Bracketed Courses 2018-2019

The courses were not offered during the 2018-2019 academic year, but were displayed as expected to be offered.

African and African American Studies

AAAS 197Y Critiquing Black Muslim Reason
CourseID: 213299
Faculty:
Next Term Offered:

This seminar asks: What does it mean to be Black in the United States? What does it mean to be a Muslim in the United States? What happens when these two identities compound or collide with one another? Well, what about Black Muslim Womanhood, for example? There are scholars who have discussed the "triple constraints" that Black Muslim Women, for example, face as they navigate the American public sphere. As well, while we directly confront questions of citizenship and belonging and without relying too heavily on critical race theory, we will take some time to think about how these sites of identity (and their reception) specifically impact Black Muslims in the United States. The primary purpose of this course?seminar?is to try to disentangle these sites of identity while understanding that for the people who are Black, Muslim, Female, and/or Migrant, there is no way to properly understand how people are subjected to various forms of marginalization, or resist structural racism or sexism, combat Islamophobia, or articulate what it means to either have or gain citizenship, or build communities where their whole selves are affirmed, by thinking that these identities are ever separable.

The secondary aim of this course on Black Muslims is to think more deeply about how such a term has historically been applied to African-American Muslims (that is, American-born Muslims of African descent). Yet, our task is take up Edward Curtis’ assertion that the popular use of the term 'Black Muslim' has not traditionally included Senegalese, Gambian, Somali, Sudanese, Trinidadian, or otherwise dark-skinned Muslims whose point of origin is beyond the United States. Nonetheless, Senegalese or Somali-American Muslims must contend with the othering effects of racism and Islamophobia?they are similarly impacted by police violence and structural discrimination. However, in some cases, they must also combat racially and religiously-motivated legislation that results in exclusion masked as immigration reform (e.g. Muslim Ban).

AAAS 299 Introduction to Graduate School: Skills and Practices for Scholarly Success
CourseID: 212836
Faculty:
Next Term Offered:
The course trains graduate students in the humanities and social sciences in foundational skills that lead to scholarly success. Students learn to read journal articles swiftly and with high comprehension and retention, to write clear and persuasive prose, to teach effectively, and to identify and apply for grants. The course also leads students through a process by which they orient themselves to the major journals, scholarly organizations, and conferences in their respective disciplines. Students in the course produce a series of documents of direct, practical value: a polished academic C.V., a Harvard Scholar website, and a syllabus, among others. The purpose of this course is to reveal the "hidden curriculum" of grad school and to develop the skills and habits of mind that will benefit students in their doctoral programs and throughout their diverse careers.

AFRAMER 100 Race and Modernity: W. E. B. Du Bois, James Baldwin and Lorraine Hansberry
CourseID: 205689
Faculty:
Next Term Offered:

This course will examine the classic texts of the towering intellectual figures who exemplify profound interpretations of race and modernity. Works include Du Bois's *The Souls of Black Folk*, *Dusk of Dawn*, Baldwin's *Notes of a Native Son*, *No Name in the Street* and Hansberry's *Raisin in the Sun* and *To Be Young, Gifted and Black*.

AFRAMER 105X Anthropology and Africa
CourseID: 156327
Faculty:
Next Term Offered: 2019 Fall

This undergraduate course explores the links between race, empire, and the production of anthropological knowledge about Africa. Africa has occupied a central place in the making of anthropology as a discipline. Ethnographic studies of African contexts generated leading theories of kinship and society, money and economy, ritual and religion, violence, law, and political order. And, while anthropologists have often used their work to critique racism and social injustice, the discipline of anthropology has been, at times, accused of being the "handmaiden of colonialism" ?its discourses complicit in the making of dominant ideologies of racial alterity and imperial power. In this course, students revisit moments of intersection between the history of modern Africa and the history of anthropology in order examine the role of knowledge production in the politics of world-making. We interrogate "Africa" as an ideological category, a source of identity and collective consciousness, and a geo-political context of social life. We ask: What is
the political potential of various forms of knowledge production? What do ethnographic engagements with African contexts offer by means of understanding the world at large? And what may anthropological thinking offer by way of envisioning better futures in Africa and beyond?

AFRAMER 106X Contemporary African Music: Global and Local
CourseID: 109467
Faculty: Ingrid Monson
Next Term Offered: 2017 Fall

Examines contemporary African music with emphasis on the relationship between traditional and popular genres. Of particular interest are themes of music and social commentary, music and public health, music and political conflict, and music and youth empowerment. Case studies from Mali, Nigeria, Kenya, Democratic Republic of the Congo, and South Africa will be featured.

AFRAMER 122X The History of African Americans from the Civil War to the Present
CourseID: 156252
Faculty:
Next Term Offered:

This course traces the social, political, and economic developments that shaped black history and culture from the Civil War to the present. Coming at a critical juncture in national and world history, the course surveys the diverse currents of African American experiences in the United States.

AFRAMER 131 African American Literature from the Beginnings to the Harlem Renaissance
CourseID: 111780
Faculty:
Next Term Offered: 2019 Fall


AFRAMER 132Z Vision and Justice: The Art of Citizenship
This course is organized around a guiding question: How has visual representation both limited and liberated our definition of American citizenship and belonging? Today, as we are awash with images, and as social media has allowed us to witness racially motivated injustices with a speed unimaginable until recently, we have had to call upon skills of visual literacy to remain engaged global citizens. This course will allow us to understand the understudied historic roots and contemporary outgrowth of this crucial function of visual literacy for justice in American civic life.

Sequenced chronologically, the lectures are organized into three parts, examining the role of visual representation as Civic Evidence, as Civic Critique, and as Civic Engagement (i.e. movement building and solidarity). Exploring these three categories in turn, topics include: the role of aesthetics for the invention of race, narratives supporting and critiquing Native American "removal," the abolition of transatlantic slavery, immigration, the creation of and destabilization of U.S. segregation, the New Negro Movement, Japanese Internment, and the long Civil Rights movement. Each lecture centers on case studies to show the historic roots of the contemporary interplay between visual representation and justice at these inflection points in the contestation for citizenship in America.

We are fortunate to have invaluable holdings at the Harvard Art Museums and at the Peabody Museum and via Cooper Gallery exhibitions that vividly showcase this contested relationship between art, justice, race, and culture over the course of the nineteenth, twentieth, and twenty-first centuries. Lectures will incorporate material from these holdings and sections will meet at these locations to facilitate object-based study. This course will also include guest lectures from architect Michael Murphy and artist Theaster Gates. Students will leave the course having developed rigorous skills of visual literacy and critical analysis foundational to be engaged global citizens regardless of their concentration or future field of study.

AFRAMER 134X How Sweet is it to be Loved By You: Black Love and the Emotional Politics of Respect
CourseID: 110293
Faculty:
Next Term Offered:
The word 'love' is almost never used in any portrayal or description of the African American community's daily life in contemporary media and in the social sciences. But love, as a human experience, is central to our understanding of what it means to be a vital member of a culture and society and thus respected, nurtured, etc. This seminar examines the love that difference makes. It is a comprehensive study of the representation of gender, love and sexuality in African American and African Diasporan culture. It introduces students to some of the principal questions of feminist theory, as viewed from the social sciences and humanities including anthropology, psychology, media studies and literature. Love, in all its many forms: familial, erotic, romantic, fraternal, is abundant, sometimes dominant, in black culture in the form of song, film, poetry and rhyme, and literature. This course will review and analyze the 'look of Black love' in the humanities and social sciences and writings on intersubjectivity, family, language, culture and ritual. It will also look at the absence of love within and toward the African American community as well as love's role in movements like Black Lives Matter. We will closely read, watch and listen to some of the many Black artists who have looked deeply at this thing called Love. How Sweet it Is explores and analyzes Black Love from disciplinary, social and cultural perspectives including: family, romance, gender, sexuality, racism, and physical and emotional health, institutions and space, place and home.

AFRAMER 158X The Key to Making It? Educational progress and barriers among black Americans
CourseID: 160402
Faculty:
Next Term Offered:
This course combines the study of the historical trajectory of educational achievement among African Americans with a sociological analysis of the challenges they have faced in attaining educational equity, with a focus on the current situation. The course will review the structural barriers to educational achievement that blacks have faced at different periods in the history of the US and the cultural strengths, such as the high value placed on education, that have driven them to achieve. The persistence of racial barriers in the current era and their importance for social mobility, particularly among working class and poor blacks, will be discussed.

AFRAMER 165 Anthropology of the Black Community
CourseID: 126725
Faculty:
Next Term Offered: 2020 Spring
This reading seminar examines anthropological theory, descriptions and research about practices of African American culture as well as African-diasporic identities. This course will also consider previous, recent and future debates within anthropology about African American communities and culture. The focus will be on institutions like family, the church, organizations, practices such as play, performance and the arts and social and
political issues of black identity and racism. Among the topics we will address are: the black community, language and discourse, religion, social and cultural beliefs and practices, education, gender and sexuality, humor and satire and music. This course is meant to consider how popular culture, the social sciences, linguistics and socio-cultural anthropology have tried to understand and represent the complex and changing African American culture.

AFRAMER 180X Race, Class and the Making of American Religion
CourseID: 127784
Faculty:
Next Term Offered:

This class explores the ways in which both race and class are implicated in the development and practice of religion in the U.S. Through historical, anthropological and sociological works we explore the theoretical underpinnings of race and class and ponder their influence upon varying expressions of Islam, Judaism and Christianity.

AFRAMER 185X What is Black Art? African American Cultural Production from the Early Republic to Civil Rights
CourseID: 203080
Faculty:
Next Term Offered:

This seminar surveys the history of African American Art from the colonial period to the long Civil Rights movement in the context of larger aesthetic and social movements. Taught in the Harvard Art Museums' study center, this undergraduate seminar (also open to graduates) will incorporate object study each week to examine the full range of African American cultural expression and strategies: craft, painting, printmaking, photography, film, video, and installation. The dual aim of this course is to give students of all concentrations an understanding of core topics in African American Art and skills of critical visual analysis that can be developed into larger research projects.

Classes will include a trip to the Museum of Fine Arts, Boston and the Smithsonian Museum of African American History and Culture. The course will also have guest visits from cinematographer Bradford Young and photographer Deana Lawson.

AFRAMER 186X Childhood in African America
CourseID: 108168
Faculty:
Next Term Offered: 2019 Fall

Black children's lives matter. In this course, we study how black children's lives have mattered in politics and culture, and how their experiences have changed over time.
Authors include Ta-Nehisi Coates, Kimberlé Crenshaw, WEB Du Bois, Frederick Douglass; topics include slavery, segregation, civil rights, the school to prison pipeline, photography, children’s literature, and play.

AFRAMER 190X The Anthropology of Law: Perspectives from Africa and Elsewhere
CourseID: 108678
Faculty: John Comaroff
Next Term Offered: 2021 Spring

The course will cover (i) classical readings in the field, (ii) conceptual questions focusing on the often counter-intuitive theoretical insights to be gained from the non-Western legal systems, (iii) law and colonialism, (iv) liberalism, difference, and the law in the postcolonial world, and (v) the judicialization of politics around the globe. Throughout, attention will be given to the lessons to be learned from legal anthropology for interrogating the present moment in the global north. Grades will be based on class participation, course presentations, and a term paper.

AFRAMER 191X African American Lives in the Law
CourseID: 127960
Faculty:
Next Term Offered:

This seminar focuses on biographical and autobiographical writings in a historical examination of the role of the individual in the American legal process. We will seek to understand how specific African Americans (as lawyers, judges, and litigants) made a difference—how their lives serve as a "mirror to America"—and also to understand the ways personal experience informs individual perspectives on the law and justice.

AFRAMER 192X Religion and Society in Nigeria
CourseID: 122498
Faculty: Jacob Olupona
Next Term Offered: 2020 Spring

The seminar examines the historical development of religion in Nigeria and explores its intersection with ethnic identity, culture, and society in pre-colonial, colonial, and contemporary periods. The course provides an understanding of various cultural tradition, historical events, and social forces that have shaped Nigeria’s religious express. Many topical issues will be explored such as indigenous religious culture, Christian and Muslim identities, civil religion, and civil society and democratization, as well as religion and politics in present-day Nigeria.

AFRAMER 197 Poverty, Race, and Health
This course critically examines the health status of the poor, and of African Americans and other socially disadvantaged racial and ethnic groups in the US. Attention will be focused on the patterned ways in which the health of these groups is embedded in the social, cultural, political, and economic contexts, and arrangements of US society. Topics covered include the meaning and measurement of race, the ways in which racism affects health, the historic uses of minorities in medical research, how acculturation and migration affects health, and an examination of the specific health problems that disproportionately affect nondominant racial groups.

AFRAMER 219A Proseminar: Race and Ethnicity in Latin America
CourseID: 110494
Faculty:
Next Term Offered:
This seminar introduces students to current questions and debates in the study of race and ethnicity in Latin America. The course analyzes how different "racial formations," incorporating different combinations of indigenous, African, and European peoples and their descendants, have developed in Latin America since colonial times. Through the systematic comparison of several cases, the course discusses how ideas of race and nation have interacted in Latin America, shaping opportunities for mobilization and public policies; how racial identities have been formed and invoked for different cultural and political purposes; and how ideas of race and ethnicity have contributed to the stratification of Latin American societies, which are among the most unequal in the world. A final section looks at the creation of transnational networks of cooperation by indigenous and black activists and how their exchanges have shaped ideas of race and forms of mobilization in their respective societies. Students in this class will have the opportunity to meet with the authors of some of the works we are reading. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

AFRAMER 256 Advanced Readings in Legal Anthropology
CourseID: 204463
Faculty:
Next Term Offered: 2021 Spring

AFRAMER 302 Graduate Seminar
CourseID: 116185
Faculty:
Next Term Offered:
Students are introduced to major themes, debates and texts in the broad interdisciplinary field of African and African American Studies. African and African American Studies 302,
in the spring term, focuses on the social sciences.

AFRAMER 303A Crime and Policing  
CourseID: 206565  
Faculty:  
Next Term Offered: 2019 Fall

Foundational Readings on Crime and Policing. Students are required to take both parts of the course within the same academic year. The curriculum builds throughout the year.

AFRAMER 303B Crime and Policing  
CourseID: 206964  
Faculty:  
Next Term Offered:

Foundational Readings on Crime and Policing. Students are required to take both parts of the course within the same academic year. The curriculum builds throughout the year.

AFRAMER 304 Methods of African and African American Studies (AAAS)  
CourseID: 207797  
Faculty:  
Next Term Offered:

This course provides a critical introduction to some of the key methods used in social scientific research, paying special attention to topic formation, deployment of theoretical resources, techniques of engagement in fields and with people, and the politics and ethics of research and knowledge production about African and African American communities. Our approach will combine readings in African and African American studies relevant to methodological practice with workshop-style explorations of particular techniques for gathering, analyzing, and presenting qualitative and quantitative research data. We will explore the limits and powers of social scientific data by setting up model projects and experimenting with typical research tasks. The course is intended to help students develop the tools needed to clarify their own research objects and strategies while reflecting critically on the nature of social science.

AFRAMER 402 Theory and Race in the Americas  
CourseID: 211218  
Faculty:  
Next Term Offered:

AFRAMER 402 Theory and Race in the Americas  
CourseID: 211219  
Faculty: Marla Frederick
Next Term Offered:

**BEMBA AA Elementary Bemba**
CourseID: 205978
Faculty: 
Next Term Offered:

A study of Bemba a major language spoken in Zambia at the Elementary level (First year part 1). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course (AA and AB) within the same academic year. The curriculum builds throughout the year.

**BEMBA AB Elementary Bemba**
CourseID: 205990
Faculty: 
Next Term Offered:

A study of Bemba a major language spoken in Zambia at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year.

**BEMBA 101AR Advanced Bemba**
CourseID: 205993
Faculty: 
Next Term Offered:

A study of Bamanankan the major language and lingua franca of Mali and Côte-d'Ivoire at the Advanced level in the Fall semester. As needed, successive advanced readings in Bamanankan may be taken under Bamanankan 101ar every Fall.

**CAMEROON AB Elementary Cameroonian Pidgin**
CourseID: 205840
Faculty: 
Next Term Offered:

A study of Cameroonian Pidgin the most widespread lingua franca in Cameroon at the Elementary level (First year part 1). Contact hours supplemented by digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. This course is offered only in the Spring.
CAMEROON     BB Intermediate Cameroonian Pidgin  
CourseID: 205876  
Faculty:  
Next Term Offered:  

A study of Cameroonian Pidgin the most widespread lingua franca in Cameroon at the Intermediate level (Second year part 2). Contact hours supplemented by digital resources sessions. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Cameroonian Pidgin BA in the Spring must note that Cameroonian Pidgin BB is offered only in the Spring.

CAMEROON  101BR Advanced Cameroonian Pidgin II  
CourseID: 205866  
Faculty:  
Next Term Offered:  

A study of Cameroonian Pidgin the most widespread lingua franca in Cameroon at the Advanced level in the Spring semester. As needed, successive advanced readings in Cameroonian Pidgin may be taken under Cameroonian Pidgin 101br every Spring.

GEEZ     AA Elementary Geez  
CourseID: 206894  
Faculty:  
Next Term Offered:  

A study of Geez the liturgical language of the Ethiopian Orthodox Church at the Elementary level (First year part 1). Contact hours supplemented by digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are encouraged to complete both terms of this course (parts AA and AB) within the same academic year.

GEEZ     AB Elementary Geez  
CourseID: 206900  
Faculty:  
Next Term Offered:  

A study of Geez the liturgical language of the Ethiopian Orthodox Church at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are encouraged to complete both parts of this course (parts AA and AB) within the same academic year. This course is offered only in the Spring.
GIKUYU     AA Elementary Gikuyu
CourseID: 120934
Faculty:
Next Term Offered:

Gikuyu is a Bantu language spoken by Kenya’s most populous ethnic group. The Gikuyu are among Africa’s most recognized peoples because of the Mau Mau freedom fighters who were mainly Gikuyu. Students are strongly encouraged to take both parts of the course (AA and AB) within the same academic year. The curriculum builds throughout the year.

GIKUYU     AB Elementary Gikuyu
CourseID: 159781
Faculty:
Next Term Offered:

Gikuyu is a Bantu language spoken by Kenya’s most populous ethnic group. The Gikuyu are among Africa’s most recognized peoples because of the Mau Mau freedom fighters who were mainly Gikuyu. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year.

GIKUYU     BA Intermediate Gikuyu
CourseID: 120935
Faculty:
Next Term Offered:

Continuation of Gikuyu A. Gikuyu is a Bantu language spoken by Kenya’s most populous ethnic group. The Gikuyu are among Africa’s most recognized peoples because of the Mau Mau freedom fighters who were mainly Gikuyu. Students are strongly encouraged to take both parts of the course (AA and AB) within the same academic year. The curriculum builds throughout the year.

GIKUYU     BB Intermediate Gikuyu
CourseID: 159795
Faculty:
Next Term Offered:

Continuation of Gikuyu AA/AB. Gikuyu is a Bantu language spoken by Kenya’s most populous ethnic group. The Gikuyu are among Africa’s most recognized peoples because of the Mau Mau freedom fighters who were mainly Gikuyu. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year.

GIKUYU  101AR Reading in Gikuyu
GIKUYU 101BR Reading in Gikuyu II
CourseID: 120941
Faculty: 
Next Term Offered: 

Advanced reading in Gikuyu.

HIEROGLY AA Elementary Egyptian Hieroglyphs
CourseID: 206576
Faculty: 
Next Term Offered: 

A study of Egyptian Hieroglyphs the formal writing system used by the Ancient Egyptians at the Elementary level (First year part 1). Contact hours supplemented by digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students must complete both terms of this course (parts AA and AB) within the same academic year in order to receive full Elementary Ancient Egyptian course credit.

HIEROGLY AB Elementary Egyptian Hieroglyphs
CourseID: 206580
Faculty: 
Next Term Offered: 

A study of Egyptian Hieroglyphs the formal writing system used by the Ancient Egyptians at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. This course is offered only in the Spring.

HIEROGLY BA Intermediate Egyptian Hieroglyphs
CourseID: 206584
Faculty: 
Next Term Offered: 

A study of Egyptian Hieroglyphs the formal writing system used by the Ancient Egyptians at the Intermediate level (Second year part 1). Contact hours supplemented by language lab sessions. Emphasis on written expression, reading comprehension, and oral fluency.
Students must complete both terms of this course (parts BA and BB) within the same academic year in order to receive full Intermediate Ancient Egyptian course credit. Students taking Ancient Egyptian BA in the Spring must note that Ancient Egyptian BB is offered only in the Spring and must therefore wait for Spring to complete the course.

**HIEROGLY BB Intermediate Egyptian Hieroglyphs**
CourseID: 206588
Faculty:
Next Term Offered:

A study of Egyptian Hieroglyphs the formal writing system used by the Ancient Egyptians at the Intermediate level (Second year part 2). Contact hours supplemented by digital resources sessions. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Ancient Egyptian BA in the Spring must note that Ancient Egyptian BB is offered only in the Spring.

**HIEROGLY 101AR Advanced Egyptian Hieroglyphs**
CourseID: 206592
Faculty:
Next Term Offered:

A study of Egyptian Hieroglyphs the formal writing system used by the Ancient Egyptians at the Advanced level in the Fall semester. As needed, successive advanced readings in Ancient Egyptian may be taken under Ancient Egyptian 101ar every Fall.

**HIEROGLY 101BR Advanced Egyptian Hieroglyphs II**
CourseID: 206596
Faculty:
Next Term Offered:

A study of Egyptian Hieroglyphs the formal writing system used by the Ancient Egyptians at the Advanced level in the Spring semester. As needed, successive advanced readings in Ancient Egyptian may be taken under Ancient Egyptian 101br every Spring.

**LUGANDA AB Elementary Luganda**
CourseID: 206568
Faculty:
Next Term Offered:

A study of Luganda the major language spoken in Uganda at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on
written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. This course is offered only in the Spring.

LUGANDA  BB Intermediate Luganda
CourseID: 206570
Faculty:
Next Term Offered:

A study of Luganda the major language spoken in Uganda at the Intermediate level (Second year part 2). Contact hours supplemented by digital resources sessions. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Luganda BA in the Spring must note that Luganda BB is offered only in the Spring.

LUGANDA  101BR Advanced Luganda II
CourseID: 206572
Faculty:
Next Term Offered:

A study of Luganda the major language spoken in Uganda at the Advanced level in the Spring semester. As needed, successive advanced readings in Luganda may be taken under Luganda 101br every Spring.

MALAGASI  AB Elementary Malagasi
CourseID: 206686
Faculty:
Next Term Offered:

A study of Malagasi the language spoken in Madagascar at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. This course is offered only in the Spring.

MALAGASI  BB Intermediate Malagasi
CourseID: 206688
Faculty:
Next Term Offered:

A study of Malagasi the language spoken in Madagascar at the Intermediate level (Second year part 2). Contact hours supplemented by digital resources sessions.
Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Malagasi BA in the Spring must note that Malagasi BB is offered only in the Spring.

MALAGASI  101BR Advanced Malagasi II  
CourseID: 206690  
Faculty:  
Next Term Offered:

A study of Malagasi the language spoken in Madagascar at the Advanced level in the Spring semester. As needed, successive advanced readings in Malagasi may be taken under Malagasi 101br every Spring.

NKO     AA Elementary Nko (Bamanankan)  
CourseID: 206573  
Faculty:  
Next Term Offered:

A study of Bamanankan the major language and lingua franca of Mali and Côte-d'Ivoire at the Elementary level (First year part 1). Contact hours supplemented by digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year.

NKO     AB Elementary Nko (Bamanankan)  
CourseID: 206577  
Faculty:  
Next Term Offered:

A study of Bamanankan the major language and lingua franca of Mali and Côte-d'Ivoire at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. This course is offered only in the Spring.

NKO     BB Intermediate Nko (Bamanankan)  
CourseID: 206585  
Faculty:  
Next Term Offered:

A study of Bamanankan the major language and lingua franca of Mali and Côte-d'Ivoire
at the Intermediate level (Second year part 2). Contact hours supplemented by digital resources sessions. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Bamanankan BA in the Spring must note that Bamanankan BB is offered only in the Spring.

OROMO     AB Elementary Oromo
CourseID: 206579
Faculty:
Next Term Offered:

A study of Oromo a major language spoken in several countries including Ethiopia, Kenya, and Somalia at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. This course is offered only in the Spring.

OROMO     BA Intermediate Oromo
CourseID: 206583
Faculty:
Next Term Offered:

A study of Oromo a major language spoken in several countries including Ethiopia, Kenya, and Somalia at the Intermediate level (Second year part 1). Contact hours supplemented by language lab sessions. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Oromo BA in the Spring must note that Oromo BB is offered only in the Spring and must therefore wait for Spring to complete the course.

OROMO     BB Intermediate Oromo
CourseID: 206587
Faculty:
Next Term Offered:

A study of Oromo a major language spoken in several countries including Ethiopia, Kenya, and Somalia at the Intermediate level (Second year part 2). Contact hours supplemented by digital resources sessions. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Oromo BA in the Spring must note that Oromo BB is offered only in the Spring.
OROMO 101AR Advanced Oromo  
CourseID: 206591  
Faculty:  
Next Term Offered:

A study of Oromo a major language spoken in several countries including Ethiopia, Kenya, and Somalia at the Advanced level in the Fall semester. As needed, successive advanced readings in Oromo may be taken under Oromo 101ar every Fall.

OROMO 101BR Advanced Oromo II  
CourseID: 206595  
Faculty:  
Next Term Offered:

A study of Oromo a major language spoken in several countries including Ethiopia, Kenya, and Somalia at the Advanced level in the Spring semester. As needed, successive advanced readings in Oromo may be taken under Oromo 101br every Spring.

WOLOF AB Elementary Wolof  
CourseID: 205985  
Faculty:  
Next Term Offered:

A study of Wolof the major language spoken in Senegal at the Elementary level (First year part 2). Contact hours supplemented by language digital resources. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. This course is offered only in the Spring.

WOLOF BB Intermediate Wolof  
CourseID: 205987  
Faculty:  
Next Term Offered:

A study of Wolof the major language spoken in Senegal at the Intermediate level (Second year part 2). Contact hours supplemented by digital resources sessions. Emphasis on written expression, reading comprehension, and oral fluency. Students are strongly encouraged to take both parts of the course within the same academic year. The curriculum builds throughout the year. Students taking Wolof BA in the Spring must note that Wolof BB is offered only in the Spring.

WOLOF 101BR Advanced Wolof II
CourseID: 205989
Faculty: 
Next Term Offered:

A study of Wolof the major language spoken in Senegal at the Advanced level in the Spring semester. As needed, successive advanced readings Wolof may be taken under Wolof 101br every Spring.
Near Eastern Languages and Civilizations

AKKAD 159 Middle Babylonian Language and History
CourseID: 211067
Faculty:
Next Term Offered:

ANE 102 Introduction to Mesopotamian Religion
CourseID: 114298
Faculty: Piotr Steinkeller
Next Term Offered: 2020 Fall

A survey of the history and major concerns of ancient Mesopotamian religion from prehistoric times down to the reign of Alexander the Great. Among the topics treated are the key figures of the Sumero-Babylonian pantheon, the major mythological compositions (read in translation), personal religion, cosmogonies and theogonies, magic and divination, Mesopotamian temples, and cult and ritual. The course makes rich use of ancient iconography.

ANE 120B Introduction to the Hebrew Bible/Old Testament 2: Latter Prophets and Writings
CourseID: 126065
Faculty:
Next Term Offered: 2020 Fall

A critical introduction to the literature and theology of the Hebrew Bible, considered in light of the historical contexts of its formation and the interpretive contexts of its reception within Judaism and Christianity. The course, the second part of a divisible, year-long sequence, will focus on the Latter Prophets and the Writings.

