BIO 558: Biological Basis of Human Evolution & Behavior
CEB 553: Biology and Human Social & Sexual Behavior

Fall, 2018
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10 Week Online Course

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Online or Telephone Office Hours by Appointment

This course is fast-paced and comprehensive with the content and workload expected of a University graduate course including mastery of the subject matter. This course may be taken as either CEB553 or BIO558.

COURSE OBJECTIVES

The course has three major objectives:

1. Explore and learn a powerful new theory of the origin of human uniqueness based on evolution by natural selection. Students will use extensive components of the knowledge enterprise to test and explore this theory that has come to be known as “social coercion theory”. We will cover many disciplinary areas including, but not limited to evolutionary biology/psychology, fundamental biology/psychology, economics, political science, archeology, and history.

2. Engage students of all disciplines and education levels in the process of science – the process whereby we define theories, collect evidence and use that evidence to test theories by repeatedly subjecting them to rigorous doubt and possible falsification. Students will be asked to apply this method of thinking to all complex problem solving across disciplinary boundaries.

3. Learn to communicate to others your knowledge and understanding of science. In this portion of the course, you will also get a clearer picture of science as a social process – how mutually respectful disagreement, doubt and debate are the very heart of the enterprise.
   a. First, you will be asked to fully understand how evolution by natural selection works in detail.
   b. Second, you will be asked to understand the claims of the specific theory we will explore and the evidence presented.
   c. Third, you will evaluate, discuss, and sometimes challenge those claims on the course discussion boards. Students will also be asked to challenge everything they think they already know (were taught or learned previously) coming into this course.
During this process, you will find that you are sometimes called on to reinterpret some insights and evidence you have learned previously from other perspectives and in other courses. This exploration and reinterpretation will enrich and expand your understanding of humans – our origins, properties and history – while enhancing your understanding of how science works. At the very least, this course should give every student new insights of both personal and global relevance.

COURSE CONTENT DESCRIPTION

The course surveys all of human evolution, behavior, and history. While vastly increasing our understanding of these issues, this survey will reveal and explore points of unity between the social sciences, natural sciences and humanities. We have continued to develop and build the course over the last thirteen years by drawing extensively on academic resources in areas as diverse as chemistry, cell biology, developmental biology, psychology, hominid paleontology, archaeology, linguistics, history, literary criticism, economics, religious studies and political science.

The overt format of the course is to explore biological theories of human origins and human uniqueness – to ask whether there are viable, biologically-based hypotheses within the constraints of natural selection that can credibly explain how humans came to be so different than all other animals. We will ask whether we can “explain why humans walk on the moon, compose symphonies, invent literature and the calculus while our closest living relatives, chimps, can barely count to 10.”

This format allows us to do several fundamental things.
1. We will argue that some biological theories of human uniqueness are, in fact, credible. Indeed, such theories give us deep new insight into our behavior and our history. In this context, we explore the evolution of human attributes as diverse as language, cognitive virtuosity, uniquely human patterns of sexual and child-rearing behavior and the uniquely human ethical sense. Moreover, we explore the two million years of human history as empirical evidence against which we can test biological theories of human evolution and social behavior.
2. These explorations will give you a robust, rich new understanding of the inter-relationships of the social sciences, humanities and natural sciences. This aggressive exposure to authentic interdisciplinary investigation will serve you well in the context of a rapidly evolving global academic enterprise. Moreover, you will be given much deeper insight into the ethical and existential questions that confront us all as members of an increasingly pan-global human society.
3. Third, as we explore theories of human uniqueness and how we can test them against the empirical evidence of human evolution, behavior and history, we are repeatedly exposed to the fundamental process of science – how it works, what its strategies and tactics are.

REQUIRED COURSE ASSETS

Course content is video-based lectures supplemented by a written text.

1. Online DIGITAL EDUPAK subscription produced by Rothman Media, Inc. and available directly from Streaming Tutors, Inc. at [http://www.streamingtutors.com](http://www.streamingtutors.com) The digital assets contain digitized lecture videos created by Paul M. Bingham, PhD and Joanne Souza, PhD, animations, a full glossary, study questions, and various other learning assets.

