EBH

Human Evolutionary Biology

EBH 204: Research Skills
Gives students an understanding of and experience with the basic research skills that are needed to do biological and anthropological research. The course includes practical skills in reading and understanding anthropological and biological scientific literature, presentation skills, making scientific posters in biology and anthropology, writing complex arguments, and database management. The accompanying lab section introduces the software that is used to acquire these skills and provides students with practical experience in using them with respect to their own research interests.
Prerequisite: one course chosen from the following: ANP 120, ANT 104, BIO 201, BIO 202, BIO 203
SBC: ESI, SPK
3 credits

EBH 230: Computer-based Biostatistics
An introductory course in statistical analyses, specifically focusing on techniques relevant to research designs in the biological and anthropological sciences. The accompanying lab section will provide students with practical experience in using statistical software to run analyses. This course is offered as both ANP 230 and EBH 230.
Prerequisite: satisfaction of entry skill in mathematics requirement or level 2+ on the mathematics placement examination
DEC: C
SBC: QPS
4 credits

EBH 311: Hormones and Behavior
Examines the relationship between hormones and behavior, both in terms of how hormones affect behavior, and how behavioral interactions can alter hormones. Because hormonal structure and function is remarkably conserved across vertebrates, we will take a comparative approach, exploring data from a variety of vertebrate model systems, while maintaining a keen eye on how such models inform us about hormones and behavior in humans and non-human primates. Topics to be explored include sex determination, reproductive behavior, personality, dominance and aggression, biological rhythms, the stress response, and the role of endocrine disrupting chemicals in behavior. This course is offered as both ANP 331 and EBH 331.

Prerequisite: one of the following courses: ANP 120, BIO 201, BIO 202, BIO 203, PSY 250
SBC: STEM+
3 credits

EBH 359: Behavioral Ecology
A consideration of the patterns of animal behavior in relation to ecological circumstances and evolutionary history. Vertebrate examples are emphasized. This course is offered as ANP 359, BIO 359, and EBH 359.
Prerequisites: BIO 201; BIO 203
3 credits

EBH 362: Evolution of Social Complexity
An in-depth examination of how and why social animals establish and maintain relationships with one another, especially in large and fragmented societies. Applying the principles of evolutionary biology and behavioral ecology, this course explores: group structure and stability; conflicts and coalitions; theory of mind and social learning; and culture and communication. Current research on group-living mammals, particularly non-human primates, and human populations is emphasized. This course is offered as both ANP 362 and EBH 362.
Prerequisite: ANP 120 or BIO 201
DEC: E
SBC: STEM+
3 credits

EBH 370: Advanced Human Genetics
An advanced course in human genetics. Topics include genotype/phenotype associations, the genetic architecture of disease/phenotypes, human population genetics, methylation, and ancient DNA. This class is meant to build on major concepts in human genetic research introduced in other courses. The course will emphasize hands-on engagement with genetic data and critical reading of scientific papers. Computer laboratory analysis/assignments will make up a major component of this class. Students will be evaluated based on computer assignments, as well as a final group project that applies learned concepts and approaches to a novel research question. This course is offered as both EBH 381 and BIO 305.
Prerequisite: C or higher in either BIO 302 or BIO 304/EBH 380
SBC: TECH
3 credits

EBH 380: Genomics
An introduction to the rapidly developing field of genomics. Initial lectures provide a foundation in genomic structure across the tree of life (prokaryote and eukaryote). This is followed by examination of specific forces that cause variation in genomic content both within and between species. We then discuss how to sequence, assemble and analyze genomes. Finally we focus on the architecture and evolution of the human genome and compare it to non-human primate and ancient hominin genomes, and examine how the study of non-human primates can aid human health. This course is offered as both BIO 304 and EBH 380.
Prerequisite: C or higher in both BIO 201 and BIO 202
Advisory prerequisite: BIO 211 or EBH 230; BIO 302 or BIO 312
3 credits

EBH 381: Genomics Laboratory
Provides a computer lab-based introduction to comparative genomics, molecular evolutionary analysis, and next generation sequencing (NGS) data and analysis. Activities will include familiarization with both web-based and command-line tools for analyzing genomic data and summarizing/visualizing results. Lectures and background reading will provide an introduction to basic principles of genomics to inform computer-based hands-on activities. Students will be evaluated based on computer lab assignments, as well as a final group project that applies learned concepts and approaches to a novel research question. This course is offered as both EBH 381 and BIO 305.
Prerequisite: permission of the instructor

EBH 391: Topics in Human Evolutionary Biology
Discussion of a topic of current interest in Human Evolutionary Biology. May be repeated as the topic changes.
Prerequisite: ANP 200 or ANP 201 or BIO 302
Advisory prerequisite: One other EBH or ANP course
3 credits

EBH 401: Seminar in Evolutionary Biology of Humans
Research and discussion of selected topics in evolutionary biology of humans. May be repeated as the topic changes.
Prerequisite: permission of the instructor
EBH 444: Experiential Learning
This course is designed for students who engage in a substantial, structured experiential learning activity in conjunction with another class. Experiential learning occurs when knowledge acquired through formal learning and past experience are applied to a “real-world” setting or problem to create new knowledge through a process of reflection, critical analysis, feedback and synthesis. Beyond-the-classroom experiences that support experiential learning may include: service learning, mentored research, field work, or an internship.