ARABIC 150R Introduction to Arabic Literature
CourseID: 122191
Faculty:
Next Term Offered: 2020 Spring

This course will introduce students to the major writers, canonical works, and important literary movements of Arabic Literature from late antiquity up to the modern period. The course will be structured thematically with special focus on the historical context and cultural tradition within which literary works fit and resonated. The course will consider the development of various literary genres over time (poetry and qasida form, narratives, fiction, Belles-lettres, maqama, shadow plays and Drama, etc.). Selected works of literature will be read in translation but students with Arabic may work with the original
texts in a separate section. Texts will often be discussed vis-à-vis parallel themes in other works of literature whenever relevant (e.g. The Qur’anic and Biblical Joseph, Ma’arri’s Epistle of Forgiveness and Dante’s Divine Comedy, Ibn Battuta and Marco Polo’s travelogues, etc.) with special attention to the influence of Western Literature on Modern Arabic poetry and prose.

HEBREW 239 Exodus 2 in Three Contexts: Seminar
CourseID: 156094
Faculty: Jon Levenson
Next Term Offered: 2020 Fall

A close critical reading of the account of the early life of Moses in three contexts: (1) the Hebrew Bible and the ancient Near Eastern world in which it took shape; (2) rabbinic Judaism in Late Antiquity; and (3) medieval Jewish commentary. Texts to be read in Hebrew include Exodus 2 and a selection of rabbinic midrashim and medieval commentaries on it.

HEBREW 241 Talmudic Narrative
CourseID: 205531
Faculty:
Next Term Offered: 2020 Fall

Talmudic literature is full of stories. This is surprising, even odd, given the fact that Talmud is primarily a legal literature. What purpose do these stories serve? How, in particular, does narrative serve legal discourse? How are these narratives to be analyzed and understood, both as examples of narrative "art" and within their legal context? In addressing these questions, we will look at narrative theory in general as well as contemporary scholarship on Talmud and Talmudic narrative, with a particular focus on Mishnah and the Babylonian Talmud. Assignments will include secondary readings on and about narrative more generally, but the focus of the course-- and the majority of class-time-- will be on reading the Rabbinic texts in their original language.

ISLAMCIV 158Y Qur’anic Exegesis and Prophetic Tradition
CourseID: 205290
Faculty:
Next Term Offered: 2020 Fall

An introduction to Qur’anic exegesis and prophetic tradition (Hadith). A survey of different schools of Qur’anic interpretation within the Islamic tradition. The course introduces the discipline of Hadith and the role it plays in Qur’anic commentary. Topics include: Hadith, transmission, collections of sound Prophetic traditions, Sunni and Shi’a Hadith collections, Schools of Qur’anic Exegesis, Esoteric interpretation, Modern Interpretation, Qur’an, science and modernity.
ISLAMCIV 178 Muslim Societies in South Asia: Religion, Culture, and Identity
CourseID: 111918
Faculty: Ali Asani
Next Term Offered: 2019 Fall

South Asia (India, Pakistan, and Bangladesh) is home to the largest concentration of Muslims in the world. This course introduces students to a variety of issues that have characterized the development and evolution of South Asian Muslim communities. While the course will briefly survey the historical development of Islamic and Muslim institutions in the region, its central focus will be the formation of identity - as expressed through language, literature, and the arts - among South Asian Muslim communities. The issues that influence these identities will be considered with regard to the constantly evolving religious and political contexts of South Asia. Special attention will be given to recent attempts to redefine Muslim religious identities through reform and revivalist movements as well as state policies of Islamization. We will look at the impact of these policies on issues such as the status of Muslim women, relations between Muslim and non-Muslims and the growth of sectarian tensions between Muslim groups. The course is appropriate for those who wish to acquire a bird's-eye view of the Islamic tradition in South Asia, as well as those interested in exploring some of the issues confronting Muslim populations in contemporary times.

ISLAMCIV 181 Islam and Religious Diversity
CourseID: 207167
Faculty:
Next Term Offered: 2020 Fall

The problem of religious diversity recurs in all of the major branches of Islamic thought and appears in complex permutations in diverse cultural contexts. Focusing primarily on pre-modern Islam, this course invites students to investigate perspectives on the religious other in the Quran, Islamic law, theology, philosophy and Sufism. In the final portion of the course we will look at Muslim Spain, Mughal India, and the Muslim-Confucians of late imperial China as examples of how these complex dynamics played out on the ground. The larger aim of this course is for students to develop interpretive skill in dealing with the internal complexity of a number of Islamic discourses and contexts by pursuing a single problematic across them. To this end the course will be taught in seminar format and participants will be encouraged to engage creatively with primary and secondary sources to develop their own scholarly points of view.

SUMERIAN 149 Sumerian Legal and Economic Texts
CourseID: 125948
Faculty: Piotr Steinkeller
Next Term Offered:

SUMERIAN 242 Sumerian History Seminar
TURKISH 130A Advanced Turkish I
CourseID: 109281
Faculty:
Next Term Offered: 2019 Fall

Gaining and improving advanced language skills in Modern Turkish through reading, writing, listening, and speaking with special emphasis on the proper usage of vocabulary and idiomatic expressions.

TURKISH 130B Advanced Turkish II
CourseID: 113853
Faculty:
Next Term Offered: 2019 Spring

Studies in literary and idiomatic prose through readings, discussions, and writing of short analytical papers.
Interdisciplinary study of one or several topics. Many historians now believe that the material and nonhuman elements of human life and experience should be foreground, not background. Humans and their histories exist, after all, within and in relation to nonhuman material entities and forces: animals, climate, androids, food, computer code, commodities, inanimate things, entire landscapes, and every other kind of stuff. Several fields from the human sciences and natural sciences have been important in establishing how our material worlds are fundamental to our identities, roles, beliefs, and futures. This course will explore dimensions of the new materialism, as it is playing out in interpretations of the past.
Anthropology

ANTHRO 1040 Origins of the Food We Eat
CourseID: 109581
Faculty: Richard Meadow
Next Term Offered: 2019 Fall

The most significant lifestyle revolution in the human past was the change from hunting and gathering to agriculture and pastoralism. That shift in the subsistence base has facilitated, and has been facilitated by, increasing populations and a restructuring of social and economic relations over the past 10,000 years. Focusing on key geographic areas and transformative time periods, we discuss how this process began by focusing on the domestication of what have become the staples and major condiments of modern diets around the world. We also consider the spread and adoption of domestic plants and animals across the Eastern and Western Hemispheres as well as the globalization of food that began at the end of the 15th century CE with the Columbian Exchange.

To study the processes of domestication and subsequent exploitation of domestic plants and animals requires a multi-disciplinary approach. Thus we sample contributions from a wide range of fields including archaeology, anthropology, history, linguistics, botany, zoology, genetics, biogeochemistry, climatology, geomorphology, oceanography, demography, and nutritional science. Fundamental, however, are archaeological excavations, which provide the material remains necessary for specialized analyses as well as the temporal and social contexts needed for their interpretation.

The course is discussion-based, with background material, concepts, and topics introduced by the instructor. Geographical focus is on West, South, and East Asia, Mesoamerica, and the Andean region, with other areas (Europe, Central Asia, Africa, New Guinea, Oceania, Amazonia, and North America) touched upon for specific foods. Readings are in the primary and secondary literature, focusing on key plants, animals, analytical methods, and interpretative debates. Evaluation is based on completing assigned readings before each class, participating in class discussion, and submitting one written assignment by Friday afternoon of each week on a topic to be specified. Graduate students are required to submit a short tightly focused research paper before the end of the semester.

ANTHRO 1080 American History Before Columbus
CourseID: 125588
Faculty: Matt Liebmann
Next Term Offered: 2020 Fall

What happened in America before 1492? What were the major turning points in Native
American history? Why don't we know more about the ancient history of North America? Anthropology 1080 answers these questions by introducing you to the discipline of North American archaeology. This lecture course will help you to understand how Native American societies developed in the millennia before the European invasion, why American Indian peoples live where they do today, and how their dynamic populations have changed over the course of the past 15,000 years. In the process you'll have the opportunity to examine a truly world-class collection of artifacts from the Peabody Museum, allowing you to hold the remains of American history in your own hands and investigate the past with your own eyes.

ANTHRO 1090 Ethnography and Archaeology
CourseID: 119948
Faculty: Gary Urton
Next Term Offered: 2019 Fall

Archaeologists often draw on ethnographic studies of Western and non-Western societies as sources of explanation for ancient cultural practices. But the questions remain: how valid is the use of ethnographic analogy in the study of the past? What assumptions do archaeologists make about past social processes in their uses of ethnographic studies? These are some of the questions addressed in this course.

ANTHRO 1186 Cannibalism, Sacrifice, Infanticide: Violence in the Human Past
CourseID: 212863
Faculty:
Next Term Offered:

This course explores the evidence for three kinds of violence in past societies considered especially shocking or controversial in the contemporary, developed West: human sacrifice, the killing of infants and children, and the consumption of the human dead. Avoiding exoticism and suspending condemnation in favor of anthropological inquiry, the course considers cannibalism, sacrifice, and infanticide as culturally specific expressions of universal human drives and preoccupations. Using a seminar format, we will examine archaeological and ethnohistoric case studies drawn from a wide range of time periods, cultures, and regions in an effort to identify and explain diversity and commonalities among such practices.

ANTHRO 1190 Savage Encounters in Early America
CourseID: 125450
Faculty: Matt Liebmann
Next Term Offered: 2019 Fall

This course examines the effects of the Spanish Conquest on indigenous peoples of the Americas between the fifteenth and eighteenth centuries, providing an introduction to the
archaeology of first encounters in the Caribbean, Southeast and Southwest US, Central Mexico, highland and lowland Mesoamerica, the Amazon basin, and in the Andes. Topics addressed include the roles of disease, indigenous politics, native rebellions, and ecological change in the colonization of the 'New' World.

ANTHRO 1210 The Archaeology of Ancient China
CourseID: 119371
Faculty: Rowan Flad
Next Term Offered: 2020 Spring

A survey of the archaeology of China from the origins of humans during the Palaeolithic into the Bronze Age (ca. 220 BCE), with an emphasis on the origins of agriculture and the emergence of complex society during the late Neolithic and Early Bronze Age. We survey important archaeological finds from these periods and examine relevant issues in anthropological archaeology. Sections will involve the discussion and use of materials from the Peabody and Sackler Museums.

ANTHRO 1400 Quests for Wisdom: Religious, Moral and Aesthetic Experiences in the Art of Living
CourseID: 108865
Faculty: Arthur Kleinman
Next Term Offered: 2020 Fall

This is an experimental course taught from the perspectives of anthropology and religious studies intended to be transformative for students and teachers alike. Our goal is to develop, in collaboration with enrolled students, a pedagogy for fostering students' personal quests for wisdom, through lectures and readings, through extensive conversation, and also through other experiences inside and outside of class, including dramaturgical experiences with film or theater, caregiving, and meditation.

As teachers we are inspired by William James's conception of knowledge in the University as intended for strategies needed to live a life of purpose and significance that also contributes to improving the world. In the words of Albert Camus, "Real generosity toward the future lies in giving all to the present." Together, we will engage with the problems of danger, uncertainty, failure, and suffering that led the founders of the social sciences and humanities to ask fundamental questions about meaning, imagination, aesthetics, social life and subjective experience. These are the same existential questions that bring ordinary people all over the world, and throughout history, to question commonsense reality in the face of catastrophes and the violence of everyday life. The many answers to these questions - wisdom that is found in religious, ethical and aesthetic quests, expressions and traditions - are intended to furnish individuals' art of living with strategies to respond to potential and hope, pain and suffering, to promote healing, and to address concerns about salvation, redemption, or other kinds of moral-emotional transformation.
Together - through discussions, lectures, films, museum visits, readings, and action - we will explore different paths to wisdom, including (1) the youthful quest for truth, beauty and goodness; (2) the affirmation of caregiving for others as the means of applying wisdom to repair and improve the world; 3) suffering and the ordeal of journeying through labyrinths and tests of courage; (4) the discovery of wisdom in teachers and mentors near and far; (5) the process of creative mourning for past losses and shaping new beginnings;

ANTHRO 1450 Water, Infrastructure, and Meaning  
CourseID: 204965  
Faculty: Steven C. Caton  
Next Term Offered: 2019 Fall

This course will show the usefulness of anthropology, conceptually and methodologically, for understanding water consumption and management in past and contemporary societies, especially those undergoing water stress. Topics include cultural notions and values of water, the hydrology and technologies of water purification and conservation, irrigation and the state, big dams controversies, water as a "right" and water as a "commodity," and local, national and international water management schemes. Case studies are drawn from around the world. Though social anthropology and archaeology are the main disciplines upon which the course draws, it will also engage developmental economics, geography, political ecology, history, and water sciences such as conservation and engineering.

ANTHRO 1785 Law and Violence in Latin America  
CourseID: 203531  
Faculty: Ieva Jusionyte  
Next Term Offered: 2020 Spring

Why does "the rule of law" - the mode of governance to which contemporary democratic states nearly uniformly aspire - fail to stop violence? Conversely, what happens when the law is suspended in the name of maintaining political and social order? This course draws on ethnographic studies and social theory to examine the disturbing, but not paradoxical entanglement between law and violence in Latin America. Building on Tilly's comparison between state-making and organized crime and Benjamin's concept of law-making violence, we will explore how different modes of violence - from brutal force to more nuanced structural and symbolic forms of oppression - intersect with policies and practices of governance in the region. Anthropological approaches will be used to analyze the concepts of sovereignty, security, and justice, as we will trace their meanings across disjunctive cultural and legal terrains. Case studies, presented in ethnographic accounts, documentary film, and investigative journalism, will focus on the origins and effects of "the war on drugs" in Colombia; logics and deleterious consequences of security build-up on the U.S.-Mexico border, complicity between gangs and police in Brazil's favelas; and popular justice in urban Bolivia, among other issues.
ANTHRO 1859 Anti-Aesthetic Anthropology: Sighting, Sounding, Sensing, Stilling
CourseID: 207825
Faculty: 
Next Term Offered:

CourseID: 212905
Faculty: 
Next Term Offered:

How does paper work in contemporary life? Few terms are as evocative of the drudgery of modernity, yet are as unexamined as is paperwork. Tacking between ethnography and social theory, this course examines how paper artifacts—from forms, reports and memoranda to identity papers, receipts and business cards—mediate, materialize, constitute, and shape the collective projects that produce them. What does the paperwork's perspective allow us to see about the institutions, collaborations and polities in which we take part? Given its ubiquity, how does paperwork become understood as alienating? The course begins with a discussion of methods. With what conceptual and ethnographic tools have social scientists made sense of paper forms? The class is then divided in thirds: the first examines the relationship of documents and bureaucracy; the second asks about the ways in which paperwork makes people and power; and the final section considers how paper artifacts construct pasts and (purportedly paperless) futures.

ANTHRO 1936 Anthropology of Religion
CourseID: 109570
Faculty: Anya Bernstein
Next Term Offered: 2020 Spring

What happened to religion in the modern world? We start off by exploring traditional anthropological themes, such as animism, magic, and ritual, while paying particular attention to the classic secularization thesis advanced by social scientists. We will then focus on the crucial contemporary issues, such as debates on secularism, globalization and commodification of religion, body and sexuality, secular eschatologies, such as transhumanism, and the emergence of "new age" spirituality. This course is not a survey of specific religions, but a theoretical introduction to the main themes in the anthropological study of religion.

ANTHRO 2020 GIS & Spatial Analysis In Archaeology
CourseID: 120580
Faculty: Jason Ur
Next Term Offered: 2021 Spring

An introduction to the GIS and remote sensing methods used by archaeologists to document and analyze datasets at the regional scale. This class will involve the hands-
on use of maps, aerial photography, satellite imagery, digital terrain models and GPS-based observations to frame and approach archaeological research questions. Labs will use sample datasets from a variety of regions but students will be responsible for assembling a GIS database for their own region of interest.

ANTHRO 2036 Lithic Technology
CourseID: 108968
Faculty: Christian Tryon
Next Term Offered: 2019 Fall

Stone tools represent the oldest known human technology. They represent the most abundant and arguably one of the most informative elements of the archaeological record for reconstructing ancient human behavior over the last 3.3 million years. In this graduate seminar that is open to undergraduates with permission, students are provided with a solid methodological and theoretical grounding in how to interpret stone (lithic) tools. The course includes hands-on training in how to make stone tools, a practical grounding in their identification, qualitative and quantitative approaches to their analysis, and detailed discussions of current theoretical perspectives that use stone tools to understand broader questions about the evolution and diversity of human behavioral adaptations. The course also provides a global synthesis of stone tool variation since their advent, drawing heavily on the analysis of archaeological collections from New World and Old World stored at Harvard's Peabody Museum, capped by student-devised experimental research projects.

ANTHRO 2070 Archaeological Method and Theory: Seminar
CourseID: 120489
Faculty:
Next Term Offered: 2019 Fall

The class covers archaeological method and theory emphasizing the 1950s onwards. Large-scale trends in social theory will be balanced with attention to the ideas and writings of significant anthropologists and archaeologists.

ANTHRO 2090 Economic Archaeology: Culture Contact
CourseID: 120512
Faculty:
Next Term Offered:

A seminar on economic archaeology focused on culture contact. Topics include trade (particularly trade diasporas), world-systems, ethnicity, shared material culture, and regional religious traditions.

ANTHRO 2250B Proseminar in Archaeology
CourseID: 125735
This graduate seminar reviews critical issues in archaeological approaches to the study of complex societies, including writing, trade, craft specialization, technology, landscape, urbanism, and political organization.

**ANTHRO 2704 Linguistic Pragmatics and Cultural Analysis in Anthropology**
CourseID: 119983
Faculty:
Next Term Offered: 2019 Fall

Exploring classic theory and recent innovations in linguistic anthropology and the semiotic anthropology of communication, we connect the social life of language to its role in culture.

**ANTHRO 3070 Case Studies and Research Proposal Preparation**
CourseID: 120488
Faculty:
Next Term Offered:

Seminar for graduate students that will focus on grant and paper writing, and will also include selected case studies.
Systematic introduction to kinetic methods for studying fluids, based on the lattice Boltzmann equation. Emphasizes theory, including discrete dynamics and symmetry, as well as hands-on programming of basic algorithms for fluid flow simulations, paying attention to understanding of the theoretical basis and connection to real fluid physics. The course lays the foundation for further research on the method extensions, particularly in complex fluids and micro/nano-fluidics and presents specific applications in various science and engineering problems.
Many complex physical problems defy simple analytical solutions or even accurate analytical approximations. Scientific computing can address certain of these problems successfully, providing unique insight. This course introduces some of the widely used techniques in scientific computing through examples chosen from physics, chemistry, and biology. The purpose of the course is to introduce methods that are useful in applications and research and to give the students hands-on experience with these methods.

We often deal with incomplete information when going about our lives: recognizing a friend's face covered by a shadow, having a phone conversation where the reception is poor, reading a document with lots of spelling and grammatical errors. In such circumstances, we make good guesses to process and understand the data. How do we do this? What kind of mathematical framework do we need to interpret noisy and incomplete data? This course will develop a set of statistical tools that will help us solve such poorly posed problems. We will draw on examples from primary literature in biology to study optical illusions, text recognition, sequence alignment, decoding cryptographs, processing of chemo-attractive signals to find food, and survival strategies of bacteria in unpredictable environments to motivate the underlying mathematical framework.

An inquiry based and hands on exploration in computational geometry. Topics include: projective geometry (duality between points/lines, symmetry among spheric/planar/hyperbolic geometry), linear algebra (vectors, matrices, symmetry groups) and recursion. We will draw pretty pictures (fractals, tessellations, algebraic curves, etc.). We will write computer programs in Mathematica (and possibly Java, if time permits).
An inquiry based and hands on exploration in computational music theory, combining mathematics, computer programming and aesthetics. Math topics: vector space model of music theory, binary tree model of scale theory. Programming in Mathematica: converting between notes and numbers, output to music notation, input from audio. Aesthetics: build your own musical instruments, invent your own music notation, compose pieces. You need to bring your laptop to class every day. Be sure to install & register Mathematica before the first class. Generally, we will program on Mondays and Wednesdays, and build/test instruments on Fridays. Grading based on final project, in-class assignments, in-class participation. No written exams or written homework outside class. You will present your finished programs, instruments and beautiful music to the class.

APMTH 158 Feedback Control Systems: Analysis and Design
CourseID: 203585
Faculty:
Next Term Offered: 2021 Fall

This course provides an introduction to feedback and control in physical, biological, engineering, information, financial, and social sciences. The focus is on the basic principles of feedback and its use as a tool for inferring and/or altering the dynamics of systems under uncertainty. Key themes throughout the course will include linear system analysis, state/output feedback, frequency response, reference tracking, PID controller, dynamic programming, and limit of performance. This includes both the practical and theoretical aspects of the topic.

APMTH 206 Advanced Applied Algebra
CourseID: 121467
Faculty:
Next Term Offered: 2020 Fall

Sets, subsets, and partitions; mappings, operations, and equivalence relations; groups, rings, and fields, polynomials, encryption, computer coding, application of modular arithmetic, combinatorial designs, lattices, application of trellis representation of lattices, fast algorithms; selected readings.

APMTH 215 Fundamentals of Biological Signal Processing
CourseID: 127196
Faculty:
Next Term Offered: 2021 Spring

The course will introduce Bayesian analysis, maximum entropy principles, hidden
markov models and pattern theory. These concepts will be used to understand information processing in biology. The relevant biological background will be covered in depth.

APMTH 222 Stochastic Modeling  
CourseID: 109344  
Faculty:  
Next Term Offered: 2021 Spring  

The course covers the modeling, analysis, and control of stochastic systems. Topics include Bernoulli and Poisson processes, Markov chains and Markov decision processes, optimization under uncertainty, queuing theory, and simulation. Applications will be presented in healthcare, inventory management, and service systems.

APMTH 232 Estimation and Control of Dynamic Systems  
CourseID: 161259  
Faculty:  
Next Term Offered: 2020 Fall  

This graduate level course studies dynamic systems in time domain with inputs and outputs. Students will learn how to design estimator and controller for a system to ensure desirable properties (e.g., stability, performance, robustness) of the dynamical system. In particular, the course will focus on systems that can be modeled by linear ordinary differential equations (ODEs) and that satisfy time-invariance conditions. The course will introduces the fundamental mathematics of linear spaces, linear operator theory, and then proceeds with the analysis of the response of linear time-variant systems. Advanced topics such as robust control, model predictive control, linear quadratic games and distributed control will be presented based on allowable time and interest from the class. The material learned in this course will form a valuable foundation for further work in systems, control, estimation, identification, detection, signal processing, and communications.
Applied Physics

APPHY 201 Microwave Quantum Spectroscopy and Quantum Circuits
CourseID: 207598
Faculty:
Next Term Offered: 2022 Spring

Microwave quantum engineering based on quantum coherent interactions of RF/microwave fields with artificial/natural atoms, molecules, and spins. We will first review foundational concepts in quantum atom-field interactions such as: coherent Rabi transition vs. noncoherent Fermi transition; energy & phase relaxations; and Overhauser effect. The main portion will then cover a list of microwave quantum engineering topics under the umbrella of quantum-coherent atom-field interaction: nuclear magnetic resonance (NMR); nuclear quadrupole resonance; electron paramagnetic resonance; RF pulse sequence techniques for quantum-state manipulation; multi-dimensional quantum coherence spin spectroscopies (COSY, TOCSY, NOSEY, ROESY, HSQC, HMQC) and their application in structural biology and quantum information; molecular finger printing; dynamic nuclear polarization via cross relaxation amplification; molecular beam and paramagnetic masers; Ramsey spectroscopy; atomic clocks; Jaynes-Cummings microwave quantum circuits; solid-state NMR quantum computation.

APPHY 226 Introduction to Soft Matter - Capillarity and Wetting
CourseID: 125449
Faculty:
Next Term Offered: 2022 Spring

Consider phenomena strongly influenced by surface tensions, high curvatures, thin films, diffusion, adsorption, wetting, which are variously mobile, dynamic, polymeric, transient, and fragile. Emphasis on the physics, thermodynamics, rheological, and scaling laws that govern bulk behavior.

APPHY 227 Landmark Papers in Soft Matter
CourseID: 109668
Faculty:
Next Term Offered: 2021 Fall

A seminar course that will survey classical, landmark, papers in soft matter physics with a slight bias towards experimental works.

APPHY 235 Chemistry in Materials Science and Engineering
CourseID: 124723
Faculty:
Next Term Offered: 2020 Spring
Select topics in materials chemistry, focusing on chemical bonds, crystal chemistry, organic and polymeric materials, hybrid materials, surfaces and interfaces, self-assembly, electrochemistry, biomaterials, and bio-inspired materials synthesis.

**APPHY 293 Dislocations and Deformation Behavior of Materials**  
CourseID: 143807  
Faculty:  
Next Term Offered: 2020 Fall

Dislocations are fundamental defects in crystalline solids affecting deformation and crystal growth. The use of dislocations to establish constitutive behavior for the deformation of materials over a wide variety of stresses and temperatures, as well as in modeling stress distributions and interfacial reactions will be included.

**APPHY 298R Frontier Topics in Molecular Biology**  
CourseID: 144326  
Faculty:  
Next Term Offered: 2019 Fall

Students are active participants and presenters in the class, and we will pick topics in molecular biology and single bio-molecule detection and imaging, fields that have seen an explosive development in recent years. Topics can include protein structure and expression, the central dogma of molecular biology, DNA-polymerase and ribosomes, gene engineering, PCR, transformation of cells, CRISPR, super-resolution imaging with fused fluorescent proteins, and nano-pores/ion-channels. The class is primarily aimed at first year graduate students and will be intense and highly interactive so the student number will be limited. If you are interested in this class, please E-mail a brief description of your interests, program of study, year, and research group if applicable to hau@g.harvard.edu (use subject line: AP298r).
ASTRON 1 The Big Questions of Astronomy
CourseID: 113797
Faculty:
Next Term Offered:

We will discuss the big questions of astronomy that have engaged scientists and the general public alike for centuries: How did the universe begin? What is the ultimate fate of the Sun? How do planets form? Is there life outside the Solar System? Students will use telescopes to study the night sky and examine how the combination of astronomical observations and physical theory have led to an understanding of the vast and dynamic cosmos we inhabit.

ASTRON 110 Exoplanets
CourseID: 125881
Faculty:
Next Term Offered: 2019 Fall

A survey of the rapidly-evolving field of the detection and characterization of planets orbiting other stars. Topics includes proto-stellar collapse and star formation; protoplanetary disk structure; models of planet formation; methods of detecting extrasolar planets; composition and physical structure of planets; planetary atmospheres; habitable zones; greenhouse effect; and biosignatures.

ASTRON 120 Stellar Physics
CourseID: 125882
Faculty:
Next Term Offered: 2020 Spring

Stars are the basic building blocks of galaxies and are responsible for the nucleosynthesis of most of the elements. Topics include stellar structure; energy transport in stars; stellar atmospheres; astroseismology; nuclear fusion in stars; stellar evolution; nucleosynthesis of the elements; stellar death and supernovae; the degenerate remnants of stars; black holes. This course will make use of thermodynamics, statistical mechanics, and quantum mechanics, but will review these subjects as necessary.

ASTRON 202A Extragalactic Astronomy and Cosmology I
CourseID: 118139
Faculty:
Next Term Offered: 2019 Fall
This course provides an integrated introduction to extragalactic astrophysics and cosmology. Notable topics include: fundamentals of cosmology, growth of cosmic structure, gravitational dynamics of halos and galaxies, and astrophysics of galaxy evolution.

ASTRON 202B Extragalactic Astronomy and Cosmology II  
CourseID: 111660  
Faculty:  
Next Term Offered: 2020 Spring

This continues the integrated presentation of extragalactic astronomy and cosmology, focusing on more advanced topics such as: big bang nucleosynthesis, CMB anisotropies, large-scale structure, gravitational lensing, the intergalactic medium, active galactic nuclei, reionization, inflation, and dark matter.