You will need to have a broadband Internet connection and an up-to-date operating system (e.g. Windows XP or later or equivalent).
You will also need to download Adobe Shockwave (available at no cost) for viewing some of the animations.


You need not have a Kindle reader, but can download the free Kindle reader for PC, Mac, iPad or iPhone from Amazon at [http://www.amazon.com/gp/feature.html/ref=kcp_pc_mkt_lnd?docId=1000426311](http://www.amazon.com/gp/feature.html/ref=kcp_pc_mkt_lnd?docId=1000426311)

The following additional optional readings below are provided as PDFs through the course management system.

*Note: These are copyrighted materials and should not be copied or disbursed outside of this class.*

**Overview of theories of human evolution, properties and history:**

**Human kin-selected behavior**
Chapters from *Homicide* (1988) Daly and Wilson

**Human sexuality**
Chapters from *Sperm Wars* (1996) Robin Baker

**Non-human animal culture**

**How the mind works**

**Theories of history – North American agriculture**

**Theories of history – modern economic revolution**

**Ultimate causation in evolved human political psychology: implications for public policy.**

**Disciplinary Unification of the Natural Sciences, the Humanities, and the Social Sciences: Adapted Minds and Strategic Approaches to Consilience in the Academy**

**Human uniqueness-self-interest and social cooperation**

Social Complexity and the Bow in the Prehistoric North American Record

Elastic energy storage in the shoulder and the evolution of high-speed throwing in Homo

Experimental evidence for the influence of group size on cultural complexity
doi:10.1038/nature12774

COURSE GRADING

There are 4 parts to the grading.

Your grade will be determined by the following four requirements on a scale of a total of 850 points:

1. Exam 1 – Week 5 - Topics 1-10 (open book taken online) multiple choice – (100 points - possible 11.8% of grade).

2. Exam 2 – Week 10 - Topics 11-24 (open book taken online) multiple choice – (100 points - possible 11.8% of grade).

3. Discussion Posts: Minimum of two substantial and documented posts per week (see rubric under Discussion board). Only Week 9 requires a minimum of one post for a total of 19 posts for the semester. All posts must include proper academic peer reviewed references.
   - The first post each week will be due by Day 4 (Thursday) and should be either a question you have requiring clarification of content presented, a comment confirming or challenging either the content presented OR knowledge previously learned from other sources, or a detailed and documented response to another student's post. See grading rubric under Discussion Board Grading Rubric and Examples of Graded Discussion Posts on Blackboard.
   - All additional posts due by Day 7 (Sunday) of each week and should be INTERACTION posts consisting of additional comments or responses on threads that are already established. In other words you should discuss the material already put on the table by all of you earlier in the week.

Your posts each week should address at least two of the lectures assigned for that week. ALL POSTS MUST RELATE TO THE TOPICS PRESENTED BY THE LECTURES THAT WEEK. Posts are worth a total of 20 points each for a potential total of 380 points - corresponding to approximately 44.7% of your total grade.

OBJECTIVES of the group discussions are as follows:
- To give you an opportunity to let us know what exactly it is you did not understand during lecture.
- To give you an opportunity to answer each other's questions, as many of you have diverse academic and professional backgrounds. You will also find that answering questions of others is an excellent way to expand and clarify your own understanding.
To give you a forum to test and to attempt to break the theory of human uniqueness we will be exploring in lecture. This testing is the essence of the scientific method – and you will have the opportunity herein to sharpen your scientific and intellectual-critical thinking skills – a basic objective of this course. ALL POSTS MOST BE IN YOUR OWN WORDS.

Be sure to:

A. Use the grading rubric on Blackboard to insure all parts of your post are included.
B. You must include references and cite your sources in proper form using primary source, peer reviewed, academic literature, books, or articles. Secondary sources cannot be used in place of primary source literature.

The reference for this course and the lectures is:

C. Make sure you title your thread with the Topic Number of the Lecture you wish to discuss. Your three separate posts should address at least two separate lecture topics for the week.

