Winter 2021 Society and Genetics Course Offerings

Society and Genetics 5: Integrative Approaches to Human Biology and Society

**Time**: Tuesdays & Thursdays, 11:00am – 12:15pm

**Instructors**: Megan McEvoy & Christopher Kelty

**Remote Format**: Online - Recorded

**Description**: Lecture, three hours; discussion, one hour. Introduction to concept of problem-based approaches to study of biology and society and areas of concentration, such as bioethics and public science policy, evolutionary biology, culture, and behavior, historical and social studies of life sciences, medical genetics and public health, and population genetics and history, and central thematic issues shared across concentrations, such as commercialization of life and public understanding of science. Letter grading.

**Notes**: Course will be restricted to Pre-HBS and HBS majors during priority and first pass enrollment. Course will open up to all UCLA students during second pass enrollment.

Society and Genetics 89: Honors Seminar for Society and Genetics 5

**Time**: Thursday, 9:00am – 9:50am

**Instructor**: Megan McEvoy & Christopher Kelty

**Remote Format**: Online - Synchronous

**Description**: Designed as adjunct to lower-division lecture course. Exploration of topics in greater depth through supplemental readings, papers, or other activities and led by lecture course instructor. May be applied toward honors credit for eligible students. Honors content noted on transcript. P/NP or letter grading.

**Notes**: Enrollment in this seminar is based on instructor consent through PTE number. Priority will go to students that are part of the Honors College program.

Society and Genetics 105A: Ways of Knowing in Life and Human Sciences

**Time**: Mondays & Wednesdays, 12:00pm – 1:15pm
Instructor: Soraya de Chadarevian & Nicholas Shapiro

Remote Format: Online - Recorded

Description: Lecture, three hours; discussion, one hour. Enforced requisite: course 5 or M71A or M72A. Course 105A is not requisite to 105B. Introduction to study of epistemology to train students to recognize different ways of knowing what we know. In life and human sciences, instruments and methods are used to study, measure, and experiment. Exploration of how they are manifest in technologies that cut across disciplines to help students evaluate explanatory models, standards of proof, and qualitative versus quantitative studies. Explorations may include DNA sequencing, tissue cultures, bioinformatics, statistics, photography and cinema, charts, trees, and databases. DNA sequencing is used to study gene functions, evolutionary patterns, and disease and plays role in legal context to reconstruct aspects of human history or to trace identity of people. Databases play role in life sciences in administrative, commercial, and legal contexts. Photography is used in sciences and medicine (e.g., X-ray photography), as well as in art and forensics. Letter grading.

Notes: This course will be restricted to Human Biology and Society (B.A. & B.S.) majors during entire Winter enrollment period.

Society and Genetics 105B: Problems of Identity at Biology/Society Interface

Time: Tuesdays & Thursdays, 2:00pm – 3:15pm

Instructor: Terence Keel

Remote Format: Online - Recorded

Description: Lecture, three hours; discussion, one hour. Requisites: course 101 or Anthropology 1, or Life Sciences 4 and 23L, or 7C (each may be taken concurrently). Course 105A is not requisite to 105B. Exploration of problems of human identity that are inherently biological and social. Topics vary and may include race, obesity and nutrition, autism, deafness or disability, gender, intelligence, or sexuality. Topics contain set of intertwined problems so complex, so difficult to define, and so wrapped up in conceptions of what it is to be human, that it has spawned research from variety of perspectives in biological and human sciences. Students critically engage various intellectual perspectives--some competing, some complementary--that intersect on one particular topic. Examination of how researchers from social/historical and biological sciences construct topic as intellectual problem, methods they bring to bear on it, and findings they have produced. Letter grading.
Notes: This course will be restricted to Human Biology and Society (B.A. & B.S.) majors during entire Winter enrollment period. We will be offering Soc Gen 105B (Spring 2021) with the topic of Identity/Addiction with an expected 60 student enrollment cap.

Society and Genetics 108: Human Biology, Genetics, and Society

Time: Tuesdays & Thursdays, 12:30pm – 1:45pm

Instructor: Christopher Kelty

Remote Format: Online - Synchronous

Description: Limited to senior Human Biology and Society majors. Lectures, readings, discussions, and development of collaborative culminating project. Group-based research projects in mapping and staging contemporary controversy at intersections of human biology, genetics, and society. Reading of large amounts of material to make sense of both scientific concepts and social and political issues, with original research project and presentation required. Letter grading.

