Course objectives

This course covers the transformations of human biological and cultural endowments through a span of some 5 million years, from a hominoid stage to the origins of anatomically modern humans. A consideration of humans’ place in nature as well as a review of evolutionary principles leads to discuss the findings of hominid skeletal remains in a diachronic framework. The journey through the bio-cultural transformations of humanity highlights the transition to bipedal locomotion, increased levels of encephalization, changes in human life histories, and the acquisition of language and material symbolic systems.

Learning goals

The aim of the course is for the student to have a basic and general understanding of the evolutionary paradigm as it applies to the biological and cultural makeup of humans. The major contributions from naturalists (Darwin and Wallace) as well as contributions from molecular biology help contextualize major biological transformations of the human clade and to understand the polytypic nature of contemporary human populations. Applied to both the biological and the cultural domains, a critical evaluation of the evolutionary paradigm stresses the need to decouple the notion of “progress” from that of biological diversity, learned symbolic adaptations, and to construe the evolutionary process as non-teleological and multidirectional. Students will have the opportunity to develop their critical thinking by analyzing documentaries, completing reading assignments, engaging in class discussions, and writing short essays and documentary reviews.
<table>
<thead>
<tr>
<th>Sessions</th>
<th>Topics</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan W 16</td>
<td>Introduction to the course and to Latte</td>
<td>None</td>
</tr>
<tr>
<td>Jan Th 17</td>
<td>Framing paradigms: intelligent design versus evolution</td>
<td>Cartmill 2000; Scott 2014</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: Judgment Day</strong></td>
<td></td>
</tr>
<tr>
<td>Jan T 22</td>
<td>Science as a form of creating knowledge</td>
<td>Bardis 1981; Lewis et al. 2011</td>
</tr>
<tr>
<td>Jan W 23</td>
<td>What is Anthropology?</td>
<td>Marks 2002</td>
</tr>
<tr>
<td>Jan Th 24</td>
<td>Inorganic dynamics of the blue planet: Plate tectonics and Pangaea</td>
<td>Hallam 1976; Kurtén 1976</td>
</tr>
<tr>
<td>Jan M 28</td>
<td>Evolution of evolution</td>
<td>Lamarck 1809; Darwin 1859 Allen 2014</td>
</tr>
<tr>
<td>Jan W 30</td>
<td>From Molecules to Human Genomics Part 1</td>
<td>Whitlock 2014;</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: What Darwin Never Knew</strong></td>
<td></td>
</tr>
<tr>
<td>Jan Th 31</td>
<td>From Molecules to Human Genomics Part 2</td>
<td>Pääbo 2001</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: Why Sex (available on Latte)</strong></td>
<td></td>
</tr>
<tr>
<td>Feb M 4</td>
<td>The synthetic theory of evolution</td>
<td>Baer 2014; Stearns 2014</td>
</tr>
<tr>
<td>Feb W 6</td>
<td>The place of humans in nature</td>
<td>Ayala 2010; Premack 2010</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: Your Inner Monkey</strong></td>
<td></td>
</tr>
<tr>
<td>Feb Th 7</td>
<td>Primates and human evolution</td>
<td>Rodman 1999; Strier 2003</td>
</tr>
<tr>
<td>Feb M 11</td>
<td>Primates and human evolution</td>
<td></td>
</tr>
<tr>
<td>Feb W 13</td>
<td>Ethology of apes</td>
<td>Wundram 1979; Wilson et al. 2014</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: The Gorilla King</strong></td>
<td></td>
</tr>
<tr>
<td>Feb Th 14</td>
<td>Paleanthropology, time scales and chronology</td>
<td>Sarich-Wilson 1967; Johanson and Edey 1981</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: Great Transformations</strong></td>
<td></td>
</tr>
<tr>
<td>Feb M 25</td>
<td>Paleanthropology, time scales and chronology Part II</td>
<td>None</td>
</tr>
<tr>
<td>Feb Th 28</td>
<td>Basal Hominans</td>
<td>White et al. 2009; Berger et al. 2010</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
<td>Details</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>Mar M 4</td>
<td>Class suspended Midterm due</td>
<td>N/A</td>
</tr>
<tr>
<td>Mar W 6</td>
<td>The Australopithecines Documentary: Surviving Africa</td>
<td>Gurche 2013a; Shipman 1986</td>
</tr>
<tr>
<td>Mar Th 7</td>
<td>Trade-offs of bipedal locomotion</td>
<td>Krogman 1959; Winder et al. 2014; Thorpe et al. 2014</td>
</tr>
<tr>
<td>Mar W 13</td>
<td>Habilines</td>
<td>Berger et al. 2015</td>
</tr>
<tr>
<td>Mar Th 14</td>
<td>Ancestral Homo Documentary: The Birth of Humanity</td>
<td>Gurche 2013b</td>
</tr>
<tr>
<td>Mar M 18</td>
<td>Derived Homo (Part 1) Return first review</td>
<td>Gurche 2013c; Etler 1996</td>
</tr>
<tr>
<td>Mar W 20</td>
<td>Derived Homo (Part 2)</td>
<td>Cheng 2017; Shipman 2000</td>
</tr>
<tr>
<td>Mar M 25</td>
<td>The quest for fire</td>
<td>James et al. 1989; Stahl et al. 1984</td>
</tr>
<tr>
<td>Mar W 27</td>
<td>Archaic Homo sapiens</td>
<td>Bermúdez de Castro et al. 2017; Gurche 2013d</td>
</tr>
<tr>
<td>Mar Th 28</td>
<td>Neandertals (Part 1) Documentary: Decoding Neanderthals</td>
<td>Tattersall 2012; Gurche 2013e</td>
</tr>
<tr>
<td>Apr W 3</td>
<td>Anatomically modern humans (part 1) Documentary: First Peoples-Africa</td>
<td>White et al. 2003; Willoughby 2007</td>
</tr>
<tr>
<td>Apr Th 4</td>
<td>Anatomically modern humans (part 2)</td>
<td>Lewin 1987; Templeton 2002</td>
</tr>
<tr>
<td>Apr M 8</td>
<td>The evolution of human language</td>
<td>Terrace et al. 1979; Burling 1993; Pinker 2003</td>
</tr>
<tr>
<td>Apr W 10</td>
<td>The evolution of human language Part 2</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Source(s)</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Apr Th 11</td>
<td>Origin of other symbolic adaptations</td>
<td>White 1992; Aiello-Power 1997</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: The Mind’s Big Bang</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: Cave of Forgotten Dreams</strong></td>
<td></td>
</tr>
<tr>
<td>Apr M 15</td>
<td>Origin of other symbolic adaptations Part 2</td>
<td>None</td>
</tr>
<tr>
<td>Apr W 17</td>
<td>The iconography of human evolution</td>
<td>Moser 1996; Connif-Giller 2014</td>
</tr>
<tr>
<td>Apr Th 18</td>
<td>Ancient human diasporas</td>
<td>Waters-Stafford 2013; Waguespack 2007</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: First Peoples-The Americas</strong></td>
<td></td>
</tr>
<tr>
<td>Apr M 29</td>
<td>The future of human evolution</td>
<td>Templeton 2014b; Marks 2015</td>
</tr>
<tr>
<td></td>
<td><strong>Documentary: The Evolutionary Arms Race</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Documentary review due</strong></td>
<td></td>
</tr>
<tr>
<td>May W 1</td>
<td>Final exam available on LATTE</td>
<td>None</td>
</tr>
<tr>
<td>May M 6</td>
<td><strong>Final exam due, no later than 5pm</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Accommodations**