D. The instructors will provide feedback to a Selection of the threads after the due date is passed and you have had ample time to openly discuss the material amongst yourselves with little intervention from us. The course TA will also discuss the material with you during the week. Be sure to check back the following week for important feedback and information you may need for exams. Faculty and the teaching assistant familiar with the course material may also interject during the week to support your exploration. You will receive grading of your posts each week and personal feedback as required.

RULES OF THE GAME FOR DISCUSSIONS

Please be aware that the information provided by other students in your group is not necessarily correct information, particularly for exam purposes. The purpose of discussion groups is to give you the chance to clarify your understanding and sharpen your intellectual skills. Authoritative factual information for EXAM purposes comes from lecture, the textbook (including study questions) responses by the course Instructors. This is important to remember when studying for exams.

The following behaviors during Group Discussion are unacceptable and will result in your being excluded from Discussion Group and the forfeiting of that portion of your grade that week.
- Using abusive, disrespectful or foul language.
- Using sexually suggestive language (either explicit or implicit) that could be perceived as offensive or harassing.
- Threatening others.
- Insulting others or denigrating the opinions of others. Of course, you may respectfully, even strongly, disagree or challenge the opinions of others, but please do not post personal attacks.
- If any inappropriate behavior of the sort listed above should occur, the offender will be issued one and only one warning. A second offense will be grounds excluding the offender from Discussion Group and his/her forfeiting all credit for this requirement.
- Plagiarism of any sort – either copied work from other sources or from other student’s posts – will not be tolerated. There is zero tolerance for plagiarism of any sort. All quoted material must reference the source. Discussion posts should be in your own words. If any exact wording is used they must be in quotes and referenced appropriately. Also see
our Academic Honesty statement at the end of this syllabus. Any academic dishonesty will be reported to the Academic Judiciary and can result in an F in the course.

4. Final Project: 31.7% of grade - possible 270 points

**Final Project Proposal:** Due by Day 7 of Week 6 to Safe Assign: The proposal is worth 20 points of the final 270 points for the entire project. Items that MUST be included in a proper format for a paper outline with subheadings:

- Your name, title of the project, proposed media to be used (paper, voiced over PowerPoint, video, etc).
- Intended audience, brief paragraph as to summary of your objective and the content proposed, and at least 5 intended references in either APA or MLA format.

**Actual Final Project:** Due by Day 7 of Week 9 to Forum opened for this purpose.

**Objective:** To communicate to a general audience through any medium (for example, video, audio, voiced-over PowerPoint’s, or written text with images) a single substantive point you learned from this course. You must expand on the topic into further inquiry and depth or you may use the topic as a base to ask a new question, research it, and propose an answer. The subject area could be from basic biology, neurobiology, chemistry, history, social sciences or the humanities - any area of interest to you covered in this course. You must link this project to the course content.

For those of you who are or wish to be teachers this could be designed as a portion of a lesson that you might direct at high school, undergraduate or graduate students depending on your current position or career objectives.

For those of you with other aspirations, this could be a presentation of an area you have learned about and wish to communicate. If written, it should be between 3000-4000 words in addition to images.

Video or audio must be an intellectually complete lesson expected to be given to the student body or audience of your choice and be 8-10 minutes in duration.

**Examples of prior projects will be available for your convenience and to assist you in the expectations.**

**OFFICE HOURS AND CONTACT INFORMATION**

Email: joanne.souza@stonybrook.edu | Phone Number: (516)458-1830

1. A virtual office hours link through Adobe Connect is for this course. Email to set up an appointment and for instructions.
2. There will be an *Administrative Questions* Forum on the discussion site where students may ask administrative questions at any time. The instructors will answer these questions within 48 hours of posting.
3. You may also email to make a telephone appointment or call the phone number above.
4. For confidential matters, please feel free to contact us via email at the above email address or to set up an appointment via video conference or telephone.

I – ACADEMIC HONESTY

I - Academic Honesty
Intellectual honesty is the cornerstone of all academic and scholarly work. Therefore the University views any form of academic dishonesty as a serious matter and requires all instructors to report every case of academic dishonesty to the SPD Committee on Academic Standing, which keeps records of all cases. All work submitted or posted by students in this course must be their own. Submission of writing or ideas which are not the original work of the student (and not properly referenced) is considered plagiarism. Unintentional plagiarism is still plagiarism, so if you have any questions about the proper acknowledgement of sources, be sure to ask your instructor who can advise you about various electronic tools available to assist you in self-screening your work.

For detailed information, refer to SPD’s “Policies and Procedures Governing Academic Dishonesty” available at www.stonybrook.edu/spd/assets/pdf/dishonesty.pdf.

II - Stony Brook University Disability Support Services Statement

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services (631) 632-6748 or dss@stonybrook.edu or visit their website at Disability Support Services. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

On Campus Support

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website: Evacuation Guide for People with Physical Disabilities.

III - Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students’ ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

IV - Course Content:

Course material accessed from Blackboard, SB Connect, SB Capture or a Stony Brook Course website is for the exclusive use of students who are currently enrolled in the course. Content from these systems cannot be reused or distributed without written permission of the instructor and/or the copyright holder. Duplication of materials protected by copyright, without permission of the copyright holder is a violation of the Federal copyright law, as well as a violation of Stony Brook’s Academic Integrity and https://studentaffairs.stonybrook.edu/ucs/docs/universitystudentconductcode.pdf

BIO558 / CEB553 Online Class Schedule

WEEK 1: See ASSIGNMENT 1 on the course Blackboard Site
[Orientation Video]: Available under Course Info on Blackboard
[Academic Integrity Video]: Available under Course Info on Blackboard
[TOPIC 1]: An introduction to human uniqueness and social coercion theory

Death from a Distance and the Birth of a Humane Universe (DfaD):

Introduction (pg. ix-xvi; Kindle Location No. 232-415),
Chapter 1 (pg. 1-17; Kindle Location No. 415-725)
[TOPIC 2]: We know what life is – a particular case of chemistry  
*DfaD: Chapter 2 (pg. 18-34; Kindle Location No. 725-1041)*

**WEEK 2:** *See ASSIGNMENT 2 on the course Blackboard Site*

[TOC 3]: Evolving genes and the animals they build  
*DfaD: Chapter 2 (pg. 18-34; Kindle Location No. 725-1041)*

[TOC 4]: How and how fast natural selection works in sexual animals  
*DfaD: Chapter 2 (pg. 18-34; Kindle Loc. No. 725-1041)  
Second Interlude (pg. 240-243; Kindle Loc. No. 4551-4594)*

[TOC 5]: How evolution produces animals that cooperate.  
*DfaD: Chapter 3 (pg. 35-60 and 65-66; Kindle Location No.1041-1516 and 1594-1621)*  
*Watch Topic 5 Supplement Video on SteamingTutors: Genetic Relatedness is not Genetic Identity*

**WEEK 3:** *See ASSIGNMENT 3 on the course Blackboard Site*

[TOC 6]: Kin-selected behaviors in humans.  
*DfaD: Chapter 4 (pg. 67-90; Kindle Location No.1621-2075)*

[TOC 7]: Kinship-independent social cooperation – the fundamental, unique human adaptation.  
*DfaD: Chapter 5 (pg. 91-119; Kindle Location No. 2075-2621)*

[TOC 8]: How and when we became human – fossil record 1  
*DfaD: Chapter 7 (pg. 147-201 and 203-204; Kindle Location No. 3069-3865 and 3880-3934)*

**WEEK 4:** *See ASSIGNMENT 4 on the course Blackboard Site*

[TOC 9]: How and when we became human – fossil record 2  
*DfaD: Chapter 7 (pg. 147-201 and 203-204; Kindle Location No. 3069-3865 and 3880-3934)*

[TOC 10]: The human village and life history redesign  
*DfaD: Chapter 6 (pg. 120-146; Kindle Location No. 2621-3069)*  
*Watch Topic 10 Supplement Video on StreamingTutors: More on Babyhood*

[TOC 11]: Sexuality in the human village – 1  
*DfaD: First Interlude (pg. 205-208; Kindle Loc. No. 3934-3988),  
Chapter 8 (pg. 209-239; Kindle Loc. No.3988-4551)*

**WEEK 5:** *See ASSIGNMENT 5 on the course Blackboard Site*

[TOC 12]: Sexuality in the human village – 2  
*DfaD: Chapter 8 (pg. 209-239; Kindle Location No. 3988-4551)*

[TOC 13]: Human language – cooperation and information exchange – Part 1  
*DfaD: Chapter 9 (pg. 244-276; Kindle Location No. 4594-5173)*

**EXAM 1:** *Available Day 3 (Wed) - Due by Day 7 (Sun.) of WEEK 5  
Covers Topics 1-10 (25 multiple choice questions)*

**WEEK 6:** *See ASSIGNMENT 6 on the course Blackboard Site  
Final Project Proposal due to Safe Assign by Day 7 (Sunday).*

[TOC 14]: Human language – cooperation and information exchange – Part 2  
*DfaD: Chapter 9 (pg. 244-276; Kindle Location No. 4594-5173)*

[TOC 15]: The Human Mind/Brain: Cultural information in a purposeful, Moral World – 1  
*DfaD: Chapter 3 (pg. 61-65; Kindle Loc. No. 1515-1549),  
Chapter 10 (pg. 277-320; Kindle Loc. No.5173-5944)*
[TOPIC 16]: The Human Mind/Brain: Cultural information in a purposeful, Moral World – 2
  DfaD: Chapter 3 (pg. 61-65; Kindle Loc. No. 1515-1549),
  Chapter 10 (pg. 277-320; Kindle Loc. No. 5173-5944)

WEEK 7: See ASSIGNMENT 7 on the course Blackboard Site

[TOPIC 17]: Introduction to the powerful new theory of history that emerges from social coercion theory
  DfaD: Chapter 7 (pg. 201-202; Kindle Loc. No. 3880-3911),
  Third Interlude (pg. 321-328; Kindle Loc. No. 5944-6063),
  Chapter 11 (pg. 329-331; Kindle Loc. No. 6063-6109)

[TOPIC 18]: The behaviorally modern human revolution as an historical process
  DfaD: Chapter 11 (pg. 329-359; Kindle Location No. 6063-6578)

[TOPIC 19]: The bow and the Neolithic (“agricultural”) revolutions
  DfaD: Chapter 12 (pg. 360-379 and 385-392; Kindle Location No. 6578-6908 and 6990-7109)

WEEK 8: See ASSIGNMENT 8 on the course Blackboard Site

[TOPIC 20]: Body armor, shock weaponry and the rise of the archaic state
  DfaD: Chapter 12 (pg. 380-399; Kindle Loc. No. 6908-7249),
  Chapter 13 (pg. 414-433; Kindle Loc. No. 7494-7819)

[TOPIC 21]: Democratization, hierarchy, and social psychology
  DfaD: Chapter 13 (pg. 433-472; Kindle Location No. 7819-8539)

[TOPIC 22]: Gunpowder and the emergence of the “modern state”
  DfaD: Chapter 14 (pg. 473-502; Kindle Location No. 8539-9063)

WEEK 9: See ASSIGNMENT 9 on the course Blackboard Site
STATUS DISCUSSION POST DUE ON THURSDAY/Final Projects Due by Day 7
THIS WEEK IS ENTIRELY DEVOTED TO YOUR FINAL PROJECT

WEEK 10: See ASSIGNMENT 10 on the course Blackboard Site

[TOPIC 23]: Aircraft, missiles and the rise of the pan-global human coalition
  DfaD: Chapter 15 (pg. 503-536; Kindle Loc. No. 9063-9702),
  Chapter 16 (pg. 539-562; Kindle Loc. No. 9737-10115),
  Chapter 17 (pg. 563-582; Kindle Loc. No. 10115-10445)

[TOPIC 24]: Final considerations – the contemporary world and a humane future
  DfaD: Fifth Interlude (pg. 537-539; Kindle Loc. No. 9702-9737),
  Chapter 17 (pg. 582-616; Kindle Loc. No. 10115-11034),
  Postscript (pg. 617-623; Kindle Loc. No. 11034-11149)

EXAM 2: Available Day 3 (Wed) – Due by Day 7 (Sun.) of WEEK 10
Covers Topics 11-24 (25 multiple choice questions)