ASTRON 210 Seminar in Observational Astronomy  
CourseID: 212787  
Faculty:  
Next Term Offered: TBD

Quantum mechanics with applications to atomic and molecular processes important in astronomical environments. Atomic and molecular structure; spectroscopy (selection rules, oscillator strengths, photoionization); scattering theory (elastic, inelastic, approximate methods); line broadening; collision processes (cross sections, rate coefficients) involving electrons, ions, atoms, and molecules.

ASTRON 301HFB Journal Club  
CourseID: 160577  
Faculty:  
Next Term Offered:  

Each week two speakers (faculty, lecturers, and students) will report on current research in astronomy, providing students with an opportunity to practice the organization and presentation of technical material. A minimum of one presentation will be expected from each student each year focused on their own research or new results in the literature.
Faculty will similarly discuss recent results from the literature, as well as their own research as a way to provide an overview of research activities at the Harvard Astronomy Department. The course is intended as an opportunity for substantive discussion, as an opportunity to find out about research activities, and to foster interaction between the students and faculty. Students must complete both parts of this course (parts A and B) within the same academic year in order to receive credit.

ASTRON 310 Public Outreach in Astronomy
CourseID: 203472
Faculty:
Next Term Offered:

This course fulfills the department's graduate PhD requirement of a project or deliverable that has demonstrable impact to the field or to lay education generally. This is similar to a graded supervised research project like 91r, but at the graduate level.

ASTRON 315 Ethics and Practice in Astronomy
CourseID: 205416
Faculty:
Next Term Offered: 2019 Fall

This seminar course offers a survey in the following topics: the establishment of paradigms in astronomy; ethical behavior in astronomy; the underrepresentation of minorities and women in science; peer review and the scientific proposal process; the mentor-advisor relationship; professional conduct; careers in and beyond astronomy.
Medical Sciences

BCMP 228 Macromolecular NMR
CourseID: 136204
Faculty: Gerhard Wagner
Next Term Offered: 2019 Fall

Theory and practice of modern methods of macromolecular structure determination using multi-dimensional NMR.

CELLBIO 211 Molecular and Systems Level Cancer Cell Biology
CourseID: 116737
Faculty: Peter Sicinski
Next Term Offered: 2020 Spring

Examines the molecular basis of cancer formation including topics such as cancer epigenetic, tumor heterogeneity, systems biology proteomic approaches to study cancer, immune therapies in cancer, and therapeutic development.

CELLBIO 235 History and Philosophy of Experimentation in Biology
CourseID: 156733
Faculty:
Next Term Offered: 2019 Fall

We will trace the influence of particular philosophical arguments concerning science that have developed over the last 500 years, with the evolution of Scientific Method in biology, showing how changes in philosophy wrought changes in methodology. The course will impart on students familiar or new to the study of philosophy a framework for thinking about philosophical arguments, as well as a foundation for exploring how today's scientific method relates to scientific research, medicine, and society's popular understanding of science. This might be of particular importance given current controversies relating to the reproducibility of many published findings.

CELLBIO 307QC Molecular Aspects of Chromatin Dynamics
CourseID: 107455
Faculty: Raul Mostoslavsky
Next Term Offered: 2020 Spring

This course will discuss the role of chromatin dynamics in modulating molecular and cellular processes. The genetic information encoded in our DNA is organized in a defined set of chromosomes, which are condensed about 10,000 fold in order to fit in the cell nucleus. This compaction occurs through packaging of the DNA around histone
proteins, a structure known as chromatin. In what was thought to be a rigid structure, today we know that chromatin is an amazingly dynamic folding that plays a crucial role in controlling accessibility of factors to the DNA, and as such, it regulates a vast number of critical biological functions, including gene transcription, DNA replication, DNA repair and cellular identity. In this course we will attempt to cover some of the basic molecular mechanisms that play a role in regulating chromatin dynamics, and in turn how chromatin itself modulate biological processes, including basic mechanisms of inheritance. We will specifically discuss the role of DNA methylation, histone modifications, nucleosome dynamics and novel epigenetic modulators in the context of different biological processes for which chromatin accessibility appears to play a crucial role.

CELLBIO 309QC The Basics of Translation
CourseID: 109331
Faculty: David Van Vactor
Next Term Offered: 2020 Spring

This course covers multiple perspectives from early phase basic research all the way to defining therapeutic strategies, clinical trail design and business models for bringing effective compounds to the marketplace. This Course Begins in October, and highlights a different advanced topic each week that will illustrate how investigation of basic principles and phenomena in cell and molecular biology open important doorways to understanding of disease mechanisms. One primary research article and one review article will be assigned each week to prepare students for discussion. Dinner provided at each session.

In addition to mandatory weekly reading and discussion participation, one 6 page written assignment and oral presentation will be assigned to help students integrate the course material, improve communication skills, and identify novel experimental approaches: Write and present a proposal to launch a project with long-range therapeutic value for a neurodegenerative disorder.

CELLBIO 310QC Current Topics in Cancer Biology Research
CourseID: 109381
Faculty: Alex Toker
Next Term Offered: 2019 Fall

This course is designed for early- to mid-year graduate students that are interested in exploring current topics related to the Hallmarks of Cancer. Leading and cutting edge technologies in Cancer Biology Research are explored in-depth using recent papers of high profile in a round-table discussion format. Course sessions consist of a short lecture led by a postdoctoral discussion leader to review background information, followed by discussion of the literature selected for that session. Topics include: Metastasis and EMT, Tumor Microenvironment and Metabolism, Cancer Genomics, Cancer and
microRNAs, and Cancer Stem Cells.

HBTM 303QC Vision: A System and its Assessment
CourseID: 109226
Faculty: Russell Woods
Next Term Offered: 2019 Fall

This course provides an introduction to the visual system and its assessment. In general, we will consider vision as a system rather than its low-level components. Each two-hour session consists of two lectures provided by faculty with expertise in that area. Topics will include basic science and clinical topics, normal vision and abnormal vision, methods of assessment of animals and humans, clinical and laboratory measures.

IMMUN 308QC Transformational Immunology
CourseID: 159944
Faculty: Shiv Pillai
Next Term Offered: 2020 Spring

This is a reading course with central themes on advances in immunology that created new paradigms and changed the field. There will be a reading requirement of 2-3 relevant papers on the topics of discussion for each week. Each session will consist of a student-led presentation of background on the topic (which will consist of a brief introduction followed by a discussion involving the whole class) followed by another student’s presentation of the key points of the papers and how the new findings transformed the field. Each student is expected to make two presentations during the seven-week course. Evaluation is based on presentations and class participation.

NEUROBIO 312QC Development of the Central Nervous System
CourseID: 207085
Faculty: Mohini Lutchman
Next Term Offered: 2020 Spring

In this quarter course, students will learn about the genetics and neurodevelopment of the central nervous system. The course format will include lectures on topics on Microcephaly, Epilepsy and Autism. In addition, there will be case studies neuroanatomy laboratories and patient presentations of those affected with neurodevelopmental disease. Students will be assessed in a team-based setting.

NEUROBIO 317QC Comparative Neuroanatomy
CourseID: 207086
Faculty: Wei-Chung Lee
Next Term Offered: 2020 Spring
Neuroscientists employ diverse experimental approaches and model systems to study nervous system structure and function. Using in-class discussions of primary literature, this course will introduce students to basic principles of nervous system organization and modern methods to study neural circuits. Interactions among brain systems and comparison of circuit function across organisms spanning invertebrates to primates will be highlighted.

NEUROBIO 318QC Diseases of the Nervous System
CourseID: 205408
Faculty:
Next Term Offered: 2019 Fall

This block provides a basic framework for understanding common disease processes that affect the central and peripheral nervous system as well as their pathophysiology and treatment. Specific focus is placed on disorders frequently encountered in clinical practice such as neurodegenerative disorders, seizures, addiction and trauma. For each topic, clinical vignettes will be tied into basic diagnostic options and treatments. Disorders will also be broken down into their principle biological underpinnings, cellular and molecular dysfunction. Finally, a brief overview will be given of ongoing advancements in these fields and future directions.

NEUROBIO 333QC Careers in Neuroscience
CourseID: 207084
Faculty: Brendan Lehnert
Next Term Offered: 2021 Spring

This course is intended to provide PiN PhD candidates with a structured introduction to career skills that enable success after the completion of the PhD, and is directed to those considering both academic and non-academic paths. Th course meets in WAB 236 from 5:30pm - 7:00pm beginning January 25th, 2017 and continues every other Thursday, though meeting dates may change subject to speaker availability. There will be eleven sessions in total, and each session will feature one or more invited discussion leaders who can relate the merits and challenges of particular career paths and the skills required to be successful. Dinner is provided.

VIROLOGY 302QC Viruses of Nonvertebrate Eukaryotic Hosts
CourseID: 161290
Faculty: Max Nibert
Next Term Offered: 2020 Spring

In this course, we will expand our view, commonly focused on viruses of humans and
sometimes other vertebrates, to viruses of more evolutionarily distant eukaryotic hosts including protozoa, fungi, plants, & arthropods. Emphasis will be placed on alternative means of transmission and spread exhibited by these viruses, but other distinctive aspects of their life cycles will be considered as well. Active student participation will be expected and essential for the success of this readings- and discussions-based course, which is intended for more advanced students who have some previous background in virology.
Biomedical Engineering

BE 153 Bioelectromagnetics
CourseID: 156945
Faculty:
Next Term Offered: 2022 Spring

This course will introduce bioelectricity and bioelectromagnetics starting with Maxwell Equations, which will quickly be simplified to the quasi-static form typically applicable in physiology. We will introduce the basics of membrane electrical biophysics, which we will use to study action potentials and action potential propagation. Applications will include electro-cardiograms (ECGs), electro-myograms (EMGs), electro-oculograms (EOGs), and electro-encephalograms (EEGs). EEG investigations will include analyses of spatial resolution as well as dynamic properties. A course project will allow students to choose an area of specific interest for more in-depth investigation and analysis. The content and course requirements are similar to Engineering Sciences153. Students may not take both courses for credit. Basic electromagnetism (Applied Physics 50b, Physics 11b or 15b, Physical Sciences 12b, or equivalent), basic vector calculus (Applied Math 21a or equivalent), basic differential equations (Applied Math 21bor equivalent).

BE 160 Chemical Kinetics and Reactor Design
CourseID: 156207
Faculty:
Next Term Offered: 2021 Fall

Introduction to chemical kinetics and reactor design with applications to bioengineering, chemical engineering, environmental sciences and other areas.
Biostatistics

BIOSTAT 233 Methods II
CourseID: 119847
Faculty:
Next Term Offered: 2020 Spring

Intermediate course in the analysis of Gaussian, categorical, and survival data. The generalized linear model, Poisson regression, random effects and mixed models, comparing survival distributions, proportional hazards regression, splines and smoothing, the generalized additive model.

BIOSTAT 240 Probability Theory and Applications II
CourseID: 119854
Faculty:
Next Term Offered: 2019 Fall

A foundational course in measure theoretic probability. Topics include measure theory, Lebesgue integration, product measure and Fubini’s Theorem, Radon-Nikodym derivatives, conditional probability, conditional expectation, limit theorems on sequences of random variables, stochastic processes, and weak convergence.

BIOSTAT 249 Bayesian Methodology in Biostatistics
CourseID: 119853
Faculty:
Next Term Offered: 2019 Fall

General principles of the Bayesian approach, prior distributions, hierarchical models and modeling techniques, approximate inference, Markov chain Monte Carlo methods, model assessment and comparison. Bayesian approaches to GLMMs, multiple testing, nonparametrics, clinical trials, survival analysis.

BIOSTAT 254 Topics in Biostatistics
CourseID: 160702
Faculty: Donna Spiegelman
Next Term Offered: 2019 Fall

Offered primarily for students majoring in biostatistics, although qualified students from other departments are welcome. Topics covered vary each year, based on recent developments in biostatistics and the research interests of instructor.
Students will explore current topics in computational biology in a seminar format with a focus on interpretation of 'omics data. They will develop skills necessary for independent research using computational biology.
Respiratory measurements are an integral part of public health research. We will critically discuss their scientific bases, noting practical considerations and pitfalls, and their interpretations and inferences about physiological status and disease.
Celtic Languages and Literatures

CELTIC 101 Irish Heroic Saga
CourseID: 122419
Faculty:
Next Term Offered: 2020 Spring

A study of the ways in which the hero is represented in early Irish sources, especially in the saga literature. The texts reflect the ideology and concerns of a society which had been converted to Christianity, but continued to draw on its Indo-European and Celtic heritage. The biographies of the Ulster hero, Cú Chulainn, of his divine father, Lug, and of certain king-heroes are studied in depth. The wisdom literature, and archaeological and historical evidence will be taken into account.

CELTIC 103 The Celts
CourseID: 126774
Faculty:
Next Term Offered: 2019 Fall

This course examines the ways that an elusive population group called "The Celts" has been constructed from antiquity to the present. We study the linguistic, archaeological, genetic, mythological, literary and institutional bases of "Celticity" in the light of recent critiques of the ways in which these different kinds of evidence have been asked to walk hand in hand with one another in the service of certainty about Celtic identity. All texts are read in translation.

CELTIC 109 Finn: The Great Gaelic Hero
CourseID: 127630
Faculty:
Next Term Offered: 2019 Fall

This course explores the lengthy and wildly popular Irish and Scottish Gaelic tradition surrounding the hero, Finn mac Cumail (a.k.a. 'Finn MacCool' or 'Fionn mac Cumhail'). Finn is variously portrayed as a hunter-warrior-seer and is the leader of the intrepid fianna war band. We survey this Fenian literature as it is presented to us by medieval and early modern Gaelic manuscript tradition. We also engage with the rich modern Fenian folklore of Ireland, Scotland, and Nova Scotia. This includes the study of important texts such as Acallam na Senórach 'The Dialogue of the Ancients' and Tóraigheacht Dhiarmada agus Ghráinne 'The Pursuit of Diarmaid and Gráinne'. Additionally, we consider the international impact of the Fenian tradition by examining James Macpherson's infamous, eighteenth-century, English-language adaptations and the ensuing Ossian controversy. All Gaelic texts are read in English translation.
CELTIC 120 Food and Fantasy in Irish Tradition  
CourseID: 203245  
Faculty:  
Next Term Offered: 2020 Spring

Many aspects of food—growing, cooking, eating, drinking, and distributing it—have served as powerful cultural symbols in Irish oral and literary tradition from medieval to modern times. A survey of the environmental, historical, and economic background to food and its production in Ireland of the early Middle Ages will lead to the close reading of medieval texts (in translation) such as "News about Mac Dathó’s Pig," "The Vision of Mac Conglinne," and "The Battle of Mag Tuired," in each of which the "what," "why," and "how" of eating determine the outcome of the story. In addition, we will examine the lively symbolism of food as perpetuated in Irish legend and folktale, and also in post-medieval Irish literature.

CELTIC 137 Celtic Mythology  
CourseID: 111202  
Faculty:  
Next Term Offered: 2019 Fall

Medieval Irish and Welsh texts reflect underlying story patterns, characters, and motifs that are rooted in pre-Christian tradition and in some cases witnessed in the archaeological evidence and in the ethnographic writings of ancient Greek and Roman authors. We will examine these texts in translation and track the reconstruction of the "pagan past" undertaken by medieval Celtic writers, as well as the new mythologies they developed to suit the evolving ideological agenda of their world, from ca 600 to 1500 CE.

CELTIC 138 The Mabinogion: Stories from Medieval Wales  
CourseID: 118671  
Faculty:  
Next Term Offered: 2020 Spring

An exploration of the Four Branches of the Mabinogi, Welsh Arthurian romances and tales, and the bardic lore associated with them, in the context of the literary culture of Wales in the twelfth through fourteenth centuries. All texts are read in English translation.

CELTIC 187 Literature of the Dispossessed: Gaelic Ireland, c.1600-1900  
CourseID: 203293  
Faculty:  
Next Term Offered: 2020 Spring

An introduction to Irish Gaelic poetry and prose of the seventeenth to nineteenth centuries, this course explores poets’ preoccupations and creative impulses in a time of regular conflict and drastic sociopolitical change. Critical issues we will consider include,
but are not limited to, the role(s) of the poet in society, tradition and innovation, orality, and intertextuality. All texts will be read in English translation.

CELTIC  188 Songs of the Highlander
CourseID: 125945
Faculty:
Next Term Offered: 2020 Spring

An introduction to Scottish Gaelic poetry of the sixteenth to nineteenth centuries, this course explores poets' preoccupations and creative impulses in a time of regular conflict and drastic sociopolitical change. Critical issues we will consider include, but are not limited to, the role(s) of the poet in society, tradition and innovation, orality, and intertextuality. All texts will be read in English translation.

IRISH  161R Continuing Advanced Modern Irish
CourseID: 113909
Faculty: Natasha Sumner
Next Term Offered: 2020 Spring

Continuation of the fall term course.

IRISH  200 Introduction to Old Irish
CourseID: 123266
Faculty:
Next Term Offered: 2019 Fall

An introduction to the language of the eighth and ninth centuries, with elementary readings in prose texts.

IRISH  201R Continuing Old Irish
CourseID: 117752
Faculty:
Next Term Offered: 2020 Spring

Further grammatical study, with continued reading of saga texts.

WELSH  226R Readings in Middle Welsh Prose
CourseID: 111956
Faculty:
Next Term Offered: 2019 Fall
An exploration of the enormous variety of medieval Welsh prose literature: selections from tales and romances, chronicles, laws, and lore.

WELSH  227 Welsh Bardic Poetry
CourseID: 111774
Faculty:
Next Term Offered: 2020 Spring

Readings from the *hengerdd*, the *beirdd y twysogion* and the *beirdd yr uchelwyr*, consideration of the social and political contexts of their poetry, its forms, and its relationship to other medieval European poetic traditions.
Chemistry and Chemical Biology

CHEM 101 Chemical Biology Towards Precision Medicine
CourseID: 124554
Faculty:
Next Term Offered: 2019 Fall

Chemical Biology Towards Precision Medicine teaches students principles of modern organic synthesis, chemical biology and human biology relevant to the discovery of safe and effective small-molecule therapeutics in the future. The course will explore patient-based 'experiments of nature' that illuminate disease, including cancer, diabetes, infectious disease and psychiatric disease, among others. Students will then use their knowledge of chemistry and chemical biology to propose research yielding novel small molecules that affect biological systems by mechanisms suggested by the experiments of nature. Chem 101 aims to prepare students for the next decade where academic research tests hypotheses emerging from human biology in humans using novel small-molecule probes.

CHEM 106 Physical-Organic Chemistry
CourseID: 108840
Faculty:
Next Term Offered: 2021 Fall

This course will survey modern organic chemistry from a fundamental perspective. The foundations of structure and bonding, donor-acceptor interactions, and conformational analysis will be considered in the context of pericyclic reactions and cyclic and acyclic stereocontrol. The behavior of reactive intermediates, the basis for enantioselective catalysis, and patterns in functional group reactivity will also be discussed.

CHEM 114 Advanced Organic Chemistry
CourseID: 212708
Faculty:
Next Term Offered:

  TBD

CHEM 115 Advanced Organic Chemistry: Synthesis of Complex Molecules
CourseID: 114209
Faculty: Andrew Myers
Next Term Offered: 2020 Spring
An integrated course in complex synthetic problem solving that focuses on the development of principles and strategies for synthesis design with a concurrent, comprehensive review of modern synthetic transformations.

CHEM 155 Advanced Inorganic Chemistry II
CourseID: 156395
Faculty: 
Next Term Offered: 2020 Fall

Transition element chemistry will be discussed with an emphasis on synthesis, structure, bonding, and reaction mechanisms. Connections between molecular structure and electronic structure and how that parleys into reactivity will be emphasized throughout. Advanced problems of interest to inorganic chemistry will be discussed in the context of catalysis, organometallics, and bioinorganic processes. The course will be discussion driven with a heavy reliance on the current literature.

CHEM 170 Chemical Biology
CourseID: 122175
Faculty: 
Next Term Offered: 2019 Fall

Applying chemical approaches to problems in biology. Topics include: protein engineering and directed evolution; genomics, proteomics, and metabolomics; genome editing; gene regulation; modern drug discovery; chemical genetics; glycobiology; cancer chemical biology; synthetic biology.

CHEM 242 Quantum Mechanics for Physical Chemistry
CourseID: 112103
Faculty: 
Next Term Offered: 2019 Fall

This course describes the quantum mechanics, dynamics and vibronic spectroscopy of molecules as well as scattering theory including chemical reactions. Born-Oppenheimer theory, time dependent quantum mechanics. Powerful and intuitive semiclassical approximations are developed starting from the Feynman path integral. Decoherence and its crucial role in many experiments is discussed.
East Asian Languages and Civilizations

CHNSE 168R Chinese in the Social Sciences
CourseID: 108384
Faculty: 
Next Term Offered: 2020 Spring

Advanced language practice through the reading and analysis of authentic academic texts in social science disciplines (e.g., history, politics, sociology, economics). May be offered independently in Chinese, or linked with an English-language content course. Specific content varies by year.

CHNSE 187 Art and Violence in the Cultural Revolution
CourseID: 115034
Faculty: Xiaofei Tian
Next Term Offered: 2020 Fall

Examines the cultural implications of the Cultural Revolution (1966-1976). We will examine how art was violent towards people and how violence was turned into an art. We will also consider the link between violence, trauma, memory and writing. Materials include memoir, fiction, essay, "revolutionary Peking Opera," and film.

CHNSHIS 185 The Historiography of the Middle Period
CourseID: 118392
Faculty: Peter K. Bol
Next Term Offered: 2019 Fall

The course this year will be devoted to creating modules for ChinaX, the new HarvardX course devoted to China's history and culture from antiquity to the present. In addition to acquiring a general knowledge of China's history, participants in the course will be actively involved in creating materials for the online course; including producing videos, creating structures for content development, choosing texts and images for online discussion and mark-up, and participating in debates and discussions that will be shown to a world-wide online audience. We hope to do these modules in both English and Chinese versions, but knowledge of Chinese language is not necessary to participate. As presently conceived the course will aim to produce fifteen modules covering topics from the 8th to the 18th century. Topics will include political and institutional history, poetry, novels and short stories, art, social and economic change, and international relations among others. It is possible that the scope will be extended forward and backward in time. This is not a lecture course. There is no final examination. Grades will be based on both a self-assessment and a review of contributions to the modules by peers and faculty.
CHNSHIS 201 Intellectual Debates in China Today
CourseID: 159902
Faculty: Peter K. Bol
Next Term Offered: 2020 Spring

The seminar explores different positions that well-known intellectuals are taking around three larger issues: political systems, culture, and individual values/morality. In each area we will look at the divergent arguments that are being advanced and how intellectuals locate themselves in the context of China's recent intellectual past and, in some cases, China's intellectual history since ancient times. The undercurrent is the problem of what a "Chinese" identity can be in a global context and whether it is necessary. There will be a combination of common readings to establish issues and individual reports on particular figures and writings.

CHNSHIS 225R Topics in Middle Period History: Seminar
CourseID: 115124
Faculty: Peter K. Bol
Next Term Offered: 2020 Spring

Examines various topics in the political, institutional and intellectual history of middle period China (8th-15th c.) with a focus on the literati as local elites participating in national cultural trends.

CHNSHIS 228 Introduction to Neo-Confucianism
CourseID: 117080
Faculty: Peter K. Bol
Next Term Offered: 2020 Fall

Introduces major Neo-Confucian texts for close reading and analysis. Selections from the writings and records of spoken instruction by Zhou Dunyi, Chang Zai, Cheng Yi, Cheng Hao, Zhu Xi, Liu Jiuyuan, and others.

CHNSHIS 232R Topics in Han History: Seminar
CourseID: 117082
Faculty: Michael J. Puett
Next Term Offered: 2020 Fall

Examines various topics in the history of the Han Dynasty.

CHNSLIT 115 Gender and Power in Chinese Literature: Seminar
CourseID: 124530
Faculty: Wai-Yee Li
Next Term Offered: 2020 Spring
Uses conceptions of gender and representations of women to examine shifting paradigms of virtues and vices, notions of rhetoric and agency, ideas about politics, power and historical explanations, and boundaries of supernatural realms and religious transcendence.

CHNSLIT 134 Strange Tales: The Supernatural in Chinese Literature
CourseID: 212642
Faculty:
Next Term Offered:
This course introduces students to traditional Chinese literature by focusing on "tales of the strange." We will examine how ghosts, demons, fox spirits, and other liminal creatures haunt the literary imagination, stretching the possibilities of storytelling. Students will gain familiarity with masterpieces of Chinese literature and their intriguing afterlives in performance, film, and popular culture. Our discussions will consider how literary accounts of ghosts and the supernatural grapple with issues of gender and sexuality, the cultural meanings of death, the boundaries of human community, and the experience of historical trauma. We will focus on developing skills in close reading, while critically engaging theories of the "strange." No background in Chinese is required.

CHNSLIT 160 Heroes and Anti-heroes in Chinese Literature: Seminar
CourseID: 114805
Faculty: Wai-Yee Li
Next Term Offered: 2021 Spring
What is a hero? Does the hero have to look like a hero? Is the idea of the hero a moral idea? How does Chinese culture develop the idea of the heroic? Is courage the definitive element in the conception of the hero? Do heroes depend on struggles, dilemmas, and ironies to become interesting? What are the genealogies of heroes and anti-heroes in the Chinese tradition? We will focus on textual materials as well as visual representation.

CHNSLIT 227R Early Chinese Historical Writings: Zuozhuan and Related Materials
CourseID: 114804
Faculty: Wai-Yee Li
Next Term Offered: 2019 Fall
We will study canonical works in early Chinese historical writings and explore questions of ideology, rhetoric, and narrative?the conceptions of time, change, and causation; modes of reasoning, argument, and observation; forms of speech and narrative. The
purpose is to introduce seminar participants to these materials and their exegetical traditions.

**CHNSLIT 231 Late-Ming Literature and Culture**
CourseID: 115957  
Faculty: Wai-Yee Li  
Next Term Offered: 2020 Spring

Surveys writings from second half of sixteenth century until fall of Ming, including prose (including "informal essays"), poetry, drama, fiction. Examines late-Ming literary-aesthetic sensibility (and questions how such a category may be justified.)

**CHNSLIT 242R From Fiction into History**
CourseID: 156199  
Faculty: David Wang  
Next Term Offered: 2020 Spring

This seminar deals with the dialogics between historical dynamics and literary manifestation at select moments of twentieth century China. It focuses on two themes: history and representation; modernity and monstrosity.

**CHNSLIT 248 Modern Chinese Literature: Theory and Practice: Seminar**
CourseID: 124652  
Faculty: David Wang  
Next Term Offered: 2019 Fall

Survey of the concepts, institutions, canons, debates, experiments, and actions that gave rise to, and continually redefined, modern Chinese literature. Equal attention given to theories drawn from Chinese and Western traditions.

**CHNSLIT 268R Topics in Song and Yuan Literature**
CourseID: 115522  
Faculty: Xiaofei Tian  
Next Term Offered: 2021 Spring

Survey of Song literature.

**EAFM 112 Global Japanese Cinema**
CourseID: 159550  
Faculty: Alexander Zahlten  
Next Term Offered: 2019 Fall
This course introduces Japanese cinema and its key works, styles and history as a highly influential part of global film culture. From the use of slow-motion in action scenes to the role of robots in Star Wars, cinema from Japan has left its mark on film as we know it today. Indeed Japanese film has influenced not only the history of film itself, but also the very way we think about film and film aesthetics. The course examines major historical developments in the cinema of Japan and surveys many of its most important films and their historical contexts. It explores some of the major questions that cinema from Japan has raised for thinking about the cinematic form and moving images. Through engaging with some of the masterpieces of Japanese cinema participants will acquire tools and methods for analyzing film. In the context of Japanese film history they will interrogate terms such as "national cinema", "humanism", "film auteur", "gender" or "modernism" and explore how cinema in Japan itself actively wrestled with such concepts. The course will center around questions such as: Is there such a thing as "Japanese" cinema? What kind of influences and counter-influences were exerted between cinema in Japan and the global context? How has cinema from Japan changed how we think about film and moving images? Which potential does it hold for radically changing our thinking about film and moving images even today?

In addition to class meetings on Wednesday 2-4, there are film screenings on Monday 5-7.

EAFM 201 Media Mix: Representations and Meaning Between Media in Japan: Seminar
CourseID: 108471
Faculty: Alexander Zahlten
Next Term Offered: 2020 Spring

This course will explore different histories of the interconnection of media in Japan, from the early ties between theater, literature and cinema to the popularization of the media mix by the company Kadokawa and the current routes between manga, anime, light novels, films and games.

For Fall 2015, classes will meet Thursday 2-4:29 and film screenings on Tuesday 6-7:59.

EAFM 202 Rip and Tear--The Body as Moving and Moved Image in Japanese Film: Seminar
CourseID: 108472
Faculty: Alexander Zahlten
Next Term Offered: 2019 Fall

This course traces the role of the body as a discursive anchor in moving image culture in Japan. The focus will lie on the period after WW II, although the mapping of historical
contexts will entail investigations into earlier histories as well.

**EAFM 222 Media Cultures in the People's Republic**
CourseID: 110471  
Faculty: Jie Li  
Next Term Offered: 2020 Spring

This seminar examines the changing Chinese mediascape from the 1950s to the present. Every week, we will focus on a different form of representational media, from propaganda posters, photography, radio broadcasting, and cinema, to television, video piracy, and the Internet. We will ask question such as: How have media technologies changed contemporary Chinese culture and society? Were they instruments of totalitarian control, commodities of market capitalism, or tools of resistance and independent expression? How did the mass media affect perception, experiences, and memories of socialism and postsocialism, as well as the periods’ cultural forms and aesthetics? What is specific or special about each medium, and how do different types of media interact in the Chinese context? While analyzing media texts, we will also consider their sociopolitical, institutional, and technological as well as engage with media theories and explore untapped historical sources.

**EASTD 129 The World of the Three Kingdoms: Seminar**
CourseID: 130238  
Faculty: Xiaofei Tian  
Next Term Offered: 2021 Spring

This course explores the appeal of the "Three Kingdoms," a dangerous and violent time, and examines the nostalgic construction of the world of the Three Kingdoms from medieval times through contemporary period, in the forms of fiction, poetry, plays, movies, TV series, video games, MVs and fan fiction. Using the concept of "nostalgia" as a point of entry, this class offers an account of the nuances in the phenomenon and sentiments of nostalgia about the Three Kingdoms in different periods throughout Chinese history, with emphasis on nostalgia as a historical emotion and a modern global condition.

**EASTD 170 Medicine and the Body in East Asia and in Europe**
CourseID: 144070  
Faculty: Shigehisa Kuriyama  
Next Term Offered: 2020 Spring

Comparative historical exploration of the striking differences and unexpected similarities between traditional conceptions of the body in East Asian and European medicine; the evolution of beliefs within medical traditions; the relationship between traditional medicine and contemporary experience.
EASTD 211 Historical Theory and Methods
CourseID: 142676
Faculty: Shigehisa Kuriyama
Next Term Offered: 2020 Fall

Theories and methods for research in East Asian history. Covers approaches to social, cultural, intellectual, and political history, analyzing significant works in each field and applications to Chinese, Japanese, and Korean materials.

EASTD 220R Medieval Japanese Picture Scrolls
CourseID: 144504
Faculty: Melissa M. McCormick
Next Term Offered: 2019 Fall

Examines the rich tradition of medieval Japanese picture scrolls (emaki). Provides training in the reading of scroll texts (kotobagaki), the analysis of paintings, and the examination of the production contexts of important scrolls from the 12th to the 16th century. Aims to make picture scrolls available as a primary source for graduate research in many different disciplines within Japanese studies.

JAPAN 106C Later Classical Japanese
CourseID: 121032
Faculty: Edwin Cranston
Next Term Offered: 2019 Fall

Post-Heian writings in Classical Japanese.

JAPNHIST 120 Japanese Religions in the 20th and 21st Centuries
CourseID: 119698
Faculty: Helen Hardacre
Next Term Offered: 2020 Fall

An examination of religion and society from the end of the Meiji period (1912) to the present. This course explores the meaning of the modern in Japanese religions, the development of the public sphere and religion's relations with it, religion and nationalism, and the interconnections of religion and social change with materialism, consumerism, pacifism, and spiritualism.

JAPNHIST 214R Major Issues in the Study of Japanese Religions
CourseID: 159553
Faculty: Helen Hardacre
Next Term Offered: 2019 Fall
This seminar is primarily for graduate students preparing for research and teaching in Japanese religions. Because it will have a different focus each time it is offered, students may take it more than once. The topic for Fall 2015 will be ethnographic studies of Shinto. Future offerings of the course will focus on such topics as shrine festivals (matsuri), religion in the Japanese empire, and Japanese new religious movements. Most readings will be in English, but Japanese-language readings will also be included.

JAPNHIST 260R Topics in Japanese Cultural History  
CourseID: 120567  
Faculty: Shigehisa Kuriyama  
Next Term Offered: 2020 Spring

The course will focus on the interplay of pictures and texts in Edo Japan in a wide variety of genres, including natural history, shunga, popular literature, how-to manuals, and advertisements. In addition to training students in the cultural analysis of printed illustrations, the course will also help students develop facility in reading hentaigana materials.

KORHIST 111 Traditional Korea  
CourseID: 113364  
Faculty: Sun Joo Kim  
Next Term Offered: 2019 Fall

Survey of the history of Korea, from earliest times to the 19th century. Examines various interpretive approaches and issues in the political, social, economic, intellectual, cultural, and diplomatic history of premodern Korea.

KORHIST 115 Korean History Through Film  
CourseID: 108233  
Faculty: Sun Joo Kim  
Next Term Offered: 2021 Spring

This course is to examine history of premodern Korea through select Korea's contemporary feature films. Films and dramas with historical themes and personages have been very popular in Korea. We will examine the content of the films, and investigate how "true" or "false" they represent Korea's past, how they imagine and invent Korea's past, in what ways films are useful in better understanding Korean history, people's lives and practices.

KORHIST 230R Readings in Premodern Korean History  
CourseID: 113964  
Faculty: Sun Joo Kim  
Next Term Offered: 2020 Spring
A study of social, political, economic, and intellectual history of premodern Korea reviewing major scholarship in the field. Designed primarily for graduate students preparing for the general examination. All readings are in English.

KORHIST 231AR Documents and Research Methods for the Study of Premodern Korea I: Seminar
CourseID: 127714
Faculty: Sun Joo Kim
Next Term Offered: 2020 Fall

Introduction of the different types of primary sources and research methodologies useful for study of Chôson Korea. Students are required to write a research paper.

KORHIST 231B Documents and Research Methods for the Study of Premodern Korea II: Seminar
CourseID: 127743
Faculty: Sun Joo Kim
Next Term Offered: 2021 Spring

Continued training in reading and interpreting primary sources and exploring innovative research methodologies. Students are required to write a research paper based on original sources on a topic of their choosing.

KORHIST 240R Selected Topics in Premodern Korean History: Seminar
CourseID: 117551
Faculty: Sun Joo Kim
Next Term Offered: 2020 Spring

Reading and research of selected primary sources and secondary works on premodern Korean history.

KORHIST 257 Modern Korean History: Special Seminar
CourseID: 156717
Faculty: Carter Eckert
Next Term Offered: 2020 Spring

Readings and research in modern Korean history. Students are required to write a seminar paper based largely on primary materials.

KORHIST 261 Readings in Modern Korean History II
CourseID: 127821
Faculty: Carter Eckert  
Next Term Offered: 2020 Spring  
Continuation of Korean History 260. Designed primarily for graduate students preparing for the general examination.

KORLIT 214 Korean Writers and Their Books  
CourseID: 204997  
Faculty: Si Nae Park  
Next Term Offered: 2020 Spring  
This graduate seminar introduces students to Korean literature within an intricate transcultural and translingual matrix of other preexisting literary texts by focusing on writers and the books that served as their creative inspiration. Each week?with the exception of the first week focused on pre-20th-century Korea?students will read the whole or part of one recent monograph on Korean literature in the English language and a pair of literary works (one by a Korean writer in the original language, with the aid of a modern Korean rendition, and the other that was his or her "muse" in English translation) to conduct close reading, familiarize oneself with debates and research questions in current Korean literature scholarship, and contextualize the authors and their works in relevant ecology and culture of books. Students should have advanced knowledge of Korean.

MONGOLN A Elementary Written Mongolian  
CourseID: 112097  
Faculty: Mark Elliott  
Next Term Offered: 2019 Fall  
Study of classical Mongolian grammar, with introduction to pre-classical and classical Mongolian texts.

MONGOLN B Elementary Written Mongolian  
CourseID: 123855  
Faculty: Mark Elliott  
Next Term Offered: 2020 Spring  
Continuation of Mongolian A.

MONGOLN 120A Intermediate Written Mongolian  
CourseID: 117090  
Faculty:  
Next Term Offered: 2019 Fall  
Readings in classical and modern Mongolian texts.
MONGOLN  120B Advanced Written Mongolian  
CourseID: 117091  
Faculty:  
Next Term Offered: 2020 Spring  

Continuation of Mongolian 120a.

UYGHUR     A Elementary Uyghur  
CourseID: 124106  
Faculty: Mark Elliott  
Next Term Offered: 2019 Fall  

Introduction to Uyghur, the Turkic language spoken in China's Xinjiang Uyghur Autonomous Region and throughout Central Asia. Course covers grammar, reading and writing (in the modified Arabic alphabet adopted in the PRC), and conversation practice.

UYGHUR     B Elementary Uyghur  
CourseID: 124107  
Faculty: Mark Elliott  
Next Term Offered: 2020 Spring  

Continuation of Uyghur A. Completion of basic Uyghur grammar, listening and speaking practice with the aid of audio-visual materials, selected readings from Uyghur literature and academic prose.

UYGHUR  120A Intermediate/Advanced Uyghur  
CourseID: 124525  
Faculty: Mark Elliott  
Next Term Offered: 2019 Fall  

Additional training in modern Uyghur, with attention to improvement of spoken fluency and comprehension. Extensive readings in a range of genres, including historical writing and academic prose as well as religious texts.

UYGHUR  120B Intermediate/Advanced Uyghur  
CourseID: 124526  
Faculty: Mark Elliott  
Next Term Offered: 2020 Spring  

Continuation of Uyghur 120A.
The course provides a broad overview of the development of Roman art, architecture, and material culture from the time of the Republic through the Imperial period, to the age of Constantine. It offers basic knowledge about core categories of archaeological artifacts and remains within their topographical setting and within the context of Roman culture and society; it also includes issues of archaeological methods and problems of current research.

How do we make others believe us when we stretch the truth? This course is both a survey of ancient Roman literature and an introduction to the classic tools of storytelling and deception that we still encounter today. We will study how ancient authors manipulate our perception of the stories they tell and see how these techniques recur in modern examples. Topics include historical legend, love poetry, the courtroom strategy of Cicero, political propaganda in epic poetry, Aesopic fables, ghost stories, and the account of a man transformed into a donkey. We end with several modern short stories. Readings are in English.

This course will explore ancient Greek ideologies of gender difference and sexuality, including the mythical "origins" of gender, legal definitions of marriage and adultery, the gendering of space, the portrayal of women on the tragic stage, gender-bending and cross-dressing in comedy, medical models of sex and childbirth, and the links between pederasty and pedagogy. With the help of some important modern discussions about the construction of gender, sexuality, and identity, we will try to assess the ways in which sexual practices and male and female identities were imagined, formed, reinforced, and
institutionalized during the archaic and classical periods (roughly 800-300 BCE).

**CLS-STDY 165 Medicine in the Greco-Roman World**
CourseID: 124969
Faculty: Mark Schiefsky
Next Term Offered: 2020 Spring

Theories and practices of health and healing in the ancient Greco-Roman world, with special emphasis on the relationship of learned medicine to philosophy and other healing traditions.

**CLS-STDY 222 Regional Study: Macedonia**
CourseID: 109565
Faculty:
Next Term Offered: 2020 Spring

This graduate seminar will explore the political and cultural history of Macedonia and northern Greece, from the archaic period to late antiquity. We will focus on questions of change, recurrence, and continuity within the long history of this frontier region, at the threshold of the Aegean and Balkan worlds. The seminar will be discussion-based, and texts, objects, and ideas will be brought into dialogue around themes that are arranged roughly chronologically. These will include the formation and identity of the Macedonian kingdom, interactions with Balkan and Asian neighbors, conflicts with Greek poleis, imperial expansion and consolidation, provincialization by Rome, and the dynamics of early Christian community building.

Our enquiry will be conducted on several different scales: we will be informed both by close reading of texts and close examination of individual sites and objects, by the different, broader modern arguments into which texts, sites and objects are drawn, and by the big, overarching questions that we will ask as we move across time and place. We will take a week-long, funded tour of Macedonia during Spring Break, in order to visit the most significant archaeological sites and museum collections.

**GREEK 134 The Language of Homer**
CourseID: 115238
Faculty: Jeremy Rau
Next Term Offered: 2019 Fall

Essentials of Greek comparative and historical grammar, and a close reading of *Iliad* 1 and 3. Diachronic aspects of Homeric grammar and diction.

**LATIN K Advanced Latin Prose Composition: Seminar**
CourseID: 114908
Faculty:
Next Term Offered: 2020 Spring

Exercise in the prose style of different authors and periods, working within various subject areas and genres. As a guide to composition, we will read and analyze illustrative passages from authors including Cato, Cicero, Sallust, Livy, Seneca, Tacitus, and Apuleius. Weekly assignments will include both reading and composition. Instead of a final exam, there will be a final composition project.

LATIN 112B History of Latin Literature II
CourseID: 121749
Faculty:
Next Term Offered: 2020 Spring

We will read extensive selections from major authors of the late Republic and Principate across a range of genres, from Vergil to Boethius, and satire to historiography, and consider their form and content against their historical contexts. Class will consist of a mixture of prepared translation from Latin and introductory lectures, while a weekly section will allow students to deepen their grammatical understanding of the texts. Designed for those with a good foundation of Latin grammar and vocabulary, students will be exposed to a robust amount of Latin prose and poetry, and at the end of the course will have acquired a solid grasp on Latin literary history.

MODGRK 10 Introduction to Modern Greek Texts
CourseID: 212818
Faculty:
Next Term Offered:
This seminar centers on five writers, Jules Verne, Virginia Woolf, Aimé Césaire, Vikas Swarup, and Donna Haraway, and filmmakers such as Georges Méliès, Fritz Lang, and Maya Deren. Unlike other survey courses, this seminar introduces you to literary studies and related art forms (film, fine art, music, science, etc.) through the practice of slow reading. We typically dedicate 2-3 sessions to one author whose work we explore more carefully, by couching it in an interdisciplinary context. This means that we will read fewer pages per week, but we will study them in a more focused way instead. Slowing down our reading pace will allow us to appreciate more deeply and fully, how writers and artists created and understood the world around them while transforming us.

Writers in every culture have mobilized the resources of poetic language and literary form to delight, instruct, shock, transform, and unsettle their readers, while critics and theorists have sought to understand how writers achieve their effects. This course will help us sharpen our critical tools to engage with literary, visual, and aural texts from the past two centuries. Through close reading of a selection of compelling works, accompanied by major critical and theoretical statements, we will explore different literary genres and styles and the relation of literature to topics as diverse as the rise of new media, technological transformation and its relation to the humanities, the human-animal divide, medicine, sexuality, translation, space, gender, race, ecology, violence, and (post-)colonialism. Occasional film screenings and visits to the Houghton Library, Science Center, Harvard Art Museums are part of the course.

What is theory? What is the difference between literary, critical and cultural theory? What is the relation between theory and reading? This course introduces students to various concepts of theory (Derrida, Deleuze, Foucault, Balibar, Adorno, Benjamin, Freud, Saussure, Cixous, Kristeva, Butler and others). Focuses on theoretical texts and will bring in literary texts where necessary.
Examines trends, issues and debates in the comparative study of mystical literature. Close readings of primary works by Jewish, Christian and Muslim authors from the Middle Ages through the 16th century. Topics include poetry and mysticism; allegory, symbolism and Scripture; body and gender; apophasis vs cataphasis; exemplarity and autobiographism; language and experience. Also examines creative engagement of pre-modern mystical literature in selected works by modern authors (Borges, T.S. Eliot) and literary theorists (DeCerteau).

COMPLIT 123 Island Literature
CourseID: 160882
Faculty: Marc Shell
Next Term Offered: 2019 Fall

All the world's a planetary stage. Islands, both a part of and apart from the main, offer ready-made laboratories for linguistic, narratological, and political investigation. Islandness encourages political and economic philosophy, geography, psychology, and vacation. This course focuses on island literature, with special attention to works by Homer, More, Shakespeare, Defoe, and Wagner, as well as works by cinematographers like Bergman and painters like Böcklin.

COMPLIT 131 The Arab American Experience in Fiction, Film, and Popular Culture
CourseID: 128114
Faculty: Sandra Naddaff
Next Term Offered: 2019 Fall

Since 9/11, there has been a proliferation of work about the Arab-American experience. This course will explore that experience as expressed in various cultural forms-fiction, film, comedy acts, graphic novels, memoirs, art installations, and new media. We will pay particular attention to contemporary works, although we will also consider the work of early 20th-century Arab-American writers. Works to be considered include *The Prophet*, *Syrian Yankee*, *Habibi*, *A Map of Home*, as well as *The Axis of Evil Comedy Tour*, *The Green Lantern* comic book series, and the television show *Make Room for Daddy*. No knowledge of Arabic is required.

COMPLIT 135 History of Drama
CourseID: 109675
Faculty:
Next Term Offered: 2019 Fall

This course examines the history of drama in Europe, the Middle East, China, and the New World with a focus on early modernity. How can we approach dramatic texts? How
does drama relate to representation and performance? How is drama from past centuries translated and staged in a globalized world? We will explore genres such as comedy, tragedy, commedia dell'arte, opera, shadow and puppet theater. Authors include: Muhammad Ibn Daniyal, Gil Vicente, Fernando de Rojas, Machiavelli, Sperone Speroni, Valeria Miani, Monteverdi, Corneille, Racine, Cervantes, Calderón de la Barca, Sor Juana, Louise Geneviève Gillot de Sainctonge, Kong Shangren.

COMPLIT 136 The historical novel after modernism
CourseID: 107835
Faculty:
Next Term Offered: 2019 Fall
Modernism emphasized ruptures with the past and the uncertainty of historical knowledge; one consequence of this emphasis was a general turning away from the historical novel, seen as the most deluded form of nineteenth-century realism. This situation began to change around the time of World War II, when a growing number of novelists schooled in modernism began to write serious historical fiction. This course will explore the motives for such writing and the strategies of research, structure, style, dialogue, and characterization that once again made historical fiction a compelling enterprise, on the far side of the modernist critique of history. Readings in Borges, Yourcenar, Tolkien, Rhys, Endo, Mishima, Morrison, Calvino, Pamuk, and the Tibetan postmodernist Jamyang Norbu.

COMPLIT 138 Subversive Renaissance: Books that Changed the World
CourseID: 156078
Faculty: Katharina Piechocki
Next Term Offered: 2020 Spring
This course explores the Renaissance period (14th-17th centuries) through a blend of canonical and (nowadays) less known texts. It focuses on texts that were revolutionary when first published or/and that (still) have an impact on us now. We will discover fourteenth-century Persian poets; sonnets from sixteenth-century Italy and Poland as well as seventeenth-century Mexico; proto-feminist texts in France; the rise of theater and opera in Italy; subversive short stories in Spain; utopian visions in Francis Bacon; and the human-animal in Montaigne. Authors include Christine de Pizan, Jahan Malek Khatun, Hafiz, Petrarch, Sor Juana, Machiavelli, Gaspara Stampa, Jan Kochanowski, Cervantes, Montaigne, and Monteverdi.

Subversive Renaissance introduces you to the manifold articulations of the early modern period through the practice of slow reading. We typically dedicate 2-3 sessions to one topic (or author) and explore texts more carefully, by couching them in an interdisciplinary context. This means that we will read fewer pages per week, but we will study them in a more focused way. Slowing down our reading pace will allow us to appreciate more deeply and fully how writers and artists created and understood the
world around them during one of the most exiting and fascinating periods in history.

**COMPLIT 148 Crisis: Twentieth-Century European Novels**
CourseID: 156476  
Faculty:  
Next Term Offered: 2019 Fall

Examines major twentieth-century novels through the lens of "crisis" understood traditionally as a decisive moment, but experienced catastrophically in the twentieth century as a state of being. Authors include Rilke, Conrad, Joyce, Musil, Breton, Barnes, Valle-Inclan, Schulz, Levi.

**COMPLIT 152 Poetry and Opera**
CourseID: 205044  
Faculty: Gregory Nagy  
Next Term Offered: 2020 Spring

Comparisons in form and content, allowing for a wide variety of interpretations and methods. Composers to be studied range from Homer and Virgil to Mozart and Monteverdi to Wagner and Borodin. Special topics include romantic heroism, from Achilles in the ancient Greek "Song of the Ethiopians" to Violetta in Verdi’s "La Traviata". Besides pre-set readings and audio/video assignments, students will be encouraged to develop their own material for study and their own comparisons. No prerequisites in language or music skills. Relevant points of interest include genres that transcend classical notions of epic or opera, such as Korean "p'ansori" and medieval French "chantefable".

**COMPLIT 157 From Type to Self in the Middle Ages**
CourseID: 112654  
Faculty: Luis Giron Negron  
Next Term Offered: 2019 Fall

It has been argued that the poetic "I" in premodern literatures is not a vehicle for self-representation, but an archetype of the human. The course will examine this thesis against the rise of autobiographical writing in medieval and early modern Europe. Readings include spiritual autobiographies (Augustine, Kempe, Teresa of Ávila), letter collections, *maqama* literature, troubadour lyric, Hispano-Jewish poetry, pilgrimage narratives, medieval allegories, Dante and the picaresque novel. Theoretical perspectives by Spitzer, Lejeune, Zumthor and DeCerteau.

**COMPLIT 166 Jews, Humor, and the Politics of Laughter**
CourseID: 205045  
Faculty: Saul Zaritt  
Next Term Offered: 2020 Spring
By mistake some thieves found their way into Hershele’s house late at night while he was sleeping. They searched and searched but found nothing. Meanwhile, Hershele heard their rummaging and slowly crept up behind one of the thieves. He grabbed him by the arm and the thief, naturally, tried to run away. Hershele held him close, whispering, “Be still. Maybe together we’ll actually find something.” Beginning with jokes like this one, this course will examine the question of Jewish humor, exploring the concept of therapeutic joking, the politics of self-deprecation, and strategies of masking social critique behind a well-timed joke. Rather than reach some essential definition, we will instead investigate literature, stand-up comedy, film, and television of the twentieth and twenty-first century in order to 1) think together about the theory, mechanics, and techniques of comedy and humor and 2) ask how and when a text or performance gets labeled Jewish, by whom and for what purposes. Texts, films, and performers include: Freud, Kafka, Sholem Aleichem, the Marx Brothers, Larry David, Jon Stewart, Jill Soloway, Broad City, and Rachel Bloom.

COMPLIT 173 Carmen and the Art of Seduction
CourseID: 205135
Faculty: John T. Hamilton
Next Term Offered: 2020 Spring

The seminar centers on Bizet’s Carmen, the opera that shocked 19th-century Europe for its bold expression of seduction and sexuality. Further consideration is given to historical precedents and consequences, from Mozart’s Don Giovanni to Strauss’s Salomé, including Wagner’s Tristan und Isolde and Parsifal as counter-examples of non-seduction. Discussions of literary, historical, and theoretical materials (e.g., Kierkegaard, Nietzsche, Freud, Th. Mann, Bloch) complement musical analyses and rehearsals of selected pieces, with a public performance at the end of the semester. Open to performers and non-performers.

COMPLIT 177 Figures of Orpheus: Literature, Music and Visual Arts
CourseID: 160327
Faculty:
Next Term Offered: 2019 Fall

The course spans over two thousand years of varying interpretations, settings, and appropriations of the Orpheus myth. The power of music and the fatality of passion, the expropriating effects of language and the regenerating promise of poetry, individual uniqueness and the conditions of knowledge, are but a few of the themes addressed and elaborated within the myth’s threefold configuration of harmony, descent, and dismemberment. In addition to investigating the rich literary tradition, the course also turns to significant versions in opera, film, and the visual arts. Emphasis will be placed throughout on close reading, with attention to philosophical, aesthetic and theoretical ramifications.

COMPLIT 180 Bargaining with the Devil: the Faust Legend
The course focuses on the Faust legend, its elaboration in poetic history, and its formative role in the development of German literature and philosophy. In addition to a detailed study of Goethe's masterwork, discussions focus on a number of related themes, including: the problem of evil and moral philosophy; human cognition and will; alchemy and forbidden knowledge; and the insatiable lust for learning.

COMPLIT 188 Futurisms (a comparative history)
CourseID: 205146
Faculty: Jeffrey Schnapp
Next Term Offered: 2020 Spring

From its foundation in Feb. 1909 through WWII, futurism developed into the first international cultural-political avant-garde. Its aim was a revolutionary transformation of all spheres of life and its influence extended to the whole of Europe, parts of Asia, and the Americas. Combating the traditionalism of turn-of-the-century European culture, the movement sought to found a cosmopolitan (but nationalist) countercul-ture based on the exaltation of youth, speed, violent revolt, innovation, and expe-ri-menta-tion. Hence the movement's name: the label “Future-ism” denoting at once adoration of the new and struggle against the prevalence of “past-ism” or passatismo (the idolatry of the past). In its first decade of ex-is-tence Futurism became the first full-fledged cultural/political avant-garde of our cen-tury, ga-ther-ing together pain-ters, musi-cians, archi-tects, political revo-lu-tion-a ries, and poets from seve-ral European nations. A key progenitor of later move-ments such as Dada-, Vorticism, and Sur-real-ism, Fu-tur-ism had a powerful forma-tive influence not only on the cul-tural atmo-sphere of Italy during the Fascist era (1922-1945), but also on 20th century cul-ture as a whole.

COMPLIT 190 Translation: Language at Work
CourseID: 205097
Faculty: Marc Shell
Next Term Offered: 2019 Fall

What difference does language make? This class begins with Goethe's Faust, a work that translates the Bible ("In the beginning was the Word") and teases out the idealist philosophical theorization of translation (Helen of Troy speaking German words in Greek syntax). Seminar participants will then engage collaboratively in comparative readings: the particular language expertise of every one of us will benefit the group as a whole: the final reading list will thus arise from group discussion of the languages we know. The first half of the course considers issues of literalness and literariness along with rhythm and rhyme in both poetry and prose. At the same time we will discuss simultaneous translation, dubbing, and general ineffability along with American literature written in languages other than English. The second half focuses on the relationships of language
translation to economic transfer and to literary metaphor and also considers the roles of inter-linguistic translation in various arts and media: movies, plays, music, and variably 'bilingual' paintings.

COMPLIT 237 Non-Western Languages and Literatures of What is Now the United States
CourseID: 205104
Faculty: Marc Shell
Next Term Offered: 2020 Spring

Why has Comparative Literature, so far, made a home in the United States? This seminar looks to the linguistic and literary history of the place to help explain. Our work considers both 'indigenous' and 'incoming' languages and literatures. Topics include: writing systems and literatures of Native American tribes; the roles of Arabic, Chinese, Dutch, French, German, Spanish Yiddish, and several other non-English literatures in the United States; and philosophical aspects of "first encounters" in the New World. Central concerns are the rise of English as the 'officially unofficial' language in the United States and the definition of anglo-American literature in polar opposition to other languages and literatures. Readings include: Minnesota-based Rolvaag's prize-winning Norwegian-language novel Giants in the Earth; the Louisiana-based Mercier's generally unknown bilingual slavery novel (French and Creole) Saint-Ybars Habitation, sometimes called the greatest work of American literature; Henry Roth's Yiddish-inflected Call It Sleep; and several essays and longer poems by Henry Wadsworth Longfellow, who founded a traditionalist comparative literature at Harvard. The Multilingual Anthology of American Literature includes poetry, epic literature, and discursive essays ?all with facing-page English translations. Seminar participants will themselves have opportunity to translate a short written work of their own choice and/or to write an essay historical, sociolinguistic, and/or literary essay.

COMPLIT 246 The Critic in Culture
CourseID: 125149
Faculty:
Next Term Offered: 2019 Fall

This class will examine the interplay of scholarly analysis and cultural critique in a range of major modern critics and theorists, exploring their stylistic and essayistic strategies as they seek to find - or create - an audience for their ideas. Readings in Nietzsche, Foucault, Benjamin, Kobayashi, Woolf, Adorno, Barthes, Cixous, Said, Miyoshi, Minh-ha, Anzaldúa, Penley, and Agamben.

COMPLIT 249 Cartography and Early Modern Literature
CourseID: 109663
Faculty: Katharina Piechocki
Next Term Offered: 2020 Spring
This course explores the intimate relationship between literature, maps, diagrams, and related visual material in the early modern period. It asks about the emergence of new cartographies, maps, and itineraries in a period of increased interest in world travels, “discoveries,” philology, and translation. How does the production of European maps relate to non-European cartographies? How can the “spatial turn” and the visualization of knowledge, key to digital humanities today, help deepen our understanding of early modernity? We will discuss European, Arab, and Chinese maps and texts such as Columbus’ Voyages, Aztec poems, Waldseemüller's and Ringmann's Universalis Cosmographia, Fracastoro’s Syphilis, Ibn Battuta’s Travels, Garcilaso’s Royal Commentaries and Florida, Marguerite de Navarre’s Heptameron, Montaigne's selected Essays, and Sor Juana's Divino Narciso.

COMPLIT 252 The Literatures of Medieval Iberia
CourseID: 125848
Faculty: Luis Giron Negron
Next Term Offered: 2019 Fall

The cultural interactions in premodern Spain between Muslims, Christians and Jews shaped the literary history of Arabic, Hebrew and the Ibero-Romance vernaculars. Our seminar examines selected scholarly debates on the comparative study of these literatures.

COMPLIT 258 Ancient Interpretation of the Bible
CourseID: 160526
Faculty: David Stern
Next Term Offered: 2020 Spring

This is a course about READING; specifically about the different ways in which a single book, the Bible, has been read through the centuries, particularly in the ancient and early medieval periods by Jews and Christians. No book in the history of Western culture has been read more intensively than the Bible, and the main emphasis of the course will fall on close readings of major ancient Jewish and Christian interpreters of the Bible, with a view to considering their exegetical approaches historically as well as through the lens of contemporary critical and hermeneutical theory. We will also consider how the respective religious and theological beliefs of these interpreters shaped and were shaped by the ways they read Scripture. As a consequence, this will also be a course about the early development of Judaism and Christianity although the focus will always be on the interpretation of the bible. All readings will be in English translation, and will include Dead Sea Scrolls selections, Philo, Rabbinic Midrash and Medieval Jewish Commentaries, the New Testament, Origen and other early Christian commentators, Augustine, Luther, and as a concluding coda, Spinoza. The course is open to both undergraduates and graduate students; there will be extra sessions for the graduate students.

COMPLIT 274 Politics of Aesthetics: Worlds, Objects, Matter, Sensation
Examines and compares the relation between politics and aesthetics in major texts by: Rancière, Balibar, Nancy, Latour, Harman, Badiou, Meillassoux, Jane Bennett, Tim Morton and others. Focuses on politics of aesthetics in critical texts of the last two decades that link a politics of aesthetics to the reassessment of world(s), objects, sensation, matter while looking for a new type of realism. Deleuze, Rancière, Nancy, Cixous, Latour, Stengers, Bennett, Graham, Badiou, Meillassoux, Morton will be paired with film, fiction, painting.

COMPLIT 275 Theory of Narrative: Conference Course
CourseID: 115759
Faculty:
Next Term Offered: 2019 Fall

Studies of selected narratives (fictional, psychoanalytic, historical, sacred) as semiotic structures, representations, rhetorical gambits, and cultural phenomena. Readings by Jakobson, Barthes, Bakhtin, Iser, Lukacs, Foucault, and others.

COMPLIT 277 Literature, Diaspora, and Global Trauma
CourseID: 117360
Faculty: Karen Thornber
Next Term Offered: 2019 Fall

This course examines creative and critical discourses from and about the global African, Asian (Chinese, Indian, Japanese, Korean, Vietnamese), and Middle Eastern (Jewish, Palestinian, Lebanese, Afghan), as well as Armenian and Latin American diasporas. We focus on the relationship among diaspora, migration, and trauma, and on the interconnections of these phenomena and constructions of artistic and cultural identities, ethnicity/race, gender/sexuality, religion, postcolonialism, transculturation (including translation), multilingualism, globalization and global history, and world literature.

COMPLIT 281 Rhetoric, Imitation, Translation: Comparative Literature from Antiquity to Early Modernity
CourseID: 109674
Faculty:
Next Term Offered: 2019 Fall

How can we think of comparative literature prior to the rise of aesthetics and "Weltliteratur" in the eighteenth century? From antiquity to early modernity, literary traditions were shaped by the rules of rhetoric, imitation, emulation, and translation. We will discuss works from Greek and Latin antiquity; the Latin, Hebrew, Arab, Persian, and Byzantine Middle Ages; and the revival of rhetoric, imitation, and translation in early

COMPLIT 288 The Ancients and the Moderns: Modern Critical Theory and the Classics
CourseID: 124022
Faculty: Panagiotis Roilos
Next Term Offered: 2020 Spring

The seminar explores the impact of classical literature and culture on the formation of modern critical theory. Topics include: construction of power; trafficability of art; ritual theory; sexuality; gender studies; irony; orality and literacy.

COMPLIT 296 Mobility and Materiality: Case Studies in Networks of Collecting and Displacement
CourseID: 205046
Faculty: Diana Sorensen
Next Term Offered: 2020 Spring

This course is built around the conjoined paradigms of circulation and thing theory. Students will select a case study to work on early in the semester, and together we will probe the ways in which material culture intersects with processes of cultural exchange. The case studies might involve the transplantation of objects as well as subjects across borders, calling into question established conceptions of national and regional boundaries.

COMPLIT 298 Allegory
CourseID: 108896
Faculty: Panagiotis Roilos
Next Term Offered: 2019 Fall

Investigates major landmarks in the development of allegorization and allegorical literary composition in European tradition. Starting with pseudo-Herakleitos and his allegorical hermeneutics of the Homeric epics, this seminar will study different theoretical explorations and literary manifestations of allegorical discourse from antiquity to modernity - from ancient Greek rhetoric to Prudentius to Byzantine literature to Dante to the Romantics to C. P. Cavafy to Benjamin and de Man. Topics to be addressed include: personification, ambiguity, hermeneutic double-tonguedness (amphoteroglosia), the interplay between allegory and other tropes and discursive modes (metaphor, metonymy, symbol, parody, satire).
Computer Science

COMPSCI 96 System Design Projects
CourseID: 121508
Faculty:
Next Term Offered: 2021 Fall

Cooperative design, development, and testing of a sizable and realistic computer system. Students work as a group with a client on a real-world open-ended problem, and gain experience in problem definition, software development, and system lifecycle issues, and in the area of application. Students work in groups; both student participation in the classroom and effective group cooperation outside the classroom are stressed. This term the problem to be addressed is the fragmentation of civil discourse in the United States and abroad, often going under the terms ‘polarization’ and ‘filter bubbles’, and leading to incorrect beliefs and allegations of ‘alternative facts’ or ‘fake news’.

COMPSCI 108 Intelligent Systems: Design and Ethical Challenges
CourseID: 160419
Faculty:
Next Term Offered: 2021 Fall

For centuries, people have imagined smart machines in fictional stories. Computer systems now communicate in speech and text, learn, negotiate, and work in teams (with people and other systems). These intelligent-systems capabilities raise questions about the impact of such systems on people and societies. This course introduces the basic techniques of AI in the context of (science) fiction imaginings and ethical challenges. It examines the roles of design and of policy in reducing potential negative consequences. The course presumes a basic programming ability, but is accessible to concentrators in the humanities and social sciences as well as science and engineering.

COMPSCI 125 Algorithms and Complexity
CourseID: 156210
Faculty:
Next Term Offered: 2022 Fall

An accelerated introduction to theoretical computer science for students with strong mathematical preparation, to be taken in place of both Computer Science 121 and 124. Algorithm design methods, including graph algorithms, approximation algorithms, and randomized algorithms. Models of computation, computability theory, and computational complexity, including the P vs. NP question.

COMPSCI 126 Fairness, Privacy, and Validity in Data Analysis
CourseID: 204972
Faculty:
Next Term Offered: 2019 Fall

Students will learn to analyze and mitigate privacy loss, unfairness, and lack of statistical validity, in data analysis. Principal techniques will come from cryptography, differential privacy, and the newly emerging areas of adaptive data analysis and fairness in machine learning.

COMPSCI 146 Computer Architecture
CourseID: 113270
Faculty:
Next Term Offered: 2021 Spring

Review of the fundamental structures in modern processor design. Topics include computer organization, memory system design, pipelining, and other techniques to exploit parallelism. Emphasis on a quantitative evaluation of design alternatives and an understanding of timing issues.

COMPSCI 148 Design of VLSI Circuits and Systems
CourseID: 110990
Faculty:
Next Term Offered: 2019 Fall

Presentation of concepts and techniques for the design and fabrication of VLSI systems and digital MOS integrated circuits. Topics include: basic semiconductor theory; MOS transistors and digital MOS circuits design; synchronous machines, clocking, and timing issues; high-level description and modeling of VLSI systems; synthesis and place and route design flows; and testing of VLSI circuits and systems. Various CAD tools for design, simulation, and verification are extensively used.

COMPSCI 187 Computational Linguistics
CourseID: 117372
Faculty:
Next Term Offered: 2020 Fall

Watson is the world Jeopardy champion. Siri responds accurately to "Should I bring an umbrella tomorrow?". How do they work? This course provides an introduction to the field of computational linguistics, the study of human language using the tools and techniques of computer science, with applications to a variety of natural-language-processing problems such as those deployed in Watson and Siri, and covers pertinent ideas from linguistics, logic programming, and statistical modeling. The course will include an experimental practicum component covering skills in technical writing and editing that should be of general use as well.

COMPSCI 209R Advanced Projects in Data Science
Students will work in teams in a semester-long project to analyze complex data for a local client. Through this process, they will learn practical data science techniques as well as refine their communication skills.

COMPSCI 221 Computational Complexity
CourseID: 111993
Faculty:
Next Term Offered: 2021 Spring

A quantitative theory of the resources needed for computing and the impediments to efficient computation. The models of computation considered include ones that are finite or infinite, deterministic, randomized, quantum or nondeterministic, discrete or algebraic, sequential or parallel.

COMPSCI 223 Probabilistic Analysis and Algorithms
CourseID: 114806
Faculty:
Next Term Offered: 2019 Fall

Probabilistic techniques and tools for the design and analysis of algorithms. Designed for all first-year graduate students in all areas.

COMPSCI 224 Advanced Algorithms
CourseID: 156211
Faculty:
Next Term Offered: 2021 Spring

Advanced algorithm design, including but not limited to amortization, randomization, online algorithms, graph algorithms, approximation algorithms, linear programming, and data structures.

COMPSCI 225 Pseudorandomness
CourseID: 115692
Faculty:
Next Term Offered: 2020 Fall

Efficiently generating objects that \"look random\" despite being constructed using little or no randomness. Connections and applications to computational complexity, cryptography, and combinatorics. Pseudorandom generators, randomness extractors, expander graphs, error-correcting codes, hash functions.
COMPSCI 226 Sketching Algorithms for Big Data
CourseID: 205311
Faculty:
Next Term Offered: 2020 Fall

Big data is data so large that it does not fit in the main memory of a single machine. The need to process big data by space-efficient algorithms arises in Internet search, machine learning, network traffic monitoring, scientific computing, signal processing, and other areas. This course will cover mathematically rigorous models for developing such algorithms, as well as some provable limitations of algorithms operating in those models. Some topics covered include streaming algorithms, dimensionality reduction and sketching, randomized algorithms for numerical linear algebra, sparse recovery and the sparse Fourier transform. The course will also cover some applications of these methods.

COMPSCI 227R Cryptography
CourseID: 114490
Faculty:
Next Term Offered: 2019 Fall

Cryptography is as old as human communication itself, but has undergone a revolution in the last few decades. It is now about much more than "secret writing" and includes seemingly paradoxical notions such as communicating securely without a shared secret, and computing on encrypted data. In this challenging but rewarding course we will start from the basics of private and public key cryptography and go all the way up to advanced notions such as fully homomorphic encryption and software obfuscation. This is a proof-based course that will be best appreciated by mathematically mature students.

COMPSCI 228 Computational Learning Theory
CourseID: 113296
Faculty:
Next Term Offered: 2021 Spring

Possibilities of and limitations to performing learning by computational agents. Topics include computational models, polynomial time learnability, learning from examples and learning from queries to oracles. Applications to Boolean functions, automata and geometric functions.

COMPSCI 234R Topics on Computation in Networks and Crowds
CourseID: 109667
Faculty:
Next Term Offered: 2021 Spring

Topics on the design and analysis of algorithms, processes, and systems related to
Scaling computation over parallel and distributed computing systems is a rapidly advancing area of research receiving high levels of interest from both academia and industry. The objective can be for high-performance computing and energy-efficient computing ("green" data center servers as well as small embedded devices). In this course, students will learn principled methods of mapping prototypical computations used in machine learning, the Internet of Things, and scientific computing onto parallel and distributed compute nodes of various forms. These techniques will lay the foundation for future computational libraries and packages for both high-performance computing and energy-efficient devices. To master the subject, students will need to appreciate the close interactions between computational algorithms, software abstractions, and computer organizations. After having successfully taken this course, students will acquire an integrated understanding of these issues. The class will be organized into the following modules: Big picture: use of parallel and distributed computing to achieve high performance and energy efficiency; End-to-end example 1: mapping nearest neighbor computation onto parallel computing units in the forms of CPU, GPU, ASIC and FPGA; Communication and I/O: latency hiding with prediction, computational intensity, lower bounds; Computer architectures and implications to computing: multi-cores, CPU, GPU, clusters, accelerators, and virtualization; End-to-end example 2: mapping convolutional neural networks onto parallel computing units in the forms of CPU, GPU, ASIC, FPGA and clusters; Great inner loops and parallelization for feature extraction, data clustering and dimension reduction: PCA, random projection, clustering (K-means, GMM-EM), sparse coding (K-SVD), compressive sensing, FFT, etc.; Software abstractions and programming models: MapReduce (PageRank, etc.), GraphX/Apache Spark, OpenCL and TensorFlow; Advanced topics: autotuning and neuromorphic spike-based computing. Students will learn the subject through lectures/quizzes, programming assignments, labs, research paper presentations, and a final project. Students will have latitude in choosing a final project they are passionate about. They will formulate their projects early in the course, so there will be sufficient time for discussion and iterations with the teaching staff, as well as for system design and implementation. Industry partners will support the course by giving guest lectures and providing resources. The course will use server clusters at Harvard as well as external resources in the cloud. In addition, labs will have access to state-of-the-art IoT devices and 3D cameras for data acquisition. Students will use open source tools and libraries and apply them to data analysis, modeling, and visualization problems.
Next Term Offered: 2021 Spring

The contents and course requirements are similar to those of Computer Science 146, with the exception that students enrolled in Computer Science 246 are expected to undertake a substantial course project.

COMPSCI 248 Advanced Design of VLSI Circuits and Systems
CourseID: 121984
Faculty:
Next Term Offered: 2019 Fall

The contents and course requirements are similar to those of Computer Science 148, with the exception that students enrolled in Computer Science 248 are expected to do a substantial design project and paper discussions on advanced topics.

COMPSCI 250 Software Foundations
CourseID: 156204
Faculty:
Next Term Offered: 2020 Fall

This course introduces concepts and techniques in the foundational study of programming languages, as well as their formal logical underpinnings. The central theme is the view of programs and languages as formal mathematical objects about which precise claims may be made and proved. Particular topics include operational techniques for formal definition of language features, type systems, and program logics. The models and proofs are formalized using mechanical theorem provers.

COMPSCI 261 Research Topics in Operating Systems
CourseID: 143667
Faculty:
Next Term Offered: 2020 Fall

An introduction to operating systems research. Paper-based seminar course that introduces students to the state of the art in systems research through historical and quantitative lenses. Students will read and discuss research papers and complete a final research project.

COMPSCI 262 Introduction to Distributed Computing
CourseID: 122813
Faculty:
Next Term Offered: 2021 Spring

An examination of the special problems associated with distributed computing such as partial failure, lack of global knowledge, asynchrony and coordination of time, and
protocols that function in the face of these problems. Emphasis on both the theory that grounds thinking about these systems and in the ways to design and build such systems.

**COMPSCI 277 Geometric Modeling in Computer Graphics**  
CourseID: 116855  
Faculty:  
Next Term Offered: 2021 Spring

Advanced seminar in computer graphics focusing on geometric representations and processing. Topics include: subdivision surfaces, surface parametrization, vector fields over surfaces, shape editing, shape matching and surface reconstruction.

**COMPSCI 278 Rendering and Image Processing in Computer Graphics**  
CourseID: 116856  
Faculty:  
Next Term Offered: 2021 Spring

Advanced course in computer graphics focusing on image rendering and processing. Topics include: light transport, efficient rendering, image based rendering, texture processing, interactive image processing.

**COMPSCI 280R Advanced Topics in Artificial Intelligence**  
CourseID: 109283  
Faculty:  
Next Term Offered: 2021 Spring

Seminar course exploring research directions in artificial intelligence (AI), typically combining two or more of such areas as multi-agent systems, natural-language processing, machine learning, reasoning under uncertainty, representation systems. Topic for Spring 2017: Multi-agent systems: collaboration, coordination and loosely-coupled teamwork.

**COMPSCI 283 Computer Vision**  
CourseID: 113944  
Faculty:  
Next Term Offered: 2019 Fall

Vision as an ill-posed inverse problem: image formation, two-dimensional signal processing; feature analysis; image segmentation; color, texture, and shading; multiple-view geometry; object and scene recognition; and applications.
Numerical methods have revolutionized the way we control dynamic motions in complex robots. In this course, we study a variety of optimization algorithms for designing and stabilizing trajectories for walking, manipulating, and flying systems. Topics will include optimal control, nonlinear programming, trajectory planning and stabilization, model-predictive control, Lyapunov analysis via sums-of-squares programming, legged systems, and estimation and control through frictional contact. Students will gain practical experience implementing modern algorithms to control a variety of simulated systems using the Drake MATLAB software toolbox.

Algorithmic, game-theoretic and logical foundations of multi-agent systems, including distributed optimization and problem solving, non-cooperative game theory, learning and teaching, communication, social choice, mechanism design, auctions, negotiation, coalitional game theory, logics of knowledge and belief, collaborative plans and social systems.

Seminar course exploring recent research in computer vision. Topics vary from year to year, typically including object recognition; activity recognition; and visual surveillance. Students read and present research papers and undertake a research project.

This course introduces first year Computer Science PhD students to the CS colloquium series. Required for G1 PhDs in CS.
Faculty:
Next Term Offered: 2022 Spring

This course introduces first year Computer Science PhD students to the CS colloquium series. Required for G1 PhDs in CS.
General Education

CULTBLF 57 Animated Spirituality: Japanese Religion in Anime, Manga, and Film
CourseID: 109543
Faculty:
Next Term Offered:

This course addresses the representation of religion in Japanese popular culture, with emphasis on anime, manga, and film. The course examines depictions of religious figures, themes, and human dilemmas in contemporary popular culture as a gateway to understanding the significance of religion in Japanese society and history.

GENED 1001 Stories from the End of the World
CourseID: 212765
Faculty:
Next Term Offered:

Fantasizing about the end of the world is something that many people in the US do on a daily basis either by watching their favorite shows on TV, by playing videogames, or by listening to political speeches. This course will start from this observation to ask why imagining the end is so pervasive in our culture and to analyze critically where these images are coming from and how they are used in contemporary conversations. Imaginations of the end have their historical roots in a literary genre that is often called "apocalyptic" and has been alive and productive since antiquity. The course will look at this historical trajectory, but most of the work will be focused on contemporary cultural products, such as movies, short stories, songs, comic books, websites, and so on. Students will be asked to observe how thinking about a catastrophic future is actually a means to reflect about the present, by identifying whether humans are doing something wrong and whether they have any chance to correct their mistakes. In this perspective, God, aliens, or meteorites are metaphors representing our powerlessness, while sins, zombies, or climate change are wake up calls for humankind. "Prophets of doom" can be channels of liberating and progressive energy, but can also become instruments to set up for destruction people who look and act differently.

GENED 1154 The Science of Happiness
CourseID: 212847
Faculty:
Next Term Offered:

Recent research in the cognitive sciences—especially psychology, economics, and neuroscience—has begun to examine the factors that promote personal well-being and happiness. One surprising, but consistent, observation has been that many of the things
that are widely believed to be crucial for our happiness? wealth, material possessions, "not missing out", even good grades? not only fail to make many people happy but can actively undermine the sense of well-being. The course begins by introducing some misconceptions that many people might have about what makes for a satisfying life. We will then examine the psychological biases and other mental quirks of our mind that make it hard for us to identify what actually makes us happy, and we will then discuss what recent research reveals about factors that promote happiness. Importantly, throughout the course, students will be invited to apply these strategies in everyday life. In other words, we will both discuss what new results in cognitive science suggest to anyone interested in better understanding the factors that promote happiness, and also actively put these scientific findings into practice. Along the way, we will review historical and cross-cultural views on the meaning of "happiness", discuss the limitations of scientific approaches to the topic, and identify aspects of modern life (especially modern life at Harvard) that make it difficult to develop habits that support happiness. Finally, we will also discuss how to apply the new science of happiness beyond our own lives to improve our communities and our planet too.

SOCWORLD 13 Japan in Asia and the World
CourseID: 142657
Faculty:
Next Term Offered:

Japan is a collection of islands, but its past and present unfolds through continuous interaction with wider worlds. This course places Japan in contexts of Asian and global history. It begins with the people, institutions, and ideas of premodern Japan, from the emergence of a court-centered state 1500 years ago to a warrior-dominated society centuries later. We then examine the tumultuous process of change from the 19th century through the present and explore how people in Japan have dealt with the dilemmas of modernity that challenge us all.
Earth and Planetary Sciences

E-PSCI 50 The Fluid Earth: Oceans, Atmosphere, Climate, and Environment
CourseID: 128224
Faculty: Peter Huybers
Next Term Offered: 2020 Spring

This course introduces students to the fluid Earth, emphasizing Earth's weather and climate, the carbon cycle, and global environmental change. The physical concepts necessary for understanding the structure, motion and energy balance of the atmosphere, ocean, and cryosphere are covered first, and then these concepts are applied in exploring major earth processes. Examples from Earth's past history, on-going changes in the climate, and implications for the future are highlighted.

E-PSCI 55 Earthquakes and Tectonics
CourseID: 205190
Faculty: Marine Denolle
Next Term Offered: 2020 Spring

Introduction to earthquakes in the context of global tectonics, source mechanisms, types of natural and induced quakes. Faults in the field, dating earthquakes, materials of fault cores. Observations, introduction to the theory, and analog modeling of earthquake cycles, mountain building, infrastructure response to earthquake ground motion. Introduction to tsunami hazard and to earthquake risk analysis.

E-PSCI 56 Geobiology and the History of Life
CourseID: 108969
Faculty: David Johnston
Next Term Offered: 2020 Spring

Within our solar system, Earth is distinguished as the planet with life. Life was born of planetary processes, has been sustained for some four billion years by planetary processes, and through time has emerged as a set of planetary processes that is important in its own right. In this course we will investigate the ways that Earth and life interact, focusing in particular on the biogeochemical cycles of major elements. This will provide a framework for interpreting the history of life reconstructed from fossils and phylogeny.

E-PSCI 120 Introduction to Planetary Sciences
CourseID: 205193
Faculty: Roger Fu
Next Term Offered: 2020 Spring

An overview of the key physical and chemical processes that occur on planetary bodies of the solar system and a survey of current topics of research.

E-PSCI 130 Biogeochemistry of Carbon Dioxide and Methane
CourseID: 205244
Faculty: Steven Wofsy
Next Term Offered: 2020 Spring

A comprehensive study of the major carbon-containing gases in the atmosphere (CO2 and CH4), emphasizing biogeochemical processes in the oceans, land and atmosphere that regulate their global abundances, plus the human-controlled processes and multiple feedbacks that perturb them. Roles in energy balance, air chemistry and pollution, and stratospheric chemistry will be studied. The course emphasizes active learning, including hands on data analysis of global, regional, and ecosystem observations and creation of models for understanding the cycles and their responses to a changing environment. Students develop research projects throughout the course, and present them publicly in lieu of a final exam.

E-PSCI 131 Introduction to Physical Oceanography and Climate
CourseID: 111361
Faculty: Eli Tziperman
Next Term Offered: 2020 Spring

Observations and dynamics of the oceans, from local beach waves to the effects of the oceans on global climate. Topics covered include wave motions such as ocean surface waves, internal waves, tsunamis and tides; currents, including the wind driven circulation and the Gulf Stream; coastal upwelling and fisheries; temperature, salinity, the overturning thermohaline circulation and its effect on global climate; El Niño; the oceans and global warming; Ocean observations by ships, satellites, moorings, floats and more; an introduction to fluid dynamics.

E-PSCI 135 Physics and Chemistry: In the Context of Energy and Climate at the Global and Molecular Level
CourseID: 126934
Faculty:
Next Term Offered: 2019 Fall

A solution to the problems set by the intersection of global energy demand and climate feedbacks requires the teaching of physics and chemistry in that context. Core topics include thermodynamics, free energy, entropy, acid-base and oxidation-reduction reactions, electrochemistry, electromagnetic induction, circuit theory, AC and DC circuits, the nature of photons and of electromagnetic radiation, photochemistry, materials, catalysis, kinetics, molecular bonding, and biological processes for energy
conversion and storage.

E-PSCI 138 Mysteries of Climate Dynamics  
CourseID: 204007  
Faculty: Brian Farrell  
Next Term Offered: 2020 Spring

We will study the evidence in the climate record for dramatic changes in the climate system and delve into how these challenge our understanding of climate dynamics. Case studies will include the dim early sun paradox, the Snowball Earth, Equable Climates, Glacial/Interglacial and Stadial/Interstadial transitions and ENSO.

E-PSCI 141 Isotope and Trace Element Geochemistry and Geochronology  
CourseID: 122074  
Faculty: Stein Jacobsen  
Next Term Offered: 2019 Fall


E-PSCI 145 Introduction to Igneous Petrology and Petrogenesis  
CourseID: 121458  
Faculty: Charles Langmuir  
Next Term Offered: 2019 Fall

How igneous rocks form and reveal the processes and fluxes involved in the circulation of the solid Earth. The course begins with the essential elements of igneous petrology, rock description and nomenclature, mineralogy, phase diagrams, processes of melting and crystallization, trace elements. We then consider the formation of igneous rocks at modern igneous settings, spreading centers, convergent margins and ocean islands. We conclude with investigations of igneous phenomenon of the past, such as large igneous flood basalt provinces, anorthosites, komatites and the igneous history of the Moon.

E-PSCI 146 Ocean Ridges and the Earth System  
CourseID: 108000  
Faculty: Charles Langmuir  
Next Term Offered: 2020 Spring
Course will present our current knowledge of the ocean ridge system where two thirds of Earth's crust is continually being created. We will examine the progressive understanding of ocean ridges from a historical perspective, emphasizing the process of scientific discovery. Topics include melt generation in the mantle, magmatic processes in the crust, formation of ocean ridge topography, faulting and tectonics, hydrothermal systems, manifestations in the overlying water column, and the unique ecosystems associated with vents. Approaches must be inherently interdisciplinary, including geochemistry, geophysics, geology, hydrothermal systems, and biology. The place of the ocean ridge system within the overall Earth system will be emphasized.

E-PSCI 171 Structural Geology and Tectonics  
CourseID: 112745  
Faculty: John Shaw  
Next Term Offered: 2019 Fall

An introduction to the deformation of Earth materials, including the processes of mountain building and plate tectonics, faulting and earthquakes, folding, and ductile deformation. Structures are examined using geologic maps, balanced cross sections, seismic reflection data, satellite imagery, microscopic analysis, analog experiments, and numerical methods. Labs emphasize the applications of structural geology in the energy and environmental industries, and for assessing earthquake hazards.

E-PSCI 187 Low Temperature Geochemistry II: Modern and ancient biogeochemical processes  
CourseID: 117399  
Faculty: Ann Pearson  
Next Term Offered: 2019 Fall

Introduction to biological and organic chemistry of the Earth's environment. Primary focus on formation, processing, and preservation of organic carbon, with emphasis on paleoenvironmental applications and on processes occurring at the molecular level. This class is intended to be taken in series with EPS 186.

E-PSCI 189 Analytical and Field Methods in Geobiology  
CourseID: 126669  
Faculty: David Johnston  
Next Term Offered: 2020 Spring

Introduction to geobiological research methods: We will learn low temperature geochemical techniques, light stable isotope mass-spectrometry, and other microbiology methods commonly used in geobiological research. The focus will be on the cycling of biogeochemical elements (O, C, S, and Fe) in marine sediments throughout Earth history. This is a lab-based course that will be complemented with lectures.
E-PSCI 203 Earthquakes and Faulting
CourseID: 121615
Faculty: Marine Denolle
Next Term Offered: 2020 Spring


E-PSCI 204 Earthquake Sources
CourseID: 114669
Faculty: Marine Denolle
Next Term Offered: 2020 Fall

Theorems in elastodynamics, Green's functions for body and surface waves, point-source representation with moment tensors, kinematics and dynamics of extended sources, simple dynamic models, earthquake cycles, basic seismic data processing, determination of source parameters from data.

E-PSCI 206 Solid Earth Geochemistry and Cosmochemistry: A Primer
CourseID: 156399
Faculty: Stein Jacobsen
Next Term Offered: 2019 Fall

The course emphasizes the principles of geochemistry and cosmochemistry and their application to important problems in Earth and Planetary Sciences. Problems to be addressed include planet formation and differentiation and the evolution of planetary mantles and crusts. Topics include: the Earth's composition; laboratory studies of rocks and minerals including laboratory exercises in high precision mass spectrometry; isotope and trace element geochemistry; application of chemical thermodynamics to problems in earth and planetary sciences.

E-PSCI 207 Geochemical Oceanography
CourseID: 112198
Faculty: Daniel Schrag
Next Term Offered: 2020 Spring

Topics in low-temperature geochemistry, oceanography, and climatology will be discussed. Students will read and present journal articles on relevant topics, and will rotate responsibility for leading discussions.

E-PSCI 232 Dynamic Meteorology
The atmosphere understood as a fluid dynamical system. Observations of atmospheric motions related to weather and climate. Application of the equations of atmospheric dynamics to explaining phenomena such as jet streams, cyclones and fronts.

**E-PSCI 234 Topics in Generalized Stability Theory**  
**CourseID:** 109302  
**Faculty:** Brian Farrell  
**Next Term Offered:** 2020 Fall

An introduction to the ideas and approaches to dynamics of generalized stability theory. Topics include autonomous and non-autonomous operator stability, stochastic turbulence models and linear inverse models. Students will learn the concepts behind non-normal thinking and how to apply these ideas in geophysical fluid dynamics and climate problems.

**E-PSCI 239 The Consequences of Energy Systems**  
**CourseID:** 126403  
**Faculty:** Daniel Schrag  
**Next Term Offered:** 2019 Fall

This course provides an introduction to the physical and chemical impacts of energy choices on human society and natural ecosystems. Topics will include the carbon cycle, climate, air and water pollution, impacts of energy systems on health, land use consequences of energy technologies, and nuclear waste and proliferation.

**E-PSCI 240 Isotope and Trace Element Geochemistry and Geochronology**  
**CourseID:** 111063  
**Faculty:** Stein Jacobsen  
**Next Term Offered:** 2019 Fall


**E-PSCI 243 Geochemical and Cosmochemical Thermodynamics**  
**CourseID:** 118676  
**Faculty:** Stein Jacobsen
Next Term Offered: 2020 Spring


E-PSCI 245 Petrological Approaches to Understanding the Earth's System
CourseID: 125469
Faculty: Charles Langmuir
Next Term Offered: 2019 Fall

The course studies the igneous processes at spreading centers, convergent margins and hot spots, and explores their influences on mantle, crust, ocean and atmosphere and the constraints they provide for the plate tectonic geochemical cycle.

E-PSCI 247 Ocean Ridges and the Earth System
CourseID: 110509
Faculty: Charles Langmuir
Next Term Offered: 2020 Spring

Course will present our current knowledge of the ocean ridge system where two thirds of Earth’s crust is continually being created. We will examine the progressive understanding of ocean ridges from a historical perspective, emphasizing the process of scientific discovery. Topics include melt generation in the mantle, magmatic processes in the crust, formation of ocean ridge topography, faulting and tectonics, hydrothermal systems, manifestations in the overlying water column, and the unique ecosystems associated with vents. Approaches must be inherently interdisciplinary, including geochemistry, geophysics, geology, hydrothermal systems, and biology. The place of the ocean ridge system within the overall Earth system will be emphasized.

E-PSCI 252 Global Geophysics: A Primer
CourseID: 107842
Faculty: Jerry Mitrovica
Next Term Offered: 2020 Fall

An introductory treatment of solid Earth geophysics for graduate students in all EPS and SEAS disciplines. The course will cover a sampling of topics that all Earth scientists should have knowledge of, whether to facilitate applications to their own research or to simply follow departmental seminars in geophysics. Topics include: the Earth's composition and internal boundaries; qualitative and quantitative plate tectonics; the Earth's energy budget, isostasy; Earth rheology, with examples from seismology, tides, glacial isostatic adjustment and mantle convection; the Earth's gravity field and geodesy; planetary rotation. Physical concepts will be emphasized over mathematical derivations. While there are no formal pre-requisites for the course, some training in calculus,
ordinary and partial differential equations would be helpful. Extra class time and material will be available for students without this background.

E-PSCI 263 Reading in Global Seismology
CourseID: 205460
Faculty: Miaki Ishii
Next Term Offered: 2019 Fall

This seminar will meet to read materials (including textbooks and journal articles) that are relevant to global seismology but may not be covered in a typical seismology class.

E-PSCI 264 Planetary Magnetism and Dynamo Theory
CourseID: 110733
Faculty: Jeremy Bloxham
Next Term Offered: 2019 Fall

An introduction to the generation of planetary magnetic fields by self-sustaining dynamo action. Magnetohydrodynamics: derivation of the induction equation from Maxwell's equations; the perfectly-conducting limit and frozen-flux; flux expulsion; diffusion and reconnection. Kinematic dynamo theory: Cowling's theorem; existence proofs; the Bullard-Gellman formalism; mean-field theories; fast dynamos. Dynamical considerations: the Navier-Stokes equation; rotating magnetoconvection; Taylor states; torsional oscillations and MAC-waves. Thermodynamic considerations: energy and entropy equations; the core heat flux problem. Numerical dynamo models.

E-PSCI 268 Topics in Earthquake Seismology: Induced Seismicity
CourseID: 203361
Faculty: Marine Denolle
Next Term Offered: 2019 Fall

Literature review of earthquake source mechanisms ("static" and dynamic stress load), coulomb stress failure criterion, discussion on porous flow and poroelasticity, localized permeability, triggered vs induced seismicity, earthquake swarms, waste water injection vs hydraulic fracturing, seismic hazard analysis for anthropogenic seismicity, seismic monitoring around production well.

E-PSCI 270 Advanced Structural Interpretation Methods
CourseID: 108133
Faculty: John Shaw
Next Term Offered: 2019 Fall

Methods of interpreting complex geologic structures imaged in 2- and 3-dimensional seismic reflection data. Methods of integrated geologic and remote sensing data will be
described. Students will complete independent projects analyzing seismic data on workstations.

E-PSCI 281 Great Papers in Earth Sciences
CourseID: 111685
Faculty: Peter Huybers
Next Term Offered: 2020 Spring

A survey and discussion of groundbreaking papers from across the Earth sciences. Students will read and discuss a classic paper per week and will have an opportunity to practice and improve their presentation skills.
Economics

ECON 980BB Behavioral Economics
CourseID: 156369
Faculty:
Next Term Offered: 2020 Spring

The seminar will focus on theoretical and experimental issues in behavioral economics. We will study the relationships between the mathematical models of individual behavior (both utility maximization and psychologically motivated models) and the kinds of behavior we can observe in the lab. We will design experiments to test various theories and also study the types of behavior for which we don't have good models yet and try to understand what a good model would look like. This is a junior tutorial.

ECON 980GG Understanding Consumption: Microeconomic Determinants and Macroeconomic Relevance (Junior Seminar)
CourseID: 212647
Faculty:
Next Term Offered:

This course introduces students to state-of-the-art thinking on consumption behavior. We will begin by studying the microeconomic determinants of consumption, focusing on questions such as: What is the relationship between consumption and income? How much does consumption respond when income, house prices, stock market wealth or interest rates change? How important are beliefs in shaping consumption behavior? We then take our insights to the macroeconomic level, where we attempt to answer questions such as: What is driving recent increases in consumption, income, and wealth inequality? What is the government spending multiplier? How important was an overhang of household debt for the Great Recession? In terms of methodological skills, the course will expose students to regression analysis in Stata using panel data following individuals or regions over time. The ultimate goal of the class is to prepare students for academic writing and research. Participants will be required to work with current research papers in micro- and macroeconomics.

ECON 980J The Libertarian Perspective on Economic Policy: Junior Seminar
CourseID: 212812
Faculty:
Next Term Offered:
This course analyses the libertarian perspective on economic, social, and foreign policy. This perspective differs from both liberal and conservative views, arguing for minimal government across the board. Specific policies addressed include drug prohibition, gun control, free trade, public education, abortion rights, gay marriage, income redistribution, immigration, health care, national defense, and campaign finance regulation.

ECON 980MM Field Experiments- junior seminar
CourseID: 212568
Faculty:
Next Term Offered:

Field experiments are increasingly being used by economists to analyze public policies and test theories, by firms to make business decisions, and by non-profits to measure program effectiveness. This class will explore all aspects of field experiments from when to use them, how to design them, how to manage real-world problems that arise, and how to interpret their results.

ECON 980O Measuring and Modeling Social Networks
CourseID: 160356
Faculty:
Next Term Offered: 2019 Fall

Social networks consist of relationships that carry information, mediate trade, and facilitate cooperation. Online platforms generate "big data" records of what is going on in such networks at unprecedented levels of detail. How do we make sense of the data, and how can we use it to make decisions? as individuals, within companies, and as a society? This seminar teaches models from the economics and statistics of networks that are essential to the task. Topics include ideas going viral, online markets, and social influence. Students will complete a final project that either develops an original model or applies an existing one to analyze real-world data.

ECON 980PP Understanding Cooperation: Trust, Religion and Morality Across Societies
CourseID: 205206
Faculty:
Next Term Offered: 2019 Fall

This interdisciplinary course introduces students to state-of-the-art thinking on cultural variation in cooperation behavior, drawing on insights from economics, cultural psychology and cultural anthropology. We will attempt to answer questions such as: What is the nature of the cross-societal variation in how people collaborate with and trust each other in economic contexts? How can we think of heterogeneity in religious beliefs, moral values, language, and basic emotions as tools to sustain and enforce cooperation
behavior in different cultural "regimes"? What does such a perspective imply for the
coevolution of culture with social and economic systems? How does cultural variation in
morality help us understand the recent US Presidential Election? In terms of
methodological skills, the course will expose students to regression analysis in Stata,
large-scale surveys and cross-cultural experiments. The ultimate goal of the class is to
prepare students for academic writing and research. Participants will be required to work
with current research papers from economics, psychology, and anthropology.

ECON 985JA Research in Finance, Market Design, and Econometrics
CourseID: 204000
Faculty:
Next Term Offered:

Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for work in finance, market design, and
econometrics, but open to all fields. Emphasis on choice of research topics,
methodology, and data sources. Course requires written and oral presentations of work
in progress leading toward completion of a major research paper or senior honors
thesis. Part one of a two-part series; students must complete both terms of this course
(parts A and B) within the same academic year in order to receive credit.

ECON 985JB Research in Finance, Market Design, and Econometrics
CourseID: 204001
Faculty:
Next Term Offered:

Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for work in finance, market design, and
econometrics, but open to all fields. Emphasis on choice of research topics,
methodology, and data sources. Course requires written and oral presentations of work
in progress leading toward completion of a major research paper or senior honors thesis.
Part two of a two-part series; both the A and B courses must be taken within the same
academic year in order to earn credit.

ECON 985XA Research in Macroeconomics, International Trade, and
Corporate Finance
CourseID: 205283
Faculty:
Next Term Offered:

Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for work in macroeconomics,
international trade, and corporate finance, but open to all fields. Emphasis on choice of
research topics, methodology, and data sources. Course requires written and oral
presentations of work in progress leading toward completion of a major research paper or senior honors thesis. Part two of a two-part series; both the A and B courses must be taken within the same academic year in order to earn credit.

ECON 985XB Research in Macroeconomics, International Trade, and Corporate Finance
CourseID: 205284
Faculty:
Next Term Offered:

Full course. Hours to be arranged. Workshop for seniors writing theses. Especially for work in macroeconomics, international trade, and corporate finance, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Course requires written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis. Part two of a two-part series; both the A and B courses must be taken within the same academic year in order to earn credit.

ECON 985YA Research in Microeconomics, Modeling, and Game Theory
CourseID: 205285
Faculty:
Next Term Offered:

Full course. Hours to be arranged. Workshop for seniors writing theses. Especially for work in microeconomics, modeling, and game theory, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Course requires written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis. Part one of a two-part series; both the A and B courses must be taken within the same academic year in order to earn credit.

ECON 985YB Research in Microeconomics, Modeling, and Game Theory
CourseID: 205286
Faculty:
Next Term Offered:

Full course. Hours to be arranged. Workshop for seniors writing theses. Especially for work in microeconomics, modeling, and game theory, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Course requires written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis. Part two of a two-part series; both the A and B courses must be taken within the same academic year in order to earn credit.
ECON 985ZA Research in Industrial Organization, Political Economy, and Econometrics
CourseID: 205287
Faculty:
Next Term Offered:

Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for work in IO, political economy, and econometrics, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Course requires written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis. Part one of a two-part series; both the A and B courses must be taken within the same academic year in order to earn credit.

ECON 985ZB Research in Industrial Organization, Political Economy, and Econometrics
CourseID: 205288
Faculty:
Next Term Offered:

Full course. Hours to be arranged.
Workshop for seniors writing theses. Especially for work in IO, political economy, and econometrics, but open to all fields. Emphasis on choice of research topics, methodology, and data sources. Course requires written and oral presentations of work in progress leading toward completion of a major research paper or senior honors thesis. Part two of a two-part series; both the A and B courses must be taken within the same academic year in order to earn credit.

ECON 1015 Profiles In Black Genius
CourseID: 207170
Faculty:
Next Term Offered: 2020 Spring

Examines the life and work of African-American geniuses—both historic and contemporary—in academics, the arts, and politics with a particular focus on how their life and work affected economic thought. Profiles include: W.E.B. DuBois, David Blackwell, Martin Luther King, Richard Pryor, Sir Arthur Lewis, Geoffrey Canada, and more. The economic topics that are highlighted include health, education, labor markets, and social interactions.

ECON 1030 Psychology and Economics
CourseID: 114133
Faculty:
Next Term Offered: 2020 Spring
Psychological concepts include social preferences, impulsivity, bounded rationality, loss-aversion, over-confidence, self-serving biases, hedonics, and neuroscience. Economic concepts include arbitrage, equilibrium, rational choice, utility maximization, Bayesian beliefs, game theory.

ECON 1058 Experimental Economics
CourseID: 203779
Faculty:
Next Term Offered:

This class is an introduction to experimental methods, particularly those developed by Economics. We will discuss in detail all of the steps of an experiment, from design, measurement and randomization, to cost and power analyses. This is strictly a methods course; the experiments we discuss are chosen to give a broad understanding of experimental methods, not a foundation of famous experimental results. Similarly, when we discuss a topic, for example experiments in incentives, the discussion will not be centered on how to optimally incentivize employees, but rather, how to design a careful, controlled experiment to precisely understand how your employees respond to incentives you think might be appropriate.

There are two main value-addeds from this course. First, you will be equipped to design and run an experiment to answer important questions (whether those questions are academic or for the purpose of an organization for which you are working). Second, in understanding what the optimal experimental design should look like, you will be armed with better lenses through which to view naturally existing data. That is, contrasting the process that produced the naturally existing data with a hypothetical experimental design, you will be able to better judge the faults, and systematic biases, that will affect the data to which you have access.

ECON 1082 Households, Firms, and Communities in Developing Countries
CourseID: 204412
Faculty:
Next Term Offered: 2020 Spring

This course studies the problem of global poverty with a microeconomic approach and a focus on households, firms, and communities. We will explore common themes across developing countries ranging from intra-household bargaining and gender, to microfinance and entrepreneurship, to social learning in village networks. We will investigate the functioning of labor markets, credit markets, and government institutions along with strategies households and firms adopt for coping with limited resources and inefficient institutions. The course will rely heavily on microeconomic principals and econometric techniques and will
cover applications from around the world. We will also cover rigorous methods to 
evaluate the effectiveness of policy interventions.

ECON 1163 Data Science for Social Scientists  
CourseID: 212557  
Faculty:  
Next Term Offered:

ECON 1342 The History of Economic Growth  
CourseID: 160351  
Faculty:  
Next Term Offered: 2019 Fall

This course examines the history of economic growth, beginning with the divergence 
between human ancestors and other primates and continuing through the end of the 
20th century. Topics covered include the Neolithic Revolution; economic growth in 
ancient societies; the origins of modern economic growth; theories and evidence about 
the institutional, geographic, and cultural determinants of growth; the East Asian Miracle; 
the middle income trap; the political economy of growth; growth and inequality; and 
theories and evidence about the persistence of poverty in the world’s poorest regions.

Prerequisite: Economics 1010a (1011a)

ECON 1400 The Future of Globalization: Issues, Actors, and Decisions  
CourseID: 107821  
Faculty:  
Next Term Offered: 2019 Fall

What is the right balance between national sovereignty and international integration? Is 
the US equipped to sustain its role as a global leader? Should we regulate multi-national 
companies who move their factories to countries with lower labor standards? How 
should the IMF respond to financial crises in Europe and the developing world? How will 
the rise of China affect global inequality? These are all questions posed by globalization. 
This course uses basic economic logic to illuminate the choices faced by businesses, 
governments, international institutions and citizens as the global economy evolves. 
Policy issues are debated in class by the professors and students play the role of public 
and private actors in simulation exercises in order to experience the importance of the 
decisions made by individual actors for the evolution of the global system.

ECON 1436 Economics and Morality
Questions related to morality pervade the economic and political discourse. However, traditionally, economists have paid little attention to the structure and consequences of people's moral concerns. This course introduces students to research in an emerging field that studies the determinants and consequences of heterogeneity in moral reasoning through the lens of economics. The main objective of the class is to highlight (i) how moral reasoning matters for economic and political outcomes, and (ii) how economic needs in turn generate particular moral systems. To understand the bidirectional relationship between economics and morality, we will study empirical research papers that consider questions such as: What is the difference between universalizing and relational approaches to moral reasoning, and how do these matter for economics? How do Americans' moral intuitions vary across space and over time? What is the role of moral values in U.S. presidential elections, or for policy preferences related to redistribution? Why do Republicans and Democrats give to different types of charities? What are the functional economic origins of morality? How and why are moral systems culturally variable? From a methodological viewpoint, the class uses standard empirical economics techniques to study morality-related concepts and ideas from psychology and anthropology.

ECON 1535 International Trade and Investment
CourseID: 111749
Faculty: 
Next Term Offered: 2019 Fall

Analyzes the causes and consequences of international trade and investment. Focuses on the interplay of economic theory and empirical descriptions of foreign trade and direct investment patterns.

ECON 1544 Foundations of International Macroeconomic Policy
CourseID: 109969
Faculty:
Next Term Offered: 2021 Spring

This is an intermediate level international finance and macroeconomics course that uses a mix of theoretical, empirical, and policy frameworks to analyze topical problems in international finance. The core objective of the course is to develop simple macroeconomic models of open economies that can be usefully applied to international economic phenomena. We will examine the balance of payments, the determination of exchange rates, the effect of fiscal and monetary policies under fixed and floating exchange rate regimes, balance of payment crisis, international macroeconomic dependence, financial globalization, and the challenges facing developing economies. Recent issues such as the crisis in the Euro area and the sustainability of the Euro, the global transmission of the financial crisis, global imbalances, China's exchange rate policy, among others, will receive attention. Note: May not be taken for credit with Economics 1530 or 1435.
Advanced theoretical and empirical analysis of contemporary international macroeconomic policy issues in both industrialized and developing economies. Topics include exchange rates, international capital flows, debt crises, growth, and policy coordination.

ECON 1642 Advanced Industrial Organization  
CourseID: 124646  
Faculty:  
Next Term Offered: 2020 Spring  
This course studies firms, markets and competition. We will study the theory of industrial organization, focusing on analyzing the way firms make decisions, as well as the impact of those decisions on market outcomes such as market prices, quantities, the type of products offered and social welfare. The fundamental questions addressed in this course include: Why are markets organized the way they are? How does market organization affect firm behavior, such as firm production or pricing? How does the behavior of firms in turn affect the market structure, such as the number of firms or the range of products offered? We will use formal models in order to address these questions. The goals of the course include the development of intuition for firm strategic behavior, such as pricing, as well as the development of skills for the analysis of formal models. The textbook will provide background and introduction to a variety of topics, many of which will be covered in class in greater depth. Lectures (along with problem sets) will be the core of the course.

ECON 2034 Networks  
CourseID: 204015  
Faculty:  
Next Term Offered: 2020 Spring  
This course prepares students for pure and applied research in the economic theory of networks. Topics covered include the macroeconomic network of production and trade; games of investment with social spillovers (education, criminal activity); financial contagion and other externalities; diffusion of beliefs and behaviors; segregation and homophily; and networked markets. The course emphasizes portable methods, including the linear algebra behind centrality measures; random graph theory; branching processes; power laws and Pareto tails. Prerequisites: basic microeconomic theory at the level of Econ 2010a,b; probability at the level of an advanced undergraduate course.

ECON 2080 Economics and Politics: The Foundations of Economics in Political Theory  
CourseID: 118796  
Faculty:
Next Term Offered: 2019 Fall

Offers graduate students in relevant disciplines the chance to study the historical origins of central ideas in modern economics and to discuss their philosophical character.

ECON 2390 Development Economics
CourseID: 156645
Faculty:
Next Term Offered: 2020 Spring

This course will cover macro-economic topics including aggregate and non-aggregate growth models, models of technology diffusion and choice; topics in finance including financial development and economic growth, consumer finance; small and medium enterprise finance; debt and equity markets; the role of management and corporate governance; the political economy of finance, and corruption; and a range of topics on the role of population, culture, ethnicity, leaders, corruption in economic development, and the efficacy of industrial policy and foreign aid.

ECON 2390D Research in Economic Development
CourseID: 111112
Faculty:
Next Term Offered:

Participants discuss recent research in development economics and present their own work in progress. Open to doctoral students in economics who have passed their oral examinations.

ECON 2411 Advanced Topics in Macroeconomics
CourseID: 207820
Faculty:
Next Term Offered:

ECON 2530B International Finance
CourseID: 120439
Faculty:
Next Term Offered: 2020 Spring

Financial aspects of growth and income determination in open economies. Topics include international business cycle, monetary and exchange rate regimes, capital flows, and current issues in international macroeconomic policy.

ECON 2612 Advanced Topics in Industrial Organization
CourseID: 110341
Faculty:
Next Term Offered: 2020 Fall

This course will cover both theoretical and econometric tools that are being used to explore more appropriate ways of analyzing market outcomes. Examples of theoretical topics may include: consumer search, advertising, dynamic models of collusion and pricing, and bargaining in vertical markets. Examples of econometric topics may include: simulation, semi-parametric, and moment inequalities in relation to problems that arise in industrial organization applications (e.g., entry, product repositioning, transition dynamics, and decision making with computational constraints).

ECON 2810B Labor Economics and Labor Market Institutions
CourseID: 112770
Faculty:
Next Term Offered:

Examines the operation of the labor market and evaluation of labor market policies. Topics: labor econometrics, theories of wage determination, changes in the wage structure, unemployment, labor market institutions, and globalization and the labor market.

ECON 2811 Social Economics
CourseID: 122104
Faculty:
Next Term Offered: 2020 Spring

Applies the tools of economics to explore social issues including crime, discrimination, racial and gender differences, poverty, family structure, urban problems, social interactions and peer effects, and intergenerational mobility.

ECON 2907 Early-Stage Research and Discussions on Public Economics and Fiscal Policy
CourseID: 210860
Faculty:
Next Term Offered:

ECON 3903 Faculty Seminar in Entrepreneurship and Innovation Economics
CourseID: 003903
Faculty:
Next Term Offered:

Topics in Entrepreneurship and Innovation Economics is a dynamic course that students can take over multiple semesters. It will revolve around cutting edge topics in Entrepreneurship and Innovation, and will be delivered through the HBS Entrepreneurial
Management Seminar Series. Students will attend each seminar and submit write-ups on 3 of the seminar papers presented.

The capstone of the semester will consist of a meeting in which all of the semester's works will be synthesized. Students will chart new paths forward on each line of research covered by the individual papers seen in that semester. They will then identify the most promising areas of research in the field more broadly moving forward, which the students themselves may find worthwhile to explore in dissertation work.
Ethnicity, Migration, Rights

EMR 122 Caribbean Postcolonial Thought  
CourseID: 160753  
Faculty: Mayra Rivera  
Next Term Offered: 2020 Fall

This course examines influential works of "Caribbean Poetics" from a literary, philosophical, and political perspective. It explores the distinctiveness of this literary tradition and its contributions to thinking about race, colonialism, language and the sacred. Readings will include Édouard Glissant, Derek Walcott, and Edwidge Danticat, among others. Jointly offered in Harvard Divinity School as HDS 2430.

EMR 126 American History Before Columbus  
CourseID: 203969  
Faculty:  
Next Term Offered: 2019 Fall

What happened in America before 1492? What were the major turning points in Native American history? Why don't we know more about the ancient history of North America? Anthropology 1080 answers these questions by introducing you to the discipline of North American archaeology. This lecture course will help you to understand how Native American societies developed in the millennia before the European invasion, why American Indian peoples live where they do today, and how their dynamic populations have changed over the course of the past 15,000 years. In the process you'll have the opportunity to examine a truly world-class collection of artifacts from the Peabody Museum, allowing you to hold the remains of American history in your own hands and investigate the past with your own eyes.
Engineering Sciences

ENG-SCI  20 How to Create Things and Have Them Matter
CourseID: 122566
Faculty:
Next Term Offered:

This course teaches students to create things that lastingly matter. The course emphasizes exploratory life-long creating. The class emphasizes an aesthetic process of creating that transcends discipline. At the start of the semester students are invited to articulate dreams for change in any category - cultural, commercial, ecological, political, social. Students learn to express ideas, figure out paths to begin to develop them, and to raise resources along the way. Students also work together on a collective creator project. The project involves working with wood and wood artists and teaches students valuable lessons in creative collaboration and meditative career development. At the end of the semester students present their individual ideas, and collective woodwork, before a public dinner at Cafe ArtScience. Students spend a weekend off campus for the purpose of their collective woodwork project. Case study and conceptual readings will complement student idea exploration.

ENG-SCI  29 Introduction to Computational Design
CourseID: 110138
Faculty:
Next Term Offered: 2020 Fall

This is an introductory course to computational design and the prerequisite for a spring course that deals with more advanced topics in the field. This course is primarily intended for designers with little background in programming who are interested in developing their skills in order to be able to better understand, interface with and customize the digital tools they are using, or develop their own software and interactive applications. The course introduces students to fundamental concepts and techniques in computational design. By the term "computational design" we mean an ad hoc set of methods borrowed from computer science, computational geometry and other fields, and adapted to specific design problems such as design development, fabrication, analysis, interaction and communication.

ENG-SCI  50 Introduction to Electrical Engineering
CourseID: 140008
Faculty:
Next Term Offered: 2020 Fall

The main course objectives are to introduce students to the exciting and powerful world of electrical engineering and to explain how gadgets that we use every day actually
work. After taking ES 50, you will be able to leverage the power of electricity to build systems that sense, control and program the physical world around you. Examples include intelligent and autonomous systems (robots), audio amplifiers (e.g. guitar amp), interactive art installations, light-shows, mind-controlled machines, and so on.

ENG-SCI 110 Science, Engineering, and the Community
CourseID: 125325
Faculty:
Next Term Offered: 2020 Fall

Activity-based course for beginning/intermediate science and engineering undergraduates. Combines readings and discussions on techniques for learning science and engineering design with implementation in an 8th grade science class in Cambridge. Students work directly with the 8th graders to guide how they learn. Students apply what they discover to improve their own understanding of college-level science and engineering.

ENG-SCI 111 Introduction to Scientific Computing
CourseID: 156287
Faculty:
Next Term Offered: 2020 Fall

Many complex physical problems defy simple analytical solutions or even accurate analytical approximations. Scientific computing can address certain of these problems successfully, providing unique insight. This course introduces some of the widely used techniques in scientific computing through examples chosen from physics, chemistry, and biology. The purpose of the course is to introduce methods that are useful in applications and research and to give the students hands-on experience with these methods.

ENG-SCI 154 Electronic Devices and Circuits
CourseID: 143433
Faculty:
Next Term Offered: 2020 Fall

Design of electronic analog circuits using semiconductor transistors. Topics include: operational amplifiers and op-amp circuits; time and frequency domain analysis of electric circuits (RC, RL, and RLC); basic semiconductor physics; PN junctions and diodes; bipolar junction transistors (BJT); Field-effect transistors (MOSFETs); bias circuits and current sources; single-ended, differential, single- and multi-stage MOSFET amplifiers; amplifier gain and bandwidth; frequency response, feedback, noise, and stability.

ENG-SCI 157 Biological Signal Processing

ENG-SCI 158 Feedback Control Systems: Analysis and Design
CourseID: 156548
Faculty:
Next Term Offered: 2021 Fall

This course provides an introduction to feedback and control in physical, biological, engineering, information, financial, and social sciences. The focus is on the basic principles of feedback and its use as a tool for inferring and/or altering the dynamics of systems under uncertainty. Key themes throughout the course will include linear system analysis, state/output feedback, frequency response, reference tracking, PID controller, dynamic programming, and limit of performance. This includes both the practical and theoretical aspects of the topic.

ENG-SCI 159 Introduction to Robotics
CourseID: 131554
Faculty:
Next Term Offered: 2021 Fall

Introduction to computer-controlled robotic manipulators. Topics include coordinate frames and transformations, kinematic structure and solutions, statics and dynamics of serial and parallel chain manipulators, control and programming, introduction to path planning, introduction to teleoperation, robot design, and actuation and sensing devices. Laboratory exercises provide experience with industrial robot programming and robot simulation and control.

ENG-SCI 164 Environmental Chemistry
CourseID: 125096
Faculty:
Basic concepts, principles, and applications of environmental chemistry for students in Earth and environmental sciences. We will investigate a variety of chemistry topics relevant for environmental systems, including water chemistry, acids and bases, redox reactions, precipitation/dissolution, sorption, gas solubility, and aqueous and atmospheric reaction rates and mechanisms. The principal goal is to explore and apply the fundamental principles of chemical thermodynamics and kinetics to understand Earth processes and solve complex environmental problems.

ENG-SCI 175 Photovoltaic Devices
CourseID: 110019
Faculty:
Next Term Offered: 2020 Fall

The course will provide an overview of the solid state device physics and p-n junction operation necessary to understand the operation. Several different solar architectures will be discussed including crystalline and amorphous silicon, multi-junction, CdTe, CIGS, organic, dye sensitized as well as additional related topics light management, building integrated devices, and policy and economic issues relating to adoption.

ENG-SCI 176 Introduction to MicroElectroMechanical System
CourseID: 127589
Faculty:
Next Term Offered: 2019 Fall

This course introduces student to the rapidly emerging, multi-disciplinary and exciting field of MicroElectroMechanical Systems (MEMS). It teaches fundamentals of micro machining and Micro fabrication techniques, including planar thin-film process technologies, photolithography and soft-lithography techniques, deposition and etching techniques, and surface, bulk, and electroplating micro machining technologies.

ENG-SCI 198R Probability Applications in Social Engineering
CourseID: 109400
Faculty:
Next Term Offered: 2021 Spring

Introductory statistical methods for students in the applied sciences and engineering with a focus on social networks. Random variables and probability distributions; the concept of random sampling, including random samples, statistics, and sampling distributions; role of statistics in social network analysis; mathematical interpretation of social networks; connections and homophily, propinquity, mutuality/reciprocity, multiplexity, network closure; distributions and bridges, distance, centrality, density; segmentation and cliques, cohesion, clustering; graph theory and adjacency matrices; Erdos-Renyi model; Watts-Strogatz Small World model; Barabási -Albert (BA) Preferential
Attachment model; special topics in social network analysis.

ENG-SCI 202 Estimation and Control of Dynamic Systems
CourseID: 142254
Faculty:
Next Term Offered: 2020 Fall

This graduate level course studies dynamic systems in time domain with inputs and outputs. Students will learn how to design estimator and controller for a system to ensure desirable properties (e.g., stability, performance, robustness) of the dynamical system. In particular, the course will focus on systems that can be modeled by linear ordinary differential equations (ODEs) and that satisfy time-invariance conditions. The course will introduces the fundamental mathematics of linear spaces, linear operator theory, and then proceeds with the analysis of the response of linear time-variant systems. Advanced topics such as robust control, model predictive control, linear quadratic games and distributed control will be presented based on allowable time and interest from the class. The material learned in this course will form a valuable foundation for further work in systems, control, estimation, identification, detection, signal processing, and communications.

ENG-SCI 209 Nonlinear Control Systems
CourseID: 131191
Faculty:
Next Term Offered: 2020 Fall

Study of nonlinear input-output systems including controllability, observability, uniqueness of models, stability, and qualitative behavior of nonlinear dynamical systems. Differential geometry and Lie theory methods developed to study control of classical and quantum mechanical systems.

ENG-SCI 211 Special Topics in Engineering Physiology
CourseID: 110220
Faculty:
Next Term Offered: 2021 Spring

A sophisticated perspective on the design, construction, and testing of model physiological systems recapitulated with tissue engineering and lab on a chip technologies. Topics include organ and multiorgan physiology and pathophysiology; in vitro disease models; and design tools and fabrication techniques for lab on a chip technologies.

ENG-SCI 212 Quantitative Cell Biology: Self-Organization and Cellular Architecture
CourseID: 126332
Faculty:
Next Term Offered: 2020 Fall

Cell biology from foundations to current research topics. Intended for students without cell/molecular biology training. Cell architecture, molecular and phenomenological aspects, signaling, organelle form/function, trafficking, quantitative experimental techniques, models of cellular organization and dynamics.

ENG-SCI 226R Special Topics in Neural Engineering: Learning and Memory in Neural Systems
CourseID: 124391
Faculty:
Next Term Offered: 2022 Spring

Course will present classical findings and new research that give insight into mechanisms of learning and memory formation in neural systems. Learning and memory will be studied both as neurobiological phenomena and as computational challenges.

ENG-SCI 227 Medical Device Design
CourseID: 127639
Faculty:
Next Term Offered: 2020 Spring

Project-based course on the design of medical devices to address needs identified by hospital-based clinicians. Students work in teams with physicians to develop a novel device. The design process includes: needs finding; problem identification; prior art searches; strategy and concept generation; estimation; sketching; sketch modeling; machine elements, ergonomics and prototyping.

ENG-SCI 228 Biologically-Inspired Materials
CourseID: 128321
Faculty:
Next Term Offered: 2022 Spring

Overview of materials for biomedical devices and therapies. Polysaccharide- and protein-based polymers as building blocks. Biological templating of inorganic structures. Emerging frontiers in protein and DNA self-assembly. Molecular scale origin of materials properties for naturally occurring biological materials and the use of this information to rationally design new biomaterials for specific applications.

ENG-SCI 236A Integrative Frameworks for Technology, Environment, and Society I
CourseID: 203600
Faculty:
Next Term Offered: 2019 Fall

Developing and implementing good solutions to real problems facing human society requires a broad understanding of the relationships between technology innovation, science, manufacturing, design thinking, environment, sustainability, culture, aesthetics, business, public policy, and government. Various frameworks for understanding these complex relationships within the context of real-world problems will be explored and discussed. Coursework will be based on assigned readings, case studies, research assignments, exercises, and class discussions.

ENG-SCI 236B Integrative Frameworks for Technology, Environment, and Society II
CourseID: 203601
Faculty:
Next Term Offered: 2020 Spring

Developing and implementing good solutions to real problems facing human society requires a broad understanding of the relationships between technology innovation, science, manufacturing, design thinking, environment, sustainability, culture, aesthetics, business, public policy, and government. Various frameworks for understanding these complex relationships within the context of real-world problems will be explored and discussed. Coursework will be based on assigned readings, case studies, research assignments, exercises, and class discussions.

ENG-SCI 238 Introduction to Innovation and Entrepreneurship
CourseID: 110345
Faculty:
Next Term Offered: 2021 Fall

This course is designed for those who want to understand the role of start-ups and venture capital in the creation of new products and services in the for-profit and not-for-profit sectors. It is intended to help students identify areas in which changes in science and technology, consumer and social attitudes, or political and regulatory processes support the creation of new businesses and organizations in independent ventures or within established organizations. Margo Seltzer and Bill Anderson are supporting the course by supervising course projects in their respective areas of expertise.

ENG-SCI 241 Advanced Elasticity
CourseID: 148181
Faculty:
Next Term Offered: 2020 Fall

Finite deformation; instabilities; thermodynamics; thermoelasticity; poroelasticity; electroactive polymers, hydrogels, polyelectrolyte gels
ENG-SCI 242R Solid Mechanics: Advanced Seminar
CourseID: 142659
Faculty:
Next Term Offered: 2021 Spring

Finite elements for analysis and design. The key goal of this class is the application of the finite element method to classical and state-of-the-art modeling and design problems. We introduce a commercial finite element program - ABAQUS - and demonstrate how to use it in modeling and analysing design problems. Topics include the implementations of user-defined subroutines (UMAT and VUMAT), instability analyses, analysis of waves propagation, fluid-structure interactions.

ENG-SCI 246 Plasticity
CourseID: 138370
Faculty:
Next Term Offered: 2021 Fall


ENG-SCI 250 Information Theory
CourseID: 119057
Faculty:
Next Term Offered: 2019 Fall

Fundamental concepts of information theory, Entropy, Kullback-Leibler divergence, Mutual information; typical sequences and their applications, Loss-less data compression, Huffman codes, Elias Codes, Arithmetic Codes, Discrete Memory-less Channels, Channel Coding and Capacity, Differential Entropy, Gaussian Channels, rate distortion theory, Multi-user Information Theory, Connections between information theory and statistics.

ENG-SCI 252R Advanced Topics in Robotics Research
CourseID: 123580
Faculty:
Next Term Offered: 2021 Spring

A graduate seminar course on advanced topics in robotics research. Students read and present research papers and undertake a research project. Spring 2016 will focus on microfabrication and microrobotics.
ENG-SCI 253 Bioelectromagnetics
CourseID: 156946
Faculty:
Next Term Offered: 2021 Spring

This course will introduce bioelectricity and bioelectromagnetics starting with Maxwell Equations, which will quickly be simplified to the quasi-static form typically applicable in physiology. We will introduce the basics of membrane electrical biophysics, which we will use to study action potentials and action potential propagation. Applications will include electro-cardiograms (ECGs), electro-myograms (EMGs), electro-oculograms (EOGs), and electro-encephalograms (EEGs). EEG investigations will include analyses of spatial resolution as well as dynamic properties. A course project will allow students to choose an area of specific interest for more in-depth investigation and analysis.

ENG-SCI 255 Statistical Inference with Engineering Applications
CourseID: 117628
Faculty:
Next Term Offered: 2021 Fall

Statistical signal processing; detection and estimation; hypothesis testing; linear and non-linear estimation; maximum likelihood and Bayes approaches; graphical models and message passing algorithms; large deviation analysis and asymptotic methods in statistics; high-dimensional probability theory; stochastic processes and systems; Wiener and Kalman filtering; Markov chain Monte-Carlo methods; applications to physical, chemical, biological and information systems.

ENG-SCI 259 Advanced Introduction to Robotics
CourseID: 134052
Faculty:
Next Term Offered: 2020 Fall

Course requirements are similar to Engineering Sciences 159, with the exception that students enrolled in Engineering Sciences 259 are required to prepare a term project analyzing current research in a specific problem area within Robotics.

ENG-SCI 260 Water and Economic Development
CourseID: 110328
Faculty:
Next Term Offered: 2021 Spring

The course focuses on the engineering, infrastructure and institutions needed to manage water on a basin and city scale. The course does this using the case study method. All cases are presented by practitioners who have had deep engagement with the cases.
ENG-SCI  263 Chemical Reactions and Mechanisms in the Environment  
CourseID: 123682  
Faculty:  
Next Term Offered: 2020 Fall

In this course a framework of tropospheric chemistry will be generated that requires no previous knowledge of this topic. The goal is to develop an understanding of chemical and physical processes in the troposphere. Focus is on the main processes transforming emissions into the secondary pollutants that affect the environment, human health, and climate, in particular with respect to the role of anthropogenic influence. This will provide a foundation for the evaluation of the impact the newest scientific studies have on our understanding of processes that are important for the part of the atmosphere we live in.

ENG-SCI  265 Advanced Water Treatment  
CourseID: 107764  
Faculty:  
Next Term Offered: 2021 Spring

Advanced Water Treatment will give students detailed instruction in emerging technologies for municipal wastewater treatment, industrial wastewater treatment, wastewater reclamation and reuse, desalination, and groundwater remediation. The course will begin by introducing wastewater quality, effluent water quality endpoints, and conventional treatment methodologies. The theoretical focus of the course will be on the fundamental biology, chemistry, and physics of processes including nanofiltration, reverse osmosis, membrane bioreactors, denitrification and phosphate removal, ozonolysis, UV photolysis, photocatalysis, and sonolysis. We will also discuss wastewater-to-energy processes including microbial fuel cells, anaerobic digestion, and electrochemical waste-to-hydrogen.

ENG-SCI  268 Chemical Kinetics  
CourseID: 114494  
Faculty:  
Next Term Offered: 2020 Fall

Time rate of change of chemical species. Rate constants. Formulating a coupled chemical system. Numerical analysis of complex systems.

ENG-SCI  269 Environmental Nanotechnology  
CourseID: 128163  
Faculty:  
Next Term Offered: 2021 Spring

Introduces students to the environmental aspects of nanoscience and nanotechnology. We will study the fundamental physical chemical properties, characterization, environmental implications, and environmental applications of nanoparticles and
nanomaterials. Case studies from recent publications on engineered carbon nanomaterials such as fullerenes, carbon nanotubes, and graphene will be discussed.

ENG-SCI 271R Topics in Mixed-Signal Integrated Circuits
CourseID: 122855
Faculty:
Next Term Offered: 2021 Spring

A seminar course that reviews research and development of various topics in integrated circuits and systems for low-power and/or high-performance computing.

ENG-SCI 272 RF and High-Speed Integrated Circuits
CourseID: 118027
Faculty:
Next Term Offered: 2021 Spring

Design of RF and high speed integrated communication circuits at both transistor and system levels.

ENG-SCI 289 Innovation and National Security
CourseID: 156513
Faculty:
Next Term Offered: 2020 Fall

This course will ask if the US defense industrial complex facilitates victory by technological innovation. We define defense technologies in three categories: 1) Convenience Technologies, 2) Sustainability Technologies, and 3) Decisive Technologies. If we define Decisive Technologies as those technologies that are strategically managed and tactically deployed, the last century may have seen only two: radar and the atomic bomb. We will debate money as a weapon system and whether or not it is a valid weapon technology. We will examine technologies introduced during the Global War on Terror (GWOT) and ask which category they fall in, if they were a true technological innovation, and if they facilitated victory in a battle vs war. We will discuss barriers to innovation and technological surprise on the battlefield.

ENG-SCI 293 Cryo-Electron Microscopy for Biological and Soft Materials Lecture/Lab
CourseID: 205078
Faculty:
Next Term Offered: 2019 Fall

This class covers the fundamental principles underlying cryo-electron microscopy
applied to Biological and SoftMaterials starting with the basic anatomy of electron microscopes, an introduction to Fourier transforms, and the principles of image formation. Building upon that foundation, the class then covers the sample preparation issues, data collection strategies, and basic image processing workflows.

ENG-SCI 298R Methodologies in Design Engineering
CourseID: 213398
Faculty:
Next Term Offered:

This is a SAT/UNSAT seminar course focused on design thinking, analysis, planning, and executing the development of engineered systems. Weekly meetings will include discussions and assigned readings of case studies and examples of the systems surrounding the developing technical system. Organizing and executing research, innovation, and product design at the scales from academic group, to startup, to major industry will be discussed. The course is designed to allow the engineer and designer to integrate technical knowledge into an executable framework as an individual or leader of a design team.
English

ENGLISH  CAP The Art of the Personal Essay
CourseID: 213301
Faculty:
Next Term Offered:

Description TBA

ENGLISH  53 Poets: Whitman, Dickinson, Stevens, Graham
CourseID: 130634
Faculty:
Next Term Offered:

These poets' urgent concerns have found unusual means of expression: we will consider, for example, Whitman's revisions of masculinity, and equally his conception of inclusiveness; Dickinson's investigation of Christian doctrine, and her subversion of the hymn; Stevens's claims for American poetry and his abstract symbolic sequences; and Graham's complex Euro-American contexts (art, philosophy, feminism) as elements in her breaking of traditional poetic structures (e.g. her double self-portraits).

ENGLISH  90HN The Harvard Novel
CourseID: 212790
Faculty:
Next Term Offered:

This course addresses the genre of the "Harvard novel," from Faulkner's Absalom, Absalom! to Elif Batuman's The Idiot and Zadie Smith's On Beauty, in order to examine Harvard's status and signification within the cultural imaginary. It brings together novels (and some films) where Harvard offers the narrative setting, supplies a character's backstory, or even serves as a character in its own right. We will address themes of tradition, access, privilege, race, anxiety, competition, and canonicity.

In addition to serving as an introduction to 20th-21st century Anglo-American literature, this seminar is designed to offer students an opportunity to slow down and engage more reflectively with the meaning and substance of their time on campus. Lectures will explore narrative depictions of how Harvard experiences extend into broader society, and also the larger trajectory of the individual's post-collegiate life.
Like any other plays, those by William Shakespeare pose serious challenges for actors, directors, designers, and audiences, problems they must solve in performance. Because Shakespeare's plays have such a long history in the theater, they offer a unique window into ever-evolving performance aesthetics. In staging Shakespeare, artists always attempt to capture what they perceive as Shakespeare's universal achievements and to amplify his work's resonance for a contemporary audience. This seminar examines a history of Shakespeare in the English-speaking theater to illuminate how Shakespeare helps to shape theater and how the theater helps to make Shakespeare. We will read a number of Shakespeare's works, but will attend not to literary interpretations of the texts, but rather to (a) the problems those texts create in performance and (b) how artists have solved those challenges over the past four centuries. In other words, we will explore both prior approaches to staging Shakespeare and what in Shakespeare's plays makes them particularly difficult?and exciting?to stage.

Sex and money, reading and shopping, work and marriage, domestic realism and imperial fantasy, unsexed women and unmanned men, feminism and anti-feminism, single-sex communities and same-sex desire. Short stories and long novels by Austen, Brontë, Gaskell, Dickens, Collins, Eliot, Oliphant, and Conan Doyle, as well as essays by Ruskin, Mill, Trollope, and others.

Book reviews, music reviews, essays, literary journalism, and general-audience criticism from the 18th century to the present, with an emphasis on writing reviews and writing about the arts yourself, as well as reading masters and innovators in this entertaining and practical genre, from the Scriblerians through Hazlitt, Woolf and Ellen Willis to Pitchfork and Tumblr.
ENGLISH 224L The King Lear Moment  
CourseID: 211178  
Faculty:  
Next Term Offered:  

This past year has seen a resurgence in public attention to Shakespeare's King Lear, a play often regarded as the greatest of his tragedies. From news media to contemporary fictional adaptations to three productions starring exceptional actors in the title role, King Lear is suddenly everywhere, offering—or seeming to offer—a clue to unpacking these troubled times. This seminar will use King Lear as a way of analyzing and assessing key interpretative moves—textual, critical, methodological, and theoretical— that have influenced both early modern studies and contemporary literary thinking in the present intellectual moment.

ENGLISH 228 Milton  
CourseID: 130300  
Faculty:  
Next Term Offered:  

A survey of Milton's life and poetry.

ENGLISH 248 The Comic Enlightenment  
CourseID: 207593  
Faculty:  
Next Term Offered:  

Against the eighteenth century’s so-called progress of Reason ran a countercurrent that emphasized the irrational, the emotional, and the ridiculous. Beginning with Erasmus's *In Praise of Folly*, Rabelais's *Gargantua and Pantagruel* and Swift's *Gulliver's Travels*, the course will read comic works by authors such as Henry Fielding, Voltaire, Lawrence Sterne, John Cleland, Charlotte Lennox, Denis Diderot, Jane Austen, Byron and Lewis Carroll. There will also be extensive readings in theories of comedy and humor, from Hobbes and Bergson to Zupancic and Deleuze.

ENGLISH 276X African-American Literary Tradition  
CourseID: 145357  
Faculty:  
Next Term Offered:  

An exploration of the emergence and development of the African-American literary "tradition" from the 18th to the 20th century. Close reading of the canonical texts in the tradition, and their structural relationships are stressed.
ENGLISH 283 New Research in Theater and Performance Studies
CourseID: 130900
Faculty:
Next Term Offered:

This course will examine major books in the fields of theater and performance studies published in the last five years. We will look closely at their methodology, theoretical contributions, and engagements with earlier critical works. We will begin by discussing the relationship between theater studies and performance studies, key terms and approaches, and new developments in these fields. We will then read five recently published books alongside a selection of the performances and texts considered in these studies. The goals of this course include familiarizing students with debates in theater and performances studies; exploring models of interdisciplinary research; and cultivating strategies for analyzing and writing about theater and performance.

ENGLISH 291SW Introduction to Scholarly Writing
CourseID: 203122
Faculty:
Next Term Offered:

Through a careful reading of the most influential recent scholarship, students will explore a range of argumentative modes and evidentiary practices; through workshops of their own writing, they will experiment with rhetoric, voice, and style. Students will leave the course with an article ready for submission.
Environmental Science and Engineering

ESE 130 Biogeochemistry of Carbon Dioxide and Methane
CourseID: 205340
Faculty:
Next Term Offered: 2020 Spring

A comprehensive study of the major carbon-containing gases in the atmosphere (CO2 and CH4), emphasizing biogeochemical processes in the oceans, land and atmosphere that regulate their global abundances, plus the human-controlled processes and multiple feedbacks that perturb them. Roles in energy balance, air chemistry and pollution, and stratospheric chemistry will be studied. The course emphasizes active learning, including hands on data analysis of global, regional, and ecosystem observations and creation of models for understanding the cycles and their responses to a changing environment. Students develop research projects throughout the course, and present them publicly in lieu of a final exam.

ESE 131 Introduction to Physical Oceanography and Climate
CourseID: 156500
Faculty:
Next Term Offered: 2020 Spring

Observations and dynamics of the oceans, from local beach waves to the effects of the oceans on global climate. Topics covered include wave motions such as ocean surface waves, internal waves, tsunamis and tides; currents, including the wind driven circulation and the Gulf stream; coastal upwelling and fisheries; temperature, salinity, the overturning thermohaline circulation and its effect on global climate; El Niño; the oceans and global warming; Ocean observations by ships, satellites, moorings, floats and more; an introduction to fluid dynamics.

ESE 138 Mysteries of Climate Dynamics
CourseID: 210896
Faculty:
Next Term Offered: 2020 Spring

We will study the evidence in the climate record for dramatic changes in the climate system and delve into how these challenge our understanding of climate dynamics. Case studies will include the dim early sun paradox, the Snowball Earth, Equable Climates, Glacial/Interglacial and Stadial/Interstadial transitions and ENSO.

ESE 161 Applied Environmental Toxicology
CourseID: 156933
Faculty:
Next Term Offered: 2021 Spring

This course will examine the theory and practical application of environmental chemistry and toxicology for assessing the behavior, toxicity and human health risks of chemical contaminants in the environment. The goals of the course are to: (a) illustrate how various sub-disciplines in environmental toxicology are integrated to understand the behavior of pollutants; (b) demonstrate how scientific information is applied to inform environmental management decisions and public policy through several case studies; and (c) provide an introduction to the legislative framework in which environmental toxicology is conducted. This course will be directed toward undergraduate students with a basic understanding of chemistry and calculus and an interest in applied science and engineering to address environmental management problems.

ESE 169 Seminar on Global Pollution Issues: Case Study of Lead Biogeochemistry
CourseID: 109341
Faculty:
Next Term Offered: 2021 Fall

This course provides a cross-disciplinary overview of environmental science and how research contributes to public policy and human health risk assessment through a case study of a global pollution issue: lead biogeochemistry. The scientific foundations of environmental research methods are discussed (i.e., analytical chemistry, ecology, use of environmental archives, environmental modeling). Experience conducting multidisciplinary environmental research and data analysis will be provided. Course Activities: Lectures, discussions, case studies, field/lab visits.
Environmental Science and Public Policy

ESPP 11 Sustainable Development
CourseID: 109934
Faculty: William Clark
Next Term Offered: 2019 Fall

Explores contemporary understandings and practical implications of the idea of sustainable development. Investigates the meanings and measures that different groups have given to "sustainable development;" scientific understanding of the complex social-environmental systems we seek to develop sustainably; and lessons on how societies have avoided the "tragedy of the commons" while instituting practical action that advances sustainable development effectively and equitably. Employs case studies in development to meet needs for energy, food, water and health.

ESPP 77 Technology, Environment, and Society
CourseID: 109882
Faculty: Sheila Jasanoff
Next Term Offered: 2019 Fall

Our interactions with the natural world are increasingly mediated through changes in technology. Technologies create risks, generate solutions, reshape the environment, and alter our perception of the boundaries between nature and artifice. This course draws on major theories of technology and society to inform and deepen our understanding of environmental problems and policy options.

ESPP 90X Current Issues in U.S. Environmental Law
CourseID: 156676
Faculty: Shaun Goho
Next Term Offered: 2019 Fall

This course examines some of the main U.S. environmental laws, the methods of regulation and enforcement represented by those laws, and current controversies regarding their implementation and development. Each week's class will be divided between a discussion of key cases and regulations implementing a particular law and an in-depth examination of a case study involving the law under examination.

ESPP 90Y World Food Systems and the Environment
CourseID: 159984
Faculty: Noel Holbrook
Next Term Offered: 2020 Spring
This seminar examines the world’s systems for the production and distribution of food as they relate to the earth’s physical, chemical, and biological systems. Using scientific readings, papers about economics and politics, and cases about firms, we consider agriculture and food from scientific, public policy, and business strategy perspectives and in relation to environmental issues such as greenhouse gas emissions, carbon and nitrogen cycles, water and soil conservation (including erosion, pollution, and salinization), and the use of genetically modified organisms. Geographic and topical coverage will be broad: the Americas, Europe, Asia, and Africa; as well as water, seeds, fertilizers, animal protein, trade and development. We expect to have numerous guests from the scientific community, government, and business. Some background in biology, government or economics is useful, but not required.
Statistical models help us to understand the world. This class explores the use of models for analysis in the social sciences broadly, and in political science specifically. Do get-out-the-vote calls affect turnout? Does a history of slavery in a county influence contemporary political views? Does demographic change impact policy preferences? We use the R programming language, RStudio, and GitHub. Each student will complete a "replication" as their final project, an attempt, successful or not, to replicate the results from a published article in the academic literature. This class is especially designed to lay the groundwork for an empirical senior thesis.
Mexico’s history bears a unique combination of characteristics: it experienced a prolonged violent revolutionary war, constructed one of world’s longest lasting authoritarian regimes, and yet consolidated a democratic political system. This course will explore Mexico’s idiosyncratic political identity and the distinctive challenges that come with it. We will examine the spiraling problem of drug-related violence, the role of the North American Free Trade Agreement (NAFTA) in widening inequalities, and how crony capitalism has survived the consolidation of a democratic Mexico. Our goal is to discover the country in all its complexities, debunking the cartoonish stereotypes of one of the US’s most important allies.

In the late 1940s, India witnessed a peaceful transition to democracy, while China experienced a Communist revolution. After this divergence, both countries began pursuing market reforms in the effort to accelerate economic growth in the 1980s and 1990s. We will explore the ways in which power has been consolidated and distributed under these very different regimes and the implications this has had for a range of socio-political and economic outcomes, including famine, economic development, and urbanization. Throughout the course we will place India and China in the context of comparative debates about other parts of the developing world.
Since the financial crisis a decade ago, discussions of capitalism and socialism have become increasingly politically salient in the United States. This inter-disciplinary seminar will compare capitalism and socialism, in both theory and practice, and explore their relationship to democracy. We will approach the subject from multiple perspectives: normative, analytical, and historical. Consequently, we will use tools from moral philosophy, economics, social choice theory, and comparative historical sociology. Historical materials will be drawn primarily from the last three centuries of European history.

GOV 1097 Justice: Themes in Public Policy
CourseID: 207796
Faculty: 
Next Term Offered:

GOV 1115 Social Movements, Protest and Politics in Comparative Perspective
CourseID: 127064
Faculty: 
Next Term Offered: 2020 Spring

Reviews the contemporary literature on collective action, protest, and social movements. Focuses primarily on political factors facilitating protest, repertoires of contention, the role of cultural factors and the construction of identities through collective action, and methods of studying collective action. Cases will be drawn from different regions and historical periods.

GOV 1203 Capitalism and Democracy in Central and Eastern Europe
CourseID: 117151
Faculty: 
Next Term Offered: 2020 Spring

General introduction to East European politics focusing on the countries outside the former Soviet Union. Examines critical periods and dynamics of political and economic changes in the region from the end of World War I to the recent enlargement of the European Union.

GOV 2009 Methods of Political Analysis
CourseID: 115860
Faculty: 
Next Term Offered: 2020 Spring
Covers the issues and techniques central to designing and researching a good dissertation, whether quantitative or qualitative, including principles of research design, case selection, comparison, measurement, and causal relations, with many practical examples.

GOV 2285 Political Science and China  
CourseID: 110836  
Faculty:  
Next Term Offered: 2020 Spring  

This graduate seminar gives students control over the secondary literature on Chinese politics, with special attention to competing theoretical and methodological approaches.

GOV 2340A Proseminar on Inequality and Social Policy I  
CourseID: 128283  
Faculty:  
Next Term Offered: 2019 Fall  

Considers effects of varied political activities on creating or reducing inequality in U.S., and at effects of inequality on political activity and policy choices. Examines electoral participation, social movements, lawmaking, etc. on policies like education, ERA, welfare.

GOV 2755 International Political Economy  
CourseID: 121351  
Faculty:  
Next Term Offered: 2019 Fall  

A graduate-level introduction to the theoretical and empirical literature on the political economy of international trade, monetary, regulatory, and investment policies.

GOV 2887 International Politics in the Post-Soviet Space  
CourseID: 127382  
Faculty:  
Next Term Offered: 2020 Spring  

Examines trends in international relations and transnational processes among the fifteen post-Soviet states, with special attention to the role of Russia, intra-regional cooperation and conflict, the involvement of outside players, and domestic determinants.
Folklore and Mythology

FOLKMYTH 160 Scandinavian Folklore: Trolls, Trolldom and the Uses of Tradition
CourseID: 205673
Faculty: Stephen Mitchell
Next Term Offered: 2020 Spring

Examines Nordic folklore and folklife, with an emphasis on narratives, supernatural beliefs, and material culture from the 17th to the early 20th centuries, interpreted against additional sources of information drawn from the archaeological and historical records. Key strategies used in the fields of folklore, literature, and cultural history to interpret such texts discussed in detail, and applied in analyzing our materials. Also carefully considered, the history and development of folklore studies in Scandinavia and the role of folklore (and folklore studies) as, and in, anti-colonial and nation-building movements.

FOLKMYTH 177 Assertive Stitches: Domestic Arts and Public Conflict
CourseID: 205309
Faculty: Felicity Lufkin
Next Term Offered: 2019 Fall

In January 2017, the Pussy Hat Project turned the Women's March on Washington into an eye-catching "sea of pink," but this is not the first time that needlework has played an important role in a political demonstration. Needlework's traditional associations with femininity and domesticity have made it a potent symbol in protests that are critical of traditional gender roles, or that evoke domestic morality to challenge public policy, or in some cases, both. In addition to the 2017 Pussy Hat project, we will look at cases like the ongoing NAMES Project AIDS memorial quilt, and the anti-nuclear-arms Piece Ribbon project of the mid-1980s within broader historical and theoretical contexts of needlework, of protest and demonstration, and of collective and/or community-building artistic practices.
GERMAN  64 Environment Matters: Green Thought in the German-Speaking World
Course ID: 203479
Faculty: 
Next Term Offered: 2020 Spring

The German-speaking world has long been known for its ecological concern and green credentials. Myriad films and novels from the post-1945 period deal with the degradation of the environment and the concomitant threat to human life. In this course we will look at novels from and about the former East Germany, newspaper and journal articles about the Green Party in West Germany, and both German and Austrian fiction films and documentaries dealing with the fragile state of the global environment. What kinds of formal features do these texts evince? Do they at times suggest a counter-argument to the large-scale destruction they depict? Do they actually promote an "ecology of images" (Sontag)? How do these texts relate their narratives of environmental damage to post-colonial politics or to international economic policies? How has the recent rise of "extreme cinema" influenced the kinds of films being made about such topics? Finally, do the films privilege a peripheral perspective and, if so, does this offer certain advantages? Texts by Heidegger, Adorno and Horkheimer, Mitscherlich, Sontag, Johnson, Maron, Wolf; films by Herzog, Wenders, Geyrhalter, Glawogger, Sauper, Maurer, Haneke, Seidl.

GERMAN  67 German in Revue: Kabarett through the 20th Century
Course ID: 110103
Faculty: 
Next Term Offered: 2020 Spring

Immersion into German language and culture through German Kabarett of the 20th century. Introduction to the writing and performance techniques of German cabaret artists, including the analysis of comedic skits, political and social satire, parody, and humorous poetry. The final project involves a performance of a Kabarett revue.

GERMAN  115 Deutsche Komödie
Course ID: 127724
Faculty: 
Next Term Offered: 2019 Fall

What provokes laughter in German culture? This course explores the genre of German-language comedy through major dramatists, satirists, stand-up comedians, and comedic film, and concludes with a performance in German at the end of the semester. Introduction to forms, techniques, and theories of comedy, as well as workshops on
techniques of comic performance. Conducted entirely in German.

GERMAN 143 German Empires 1848-1948  
CourseID: 203214  
Faculty:  
Next Term Offered: 2019 Fall

This course examines the history of Germans in Europe and elsewhere, starting with the revolutions of 1848 and ending with the separation of Austria, West Germany, and East Germany following the Second World War. We will consider multiple different visions of what ``Germany'' should be, what borders it should have, and who should be considered ``German.''

GERMAN 145 Repression and Expression: Sexuality, Gender, and Language in Fin-de-siècle Literature and Art  
CourseID: 116496  
Faculty: Peter Burgard  
Next Term Offered: 2020 Fall

Examines German and Austrian art and literature of the Turn-of-the-Century (c. 1880-1920) with a focus on the dominant topics of sexuality, gender, and language that are articulated theoretically in the work of Nietzsche and Freud and insistently exemplified thematically and formally in both the art and literature of the age.

GERMAN 146 The Ethics of Atheism: Marx, Nietzsche, Freud  
CourseID: 126632  
Faculty: Peter Burgard  
Next Term Offered: 2020 Spring

Examines the Western secular tradition through the work of three seminal figures whose critiques of religion -- in social and political theory, philosophy, and psychoanalysis and anthropology -- are motivated by ethical concerns. Introductory readings of Kant and Feuerbach ground analysis of Marx's, Nietzsche's, and Freud's ethical atheism. Students do not develop or debate formulae for behavior, but rather become critically aware of ethical considerations that underlie actions and that are negotiated vis-à-vis prevailing moral codes. Readings include (some selections and some complete works): Kant, Prefaces to Religion within the Limits of Reason Alone; Feuerbach, The Essence of Christianity; Marx, Critique of Hegel's Philosophy in General, Introduction to Critique of Hegel's Philosophy of Right, On the Jewish Question, Theses on Feuerbach, Communist Manifesto; Nietzsche, On Truth and Lie in the Extra-Moral Sense, The Gay Science, On the Genealogy of Morals, The Antichrist; Freud, Three Essays on the Theory of Sexuality, Totem and Taboo, The Future of an Illusion. The course is conducted as a large seminar with preparatory section meetings the afternoon or evening before the full
In this course we explore German literature from the Wendezeit to the present. We investigate the central cultural, political and technological developments that have shaped the millennial consciousness since 1989/1990, focusing particularly on the question of how literary texts navigate the increasing tension between real and virtual worlds, or between bodies and media. Topics include: Wendeliteratur, dystopia, 9/11, terrorism, populism, immunity, body poetics, medicine/anatomy, intermediality, interculturality, virtuality, Popliteratur. We read canonical contemporary authors such as Draesner, Grünbein, Kracht, Jelinek, and Tawada. But we also read young authors whose role in contemporary literature is not as clearly defined yet. We thus take an active role in the canon-making process, discussing what incites readers and makes any particular text popular in the 21st century.

Readings and discussions in German. Open to graduate students.
Ever since Homer's epic Iliad, war has been a prominent subject of literature. Drama plays a particularly interesting role in this respect as it is faced with the problem of how to represent battle and warfare: to stage it by bodily action or by mere narration. In fact, throughout the centuries the immediate presentation of violence was seen as a threat to theater and its auditorium as it introduces dissent, strife, and violence to the center of the community. This is why Hegel famously sees drama as an ideal medium for (the representation of) domestic wars and civil strife. And it is why the strategies ancient Greek drama developed to keep such dangers at bay have proven so long living. The use of techniques such as the messenger report, teichoscopy or the synecdoche in representative protagonists remains remarkably stable until well into the 20th century -- and that in spite of a great number of technological, aesthetic, political, and social developments. In this class we will pursue the strategies of bringing war on stage and of keeping war off stage in German drama and theater. Before turning to the pivotal years around 1800 (Schiller, Goethe, Kleist, and Grabbe) we will establish the historical background by, firstly, identifying the main strategies in Aeschylus and, then, juxtaposing two early modern models that were highly influential on the later German authors: Racine's and Shakespeare's. With Bertolt Brecht, Heiner Muller, and Elfriede Jelinek we will, finally, discuss how twentieth-century theater positions itself in relation to these classical texts, both German and non-German, and show how the old strategies are put to new theatrical and ideological uses."

Seduction and transgression, forbidden knowledge and the insatiable lust for learning, the limits of cognition, human will, and the problem of evil?these are the central themes that circulate through the legend of Faust, who is said to have exchanged his immortal soul for infinite wisdom and power. The seminar examines the elaboration and complication of this legend across the centuries and its formative role in the development of European literature and philosophy. In addition to studying Goethe's masterwork, the seminar includes analyses of related works in European literature, music, and the visual arts, all with reference to shifting historical contexts and philosophical reflections.
European Baroque art and German Baroque literature. Revolutions of excess and devolutions of system in architecture, painting, sculpture, poetry, drama, narrative.

GERMAN 233 Pathologies of Description: Adalbert Stifter
CourseID: 205059
Faculty:
Next Term Offered: 2020 Spring

The seminar engages in a close and critical reading of the major prose works of Adalbert Stifter within the broader context of Nineteenth-Century Literary Realism. Themes and tensions include: description and narration; verbal surface and depth; realism and allegory; convention and transgression; figuration and symptom.

GERMAN 254 The Frankfurt School on Film and Mass Culture
CourseID: 203378
Faculty:
Next Term Offered: 2020 Spring

This seminar considers the Frankfurt School's deliberations on film, radio, television, and mass culture. We will devote the majority of the course to three seminal figures: Siegfried Kracauer, Walter Benjamin, and T. W. Adorno. More generally, we will focus on the debates catalyzed by the emergence of modern mass media and an industrialized visual culture; we will also reflect on the pertinence of these debates for our own contemporary culture of media convergence.

GERMAN 274 Architecture and the Literary Imagination from the 19th to the 21st Century
CourseID: 203294
Faculty:
Next Term Offered: 2020 Spring

In German culture, a rich tradition of thought deals with the importance of architecture and urban planning for human development and growth. This course seeks to retrace the outlines of this tradition, focusing on the 19th century to the present day. How does architecture respond to the pressing demand of housing humans in a manner adequate to the historical moment? How does literature reflect on and expand more abstract ideas on the built environment? After a brief foray into theoretical texts by Goethe and Hegel, we will look at realist works of the 19th century that outline a specific way of living as it is
conducive to a young person's Bildung or education (Grillparzer, Stifter, Ebner-Eschenbach). At the turn of the 20th century, we will focus on the designs and writings of urban planners and architects such as Camillo Sitte, Otto Wagner, and Josef Hoffmann, as well as texts by Karl Kraus, Adolf Loos, Robert Musil and Arthur Schnitzler. In the 1920s and 1930s, we will turn our attention to the designs and theorizations of the German Bauhaus in conjunction with models and texts by Ludwig Wittgenstein, Adolf Loos, Josef Frank, and Veza Canetti. In the post-World War II period, a new theoretical discourse bemoans the overhasty development of both rural and urban areas. We will examine some of the writings of the neo-avantgardist architects of the "Austrian Phenomenon" (Hans Hollein, Walter Pichler) in conjunction with prose by Thomas Bernhard. Finally, we look at "parametric" architecture (Zaha Hadid) and experimental literature (Brigitta Falkner, Elfriede Jelinek).

GERMAN 276 Colonial Theory and German Colonial Literature
CourseID: 126653
Faculty:
Next Term Offered: 2019 Fall
Focuses on German fiction, autobiography, travel writings, essays, and films from the mid-nineteenth century to the present. German colonial fantasies, realities, and their aftermath will be examined in the light of recent postcolonial theory.

GERMAN 295 Rhetoric: Disciplines of Persuasion (Graduate Seminar in General Education)
CourseID: 159714
Faculty: Peter Burgard
Next Term Offered: 2020 Spring
Examines rhetoric from Aristotle to the present. Addresses rhetoric in literature, philosophy, science, statistics, politics, journalism, art, film, and digital media. Explores how we communicate to and with one another, how we construct and present arguments, how we persuade and are persuaded. Seeks to understand better the rhetoric we use and to which we are subjected as well as the fact that we regularly use and are subjected to rhetoric.

GERMPHIL 200 History of the German Language
CourseID: 156291
Faculty:
Next Term Offered: 2019 Fall
In this language and historical linguistics course, the students learn how to read and understand Old High German as well as Middle High German texts by following the history of the German language. We work closely with a range of texts (poetical, religious, scientific), translating and analyzing them as well as discussing their cultural
context.
This course is organized around a guiding question: How has visual representation both limited and liberated our definition of American citizenship and belonging? Today, as we are awash with images, and as social media has allowed us to witness racially motivated injustices with a speed unimaginable until recently, we have had to call upon skills of visual literacy to remain engaged global citizens. This course will allow us to understand the understudied historic roots and contemporary outgrowth of this crucial function of visual literacy for justice in American civic life.

Sequenced chronologically, the lectures are organized into three parts, examining the role of visual representation as Civic Evidence, as Civic Critique, and as Civic Engagement (i.e. movement building and solidarity). Exploring these three categories in turn, topics include: the role of aesthetics for the invention of race, narratives supporting and critiquing Native American "removal," the abolition of transatlantic slavery, immigration, the creation of and destabilization of U.S. segregation, the New Negro Movement, Japanese Internment, and the long Civil Rights movement. Each lecture centers on case studies to show the historic roots of the contemporary interplay between visual representation and justice at these inflection points in the contestation for citizenship in America.

We are fortunate to have invaluable holdings at the Harvard Art Museums and at the Peabody Museum and via Cooper Gallery exhibitions that vividly showcase this contested relationship between art, justice, race, and culture over the course of the nineteenth, twentieth, and twenty-first centuries. Lectures will incorporate material from these holdings and sections will meet at these locations to facilitate object-based study. This course will also include guest lectures from architect Michael Murphy and artist Theaster Gates. Students will leave the course having developed rigorous skills of visual literacy and critical analysis foundational to be engaged global citizens regardless of their concentration or future field of study.
Harvard Business School Doctoral

HBSD 4070 Design of Field Research Methods
CourseID: 211077
Faculty:
Next Term Offered:

HBSD 4110 Foundations of Strategy
CourseID: 211078
Faculty:
Next Term Offered:

HBSD 4117 Advanced Strategy
CourseID: 211079
Faculty:
Next Term Offered:

HBSD 4251 Accounting and Management Research Workshop
CourseID: 211080
Faculty:
Next Term Offered:

HBSD 4255 Research Seminar in Financial Reporting, Capital Markets, and Institutions
CourseID: 211081
Faculty:
Next Term Offered:

HBSD 4403 Management Control and Performance Measurement
CourseID: 211082
Faculty:
Next Term Offered:

HBSD 4430 Field Experiments
CourseID: 211083
Faculty:
Next Term Offered:

HBSD 4482 Empirical Technology and Operations Management
CourseID: 211084
Faculty:
Next Term Offered:

HBSD 4484 Mathematical Models of Operations Management
HBSD 4561 Empirical Studies of Innovation and Digitization
CourseID: 211085
Faculty:
Next Term Offered:

HBSD 4630 Doctoral Seminar on Consumer Behavior
CourseID: 211086
Faculty:
Next Term Offered:

HBSD 4660 Marketing Models
CourseID: 211087
Faculty:
Next Term Offered:

HBSD 4809 Applied Econometrics for Research in Management
CourseID: 211088
Faculty:
Next Term Offered:

HBSD 4840 Doctoral Seminar for Technology and Operations Management
CourseID: 211089
Faculty:
Next Term Offered:

HBSD 4882 Micro Topics in Organizational Behavior
CourseID: 211090
Faculty:
Next Term Offered:

HBSD 4909 Independent Study
CourseID: 211091
Faculty:
Next Term Offered:

HBSD 4910 Direction of Doctoral Dissertation
CourseID: 211092
Faculty:
Next Term Offered:
Harvard Business School MBA

HBSMBA 1286 Strategy and Technology
CourseID: 211094
Faculty:
Next Term Offered:

HBSMBA 1440 Private Equity Finance
CourseID: 211095
Faculty:
Next Term Offered:

HBSMBA 1764 Making Markets
CourseID: 211096
Faculty:
Next Term Offered:

HBSMBA 6062 Immersive Field Course: Japan; Innovation through the Fusion of Digital and Analog
CourseID: 211097
Faculty:
Next Term Offered:
Human Evolutionary Biology

HEB 1250 Genetics and Human Evolution
CourseID: 202993
Faculty:
Next Term Offered: 2019 Fall

This course will explore major questions in human evolution from a genetic perspective. Students will learn how genetic data are used to reconstruct the past, to identify unique human adaptations and to understand relationships among living and archaic hominin species.

HEB 1290 Cultural Evolution
CourseID: 159565
Faculty: Joseph Henrich
Next Term Offered: 2019 Fall

Unlike other species, humans are heavily reliant on learning from others to acquire many important aspects of their behavior, and this cultural transmission has created a second system of inheritance that has driven much of our species' genetic evolution. In addition to having shaped our species' anatomy and physiology, cultural evolution has important implications for understanding human nature, and for how to tackle basic problems in psychology, economics and anthropology. The first third of this course will develop the basic principles and lines of inquiry while the remainder will apply, hone and refine them by exploring economic development, the history of modern institutions, and global inequality.

HEB 1327 Ancient Diseases
CourseID: 208136
Faculty:
Next Term Offered:

The seminar explores the evidence for diseases in antiquity with an emphasis on environmental determinants, modes of transmission, basic biology of organisms involved, and direct evidence from the fossil record.

HEB 1417 Diet and Exercise
CourseID: 205638
Faculty:
Next Term Offered: 2020 Fall

How do diet and exercise—both past and present—affect human health? How does an
evolutionary medical perspective help make sense of the confusing, often contradictory literature on how factors like sugar, salt, fat, obesity, physical inactivity, high intensity exercise and shoes affect the human body? In this seminar, weekly readings and discussion will be used to explore how ancestral diets and forms of physical activity have shaped human anatomy and physiology, and how differences between past and present diets and forms of exercise may contribute to illness, mortality, and variations in reproductive success. In doing so, we challenge popular conceptions of what it means to be "healthy."

HEB 1428 Becoming Human: The Long View
CourseID: 208049
Faculty:
Next Term Offered:

When and why did we become Human? How do we define "Human"? In this course we will attempt to identify and explain the origins of defining traits of humans, using fossil, archaeological, and genetic data. The class will discuss relevant readings each week and study fossils and artifacts when applicable.
Iran witnessed two major revolutions in the twentieth century: the Constitutional Revolution in the first decade of the twentieth Century and the Islamic Revolution of 1979. Starting with the 1979 revolution, this seminar journeys back in time (and then to the present) to offer an overview of modern Iranian history. We will examine the major social, cultural, and political characteristics of the 1979 Revolution in relation to the history of Iran in the twentieth century and from a comparative perspective between the two revolutionary moments. We will then return to the present by examining the nature of the state and society that has resulted from the 1979 revolution.

How should one distinguish what is "true" or "real" from what is "false" or "fake"? What is the difference between concealing the truth (secrecy) and lying? Is falsehood ever justifiable? These questions are newly important but not novel. This course will draw on "case histories" that lie at the source of some of Europe's most infamous economic and political scandals, examining themes such as forgery, sensationalism, conspiracy, espionage and false evidence. While studying falsehood and fakery, the course will endeavor to teach students to be "true" to their sources: to conduct research, build an evidentiary base, and make verifiable arguments.

Examines the economic lives of women in different historical periods and places. Considers legal, literary, statistical and other sources. Will also explore the place of women in the history of economic thought. Students will prepare individual research projects, and are encouraged to undertake original research using primary sources.

From the Belle Époque to the Third Reich: Culture and Aesthetics in France and Germany, c. 1880?1945
This seminar explores French and German culture in comparative perspective, from the last two decades of the nineteenth century through the end of World War II. In this course we will consider culture and aesthetics broadly conceived, from formal artistic and intellectual movements, to institutions, and customs. We will examine a range of primary sources in historical context in order to ask why French and Germans believed that culture was vital to understanding the transformative era in which they lived. Students should expect vigorous discussions that question the historical and ongoing dynamic between culture and power.

HIST 72K The Worlds of Joseph Conrad
CourseID: 127715
Faculty: Maya Jasanoff
Next Term Offered: 2019 Fall

Anarchists, asylum-seekers, ivory-traders, gun-runners, sea captains, empire-builders and corporate agents gone rogue: welcome to the world of 1900 as described by Joseph Conrad, the greatest novelist to write about globalization as we recognize it today. Course explores the history of modern globalization using secondary works and Conrad novels including Heart of Darkness. Topics include race, immigration, multinational capitalism, and technological change; we also discuss the relationship between history and literature.

HIST 79E Commodities in International History
CourseID: 125503
Faculty: Alison Frank Johnson
Next Term Offered: 2020 Spring

Introduces students to international history through the study of commodities ranging from oil, coal, and cotton to potatoes, rum, coffee, and sugar. Showcases historical writings that transcend geographic, cultural, and political boundaries between East and West, North and South, Atlantic and Pacific as well as methodological boundaries between cultural, economic, business, and environmental history, the history of food, of technology, and of ideas.

HIST 80G Travelers to Byzantium
CourseID: 108055
Faculty: Dimitar Angelov
Next Term Offered: 2019 Fall

This seminar is based on the fascinating firsthand accounts of travelers who visited
Constantinople and other areas of Byzantine world. The texts will generate questions for discussion and research on a wide range of issues, such as Byzantine civilization, cross-cultural contacts in the Middle Ages, the practice and experience of travel, and the interrelationship of travel, ethnography, and politics. Sources will be chosen from among the works of western, Islamic, Jewish, and Russian travelers.

HIST 82B Fin-de-Siècle Vienna
CourseID: 120893
Faculty: Alison Frank Johnson
Next Term Offered: 2020 Fall

Explores the history of the political, social, and cultural center of the largest continental European Empire in modern history, and one of the birthplaces of European modernism. From the 1880s through WWI and into the early years of the Republic of Austria, the course examines not only Vienna's intellectual vitality, but also the social and ideological divisions underlying the human catastrophes of World War and genocide in the twentieth century.

HIST 83A Markets and States: The History of Economic Thought Since 1750
CourseID: 121621
Faculty: Emma Rothschild
Next Term Offered: 2019 Fall

Examines the history of various kinds of economic thought, including 18th century laissez-faire political economy and late 19th century theories of economic and social reform. Will consider writings in different media from scientific theories to economic periodicals. Students will prepare individual research projects.

HIST 84H The Northern Side of the Civil Rights Movement
CourseID: 123222
Faculty: Evelyn Brooks Higginbotham
Next Term Offered: 2019 Fall

Examines the movement for racial equality outside the South from the 1940s and into the early 1970s, and will examine integrationist efforts, as well as competing ideologies of black power through weekly urban case studies.

HIST 89J The United States and China: Opium War to the Present
CourseID: 107972
Faculty: Erez Manela
Next Term Offered: 2020 Spring
This research seminar will focus on the history of Sino-American relations and interactions since the Opium War (1840s). It will examine major episodes such as the Boxer intervention, the first and second world wars, the Korea and Vietnam wars, the Mao-Nixon rapprochement, and the post-Mao transformations, and explore central themes such as immigration, trade