If you are a student with a documented disability on record at Brandeis University and if you wish to request an accommodation for this class, please see me immediately. Keep in mind that accommodations are not provided retroactively.

**Course requirements**

**Four-Credit Course (with three hours of class-time per week)**

Success in this 4-credit-hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (reading, analyzing documentaries, preparing questions, and writing assignments).

**Class attendance**

Attendance to class is obligatory. Absence from classes will only be accepted in cases of medical or extreme emergencies, and should be timely notified in person or by email (before the intended absence, not after). Three missed classes without justification carry a recommendation to drop the course or will affect the final grade in a significant way.

**Reading assignments**

Reading assignments (available on Latte) should be completed by the dates indicated above. Reading of these materials is essential for your engagement and participation in class (15% of the total grade). Throughout the semester, you will reflect critically on the readings and generate at least one question for each of the readings assigned. These questions should reflect your comprehension of the readings and highlight salient points that you think are significant for a discussion. You should write your questions for each
session and be ready to present them orally as well as hand them over if your turn is called upon in class.

**Viewing of documentaries**
Viewing and analyzing documentaries (all of them available in Latte) should be completed by the dates indicated above. Prior to the scheduled viewing, I will release a series of questions that should guide your viewing and analysis of the documentaries. Write your responses to those questions and be prepared to address them in class.

