>
</tr>
</tbody>
</table>

*Midterm*
<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Week No</th>
<th>Topic</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>M March 30</td>
<td>070:102: Introduction to Human Evolution</td>
<td>04/30</td>
<td>Primate evolution; Miocene apes</td>
<td>AIBA Ch. 10; PDFs on sakai</td>
</tr>
<tr>
<td>Th April 2</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/02</td>
<td>Overview of hominin evolution: general issues and major events</td>
<td>8. Osteology</td>
</tr>
<tr>
<td>M April 6</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/06</td>
<td>The first hominins: the origin of bipedal locomotion</td>
<td>PDFs on sakai</td>
</tr>
<tr>
<td>Saturday April 11</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/11</td>
<td>AMNH Field Trip</td>
<td></td>
</tr>
<tr>
<td>M April 13</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/13</td>
<td><em>Homo erectus</em>: a new adaptive strategy</td>
<td>PDFs on sakai</td>
</tr>
<tr>
<td>Th April 16</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/16</td>
<td>Tool traditions</td>
<td>10. Early Hominins</td>
</tr>
<tr>
<td>M April 20</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/20</td>
<td>Neanderthals</td>
<td>AIBA Ch. 12; PDFs of sakai</td>
</tr>
<tr>
<td>Th April 23</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/23</td>
<td>Evidence from ancient DNA</td>
<td>11. Later Hominins</td>
</tr>
<tr>
<td>M April 27</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/27</td>
<td>Modern <em>Homo sapiens</em>: Where did modern humans come from?</td>
<td>PDFs on sakai; describe and explain essay due</td>
</tr>
<tr>
<td>M May 4</td>
<td>070:102: Introduction to Human Evolution</td>
<td>05/04</td>
<td>Catch-up lecture</td>
<td>PDFs on sakai</td>
</tr>
</tbody>
</table>

*The final exam is scheduled for May 11, 2015 from 8 am to 11 am.*