Notes: This course will be restricted to senior Human Biology and Society (B.A. & B.S.) majors during entire Winter enrollment period. Society and Genetics minors may take this course to substitute Society and Genetics 191S (offered Spring 2021) requirement only with departmental approval. Juniors wishing to take Society and Genetics 108 early (e.g., for early graduation purposes, etc.) should discuss with ISG SAO before taking Society and Genetics 108 prior to senior year. We anticipate having enough seats to accommodate all remaining Class of 2021 seniors that still need to take Society and Genetics 108. Again, HBS major seniors, graduating with Class of 2021, should be the only ones enrolling in this course Winter 2021 and Spring 2021.

Society and Genetics M142: Primate Genetics, Ecology, and Conservation

Time: Tuesdays & Thursdays, 9:30am – 10:45am

Instructor: Jessica Lynch

Remote Format: Online – Recorded

Description: (Same as Anthropology M128S.) Seminar, three hours. Focus on genetic research on wild primates at different geographic scales, using readings from primary literature on primate genetics, ecology, and behavior. Study of paternity and kinship, intrapopulational variation, population genetics, biogeography, systematics,
phylogenetics/phylogenomics and comparative genomics. Utility and appropriateness of various markers considered for different research questions, e.g., mitochondrial DNA, microsatellites, nuclear genes, Y-chromosome, as well as GWAS and genomic/next generation sequencing platforms, and epigenetic markers. Discussion of methods in fieldwork and lab work, including sampling techniques, collection techniques, wet lab techniques, software analysis packages, and statistical analyses. Introductory-level understanding of genetics expected; study further illuminates' areas in molecular biology relevant to case studies analyzed. Letter grading.

Notes: This course will be restricted to Human Biology and Society majors and Society and Genetics minors during priority and first enrollment pass. The course will open up to UCLA Juniors and Seniors during second pass enrollment. Society and Genetics minor students may use this course to cover Society and Genetics 101 requirement.

Society and Genetics M144: Stress and Society: Biology and Inequality

Time: Tuesdays & Thursdays, 3:30pm – 4:45pm

Instructor: Michelle Rensel

Remote Format: Online – Recorded

Description: (Same as Sociology M144.) Lecture, three hours; discussion, one hour. Integrative view of health disparities, one of most pressing problems of society, through investigation of effects of socioeconomic status (SES) on health and disease, using specific lens of stress biology. Topics include introduction to fundamentals of physiology of stress, integration of literature on poverty and SES with studies on physiological consequences of poverty, and introduction of concepts of life course by following stress biology through childhood development and into adulthood. Letter grading.

Notes: This course will be restricted to Human Biology and Society majors and Society and Genetics minors during priority and first enrollment pass. The course will open up to UCLA Juniors and Seniors during second pass enrollment.

Society and Genetics M157: Biology of Superheroes: Exploring Limits of Form and Function

Time: Mondays & Wednesdays, 8:00am – 9:15am

Instructor: Shane Campbell-Staton
Remote Format: Online – Synchronous

Description: (Same as Ecology and Evolutionary Biology M157.) Lecture, four hours; discussion, one hour. Requisites: Life Sciences 1 and 4, or 7A and 7B. Combines topics posed in popular graphic novels, movies, and television with primary scientific literature to explore bizarre phenomena in natural world and delve into basic scientific theory and principles. Topics covered include evolution, genetics, physiology, biomechanics, brain-machine interfacing, and artificial intelligence among others. Students synthesize primary literature on diverse subjects presented. Letter grading.

Notes: This course will be restricted to Human Biology and Society majors and Society and Genetics minors during priority and first enrollment pass. The course will open up to UCLA Juniors and Seniors during second pass enrollment. Society and Genetics minor students may use this course to cover Society and Genetics 101 requirement.