Prerequisite: WRT 102 or equivalent; permission of the instructor and approval of the EXP+ contract (http://sb.cc.stonybrook.edu/bulletin/current/policiesandregulations/degree_requirements/EXPplus.php)

SBC: EXP+
S/U grading

EBH 447: Readings in Human Evolutionary Biology
Individual advanced readings on selected topics in Human Evolutionary Biology. May be repeated up to a limit of 6 credits, but not more than two credits may be used toward Human Evolutionary Biology major requirements.

Prerequisite: Permission of instructor and department

1-2 credits, S/U grading

EBH 458: Speak Effectively Before an Audience
A zero credit course that may be taken in conjunction with any EBH course that provides opportunity to achieve the learning outcomes of the Stony Brook Curriculum's SPK learning objective.

Pre- or corequisite: WRT 102 or equivalent; permission of the instructor

SBC: SPK
S/U grading

EBH 459: Write Effectively in Human Evolutionary Biology
A zero credit course that may be taken in conjunction with any 300- or 400-level EBH course, with permission of the instructor. The course provides opportunity to practice the skills and techniques of effective academic writing and satisfies the learning outcomes of the Stony Brook Curriculum's WRTD learning objective.

Prerequisite: WRT 102; permission of the instructor

SBC: WRTD
S/U grading

EBH 475: Undergraduate Teaching Practicum I
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. The student is required to attend all the classes, do all the regularly assigned work, and meet with the faculty member at regularly scheduled times to discuss the intellectual and pedagogical matters relating to the course. Not for Human Evolutionary Biology Major credit.

Prerequisite: U3 or U4 standing; Human Evolutionary Biology Major; 3.00 g.p.a.; permission of instructor and department

SBC: EXP+
3 credits, S/U grading

EBH 476: Undergraduate Teaching Practicum II
Work with a faculty member as an assistant in one of the faculty member's regularly scheduled classes. Students assume greater responsibility in such areas as leading discussions and analyzing results of tests that have already been graded. The course in which the student is permitted to work as a teaching assistant must be different from the course in which he or she previously served. Not for Human Evolutionary Biology Major credit.

Prerequisite: U3 or U4 standing; Human Evolutionary Biology Major; 3.00 g.p.a.; permission of instructor and department

SBC: EXP+
3 credits, S/U grading

EBH 477: Independent Research in Human Evolutionary Biology
Independent research projects carried out by upper-division students. The student must propose the research project, carry it out, analyze the data, and submit the results in a written form acceptable to the sponsor. May be repeated up to a limit of six credits, but no more than three credits of research may be used for Human Evolutionary Biology Major requirements.

Prerequisite: 15 credits in Human Evolutionary Biology; permission of instructor

SBC: EXP+
0-6 credits, S/U grading

EBH 485: Internship in Human Evolutionary Biology
 Participation in state, local, and national public and private agencies and organizations. Students are required to submit written progress reports and a final written report on their experiences to the faculty sponsor and the department. May be repeated to a limit of 12 credits. Not for Human Evolutionary Biology Major credit.

Prerequisite: 15 credits in Human Evolutionary Biology; permission of instructor

SBC: EXP+
0-6 credits, S/U grading

EBH 495: Senior Honors Project in Human Evolutionary Biology
First course of a two-semester project for EBH majors who are candidates for the degree with honors. Arranged in consultation with the director of undergraduate studies, the project involves independent readings or research and the writing of a paper under the close supervision of an appropriate faculty member on a suitable topic selected by the student. Students enrolled in EBH 495 are obliged to complete EBH 496 the following semester. Students receive only one grade upon completion of the sequence EBH 495-496.

Prerequisite: admission to the Human Evolutionary Biology honors program

3 credits

EBH 496: Senior Honors Project in Human Evolutionary Biology
Second course of a two-semester project for EBH majors who are candidates for the degree with honors. Arranged in consultation with the director of undergraduate studies, the project involves independent readings or research and the writing of a paper under the close supervision of an appropriate faculty member on a suitable topic selected by the student. Students receive only one grade upon completion of the sequence EBH 495-496.

Prerequisite: EBH 495 and admission to the EBH honors program

SBC: EXP+
3 credits