**Writing assignments**
There are two written reviews of the documentaries *Surviving Africa* and *First Peoples-The Americas*. Each review should have a maximum of three double-spaced typed and numbered pages. The reviews need to address three points: 1) A synthetic summary of the core ideas, 2) a critical evaluation of the main points, and 3) a general assessment of the effectiveness of the video. The first review counts 10% of the final grade and the second 15%.

**Exams**
There will be two take-home exams (each 30%). Each examination will address one of several questions in the form of an essay no longer than four double-spaced typed pages. These assignments are intended to foster critical thinking by comparing and contrasting assumptions, statements, or positions from different authors. The tests are not cumulative; that is, the final exam will cover only topics discussed after the midterm.

**Summary of grading**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class participation</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm exam</td>
<td>30%</td>
</tr>
<tr>
<td>Final exam</td>
<td>30%</td>
</tr>
<tr>
<td>First documentary review</td>
<td>10%</td>
</tr>
<tr>
<td>Second documentary review</td>
<td>15%</td>
</tr>
</tbody>
</table>

**Use of laptops and tablets**
Students are welcome to bring a laptop computer or a tablet to class provided it is used for note taking or for web searches specifically related to the topic being discussed. Students using them have to seat in the front rows of the classroom. If a student is found using the laptop for other purposes, his/her right to use it will be immediately suspended for the rest of the semester. The use of phones is not permitted.

**Academic Integrity**
Academic integrity is central to the mission of educational excellence at Brandeis University. You are expected to be familiar with and to follow the University’s policies on academic integrity (see [http://www.brandeis.edu/studentlife/sdc/ai ](http://www.brandeis.edu/studentlife/sdc/ai)). Faculty will refer any suspected instances of alleged dishonesty to the Office of Student Development and Conduct. Instances of academic dishonesty may result in sanctions including but not limited to failure in the course, failure on the assignment in question, suspension from the University and/or educational programs.
Readings (on LATTE)

Allen, Garland, E.

Ayala, Francisco J.

Baer, Charles F.

Bardis, Panos D.

Begun, David, R.

Benefit, Brenda R., and Monte L. McCrossin

Bermúdez de Castro, José María et al.

Berger, Lee R. et al.

Berger, Lee R. et al.
2015 Homo naledi, a new species of the genus Homo from the Dinaledi Chamber, South Africa. *eLife Research article* DOI: 10.7554/eLife.09560

Brown, P. et al.
Burling, Robbins

Cartmill, Matt

Cheng, Yinghong

Conniff, Richard and Geoffrey Giller

Darwin, Charles

Dawkins, Richard


Deacon, Terrence W.

Delson, Eric, and Ian Tattersall

Etler, Dennis

Fagan, Brian
Falk, Dean

Fiedel, Stuart, and Gary Haynes

Grayson, Donald K., and David J. Meltzer

Gurche, John


Hallam, A.

Jacob, T. et al.
James, Steven, R., et al.  

Johanson, Donald, and Maitland A. Edey  

Key, Catherine A.  

Krogman, Wilton, M.  

Kurtén, Björn  

Lamarck, Jean  

Levin, Roger  

Lewis, Jason E., et al.  

Lovejoy, C. Owen  

Marks, Jonathan  


Moser, Stephanie  

Pääbo, Svante  

Pinker, Steven  

Power, Camilla, and Leslie Aiello  

Premack, David  

Rendu, William, et al.  

Reznick, David  

Rodman, P. S.  

Rougier, Helene, et al.  
2016  Neandertal cannibalism and Neandertal bones used as tools in Northern Europe. *Nature*, Scientific Reports 6:29005 | DOI: 10.1038/srep29005

Sarich, Vincent, M., and Allan C. Wilson  
Scott, Eugenie, C.

Shipman, Pat


Stahl, Ann Brower, et al.

Stearns, Stephen C.

Strier, Karen B.

Tattersall, Ian
2012 Who were the Neanderthals? In *Masters of the Planet: in search for our human origins*, pp. 159-177. Palgrave, MacMillan, New York

Templeton, Alan R.


Terrace, H.S., et al.

Thorpe, Susannah, K.S., Juliet M. McCllymont, and Robin H. Crompton
Waters, Michael R., and Thomas Wier Stafford, Jr.  

Waguespack, Nicole M.  

White, Randall  

White, Tim, et al.  

White, Tim, et al.  

Whitlock, Michael, C.  

Willoughby, Pamela R.  

Wilson, Michael, L., et al.  

Winder, Isabelle, C., et al.  

Wood, Bernard  
Wundram, Ina Jane