Society and Genetics 180: Special Courses in Society and Genetics: Prototyping Planetary Improvement

Time: Tuesdays & Thursdays, 4:00pm – 5:15pm

Instructors: Nicholas Shapiro

Remote Format: Online – Recorded

Description: This upper level seminar will examine the promises and perils of science and technology in the quest for environmental improvement. In the first half of the course students will engage with past and present efforts to mitigate human toxicants and climate change and learn about the different theories of change embedded in three different types of intervention: (1) remediation (2) regulation (3) paradigm shifts. Students will learn how to assess the multiple tributary issues that lead to large and complex environmental issues and, in the second half of the course, will leverage these critical insights into prototyping interventions into environmental issues of their choosing. As problems identified by the life sciences often require solutions beyond the life sciences proposed interventions can range from bio-remediation devices and policy recommendations, to alternative transportation technologies, community organizing, and alternative imaginations of energy. Prototypes will be informed by the sciences, the humanities, and the social sciences.

Notes: This course will be restricted to Human Biology and Society majors and Society and Genetics minors during priority and first enrollment pass. The course will open up to UCLA Juniors and Seniors during second pass enrollment.
**Society and Genetics 180: Special Courses in Society and Genetics: Citizen Science and DIYbio**

**Time:** Mondays & Wednesdays, 2:00pm – 3:15pm

**Instructors:** Michael Scroggins

**Remote Format:** Online – Recorded

**Description:** Examines the relationship between professional scientists and their amateur counterparts in the life sciences. Takes a critical and historical approach to understanding citizens as scientists and scientific adjuncts. Explores how DIYbio intersects with, challenges, and/or reimagines scientific practice. Theoretically, connects controversies in DIYbio and citizen science with classic debates over the relationship between democracy and scientific expertise and contemporary debates over open science.

**Notes:** This course will be restricted to Human Biology and Society majors and Society and Genetics minors during priority and first enrollment pass. The course will open up to UCLA Juniors and Seniors during second pass enrollment.

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**Society and Genetics 180: Special Courses in Society and Genetics: The Science and Politics of Vaccination**

**Time:** Mondays & Wednesdays & Fridays, 10:00am – 10:50am

**Instructors:** Chien-Ling Zeleny

**Remote Format:** Online – Synchronous

**Description:** Taking vaccination as the key component within public health across boundaries of geographical spaces, social groups, and disciplines since the 19th century, this course locates scientific knowledge and practices of vaccination in relation to political milestones, such as scientific imperialism, colonial nationalism, wartime politics, decolonization, the Cold War, the rise of economic neo-liberalism, and recent geo-political shifts. The core themes include immunization as an element of civic engagement or/and state formation, scientific and political rhetoric in both vaccination and anti-vaccination campaigns, institutionalization of vaccine testing, the making of vaccination policies, global prospects of vaccination in One Medicine, as well as challenges in disparities of immunization.

**Notes:** This course will be restricted to Human Biology and Society majors and Society and Genetics minors during priority and first enrollment pass. The course will open up to UCLA Juniors and Seniors during second pass enrollment.
**Society and Genetics 180: Special Courses in Society and Genetics: The Biology Business, or Biotech in the Neoliberal Imaginary**

**Time:** Mondays & Wednesdays, 9:00am – 10:15am

**Instructors:** Michael Scroggins

**Remote Format:** Online – Recorded

**Description:** Critically examines the development of the biotech industry, from Genentech to the Impossible Burger, in the context of neoliberalism. Empirical focus on the development of the biotech industry and its intersections with neoliberal economic policy and regulatory regimes... Thematic focus on genetically modified organisms, synthetic biology, pharmaceuticals, startup companies, technology transfer, venture capital, and regulatory regimes. Theoretical focus on critical approaches to neoliberalism, entrepreneurship, markets, innovation, and knowledge economies.

**Notes:** This course will be restricted to Human Biology and Society majors and Society and Genetics minors during priority and first enrollment pass. The course will open up to UCLA Juniors and Seniors during second pass enrollment.

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**Society and Genetics 188: Special Courses in Society and Genetics: Environmental Transgenerational Epigenetics**

**Time:** Fridays, 12:00pm – 2:50pm

**Instructors:** Patrick Allard

**Remote Format:** Online – Recorded

**Description:** Exploration of transgenerational epigenetics inheritance (TGI) and literature evidence of non-mendelian inheritance to establish TGI as valid and fascinating mechanism of inheritance of environmental chemicals with far-reaching applications. Focus on literature mining activities to be summarized and elaborated upon during weekly meeting.

**Notes:** Enrollment in this seminar is based on instructor consent through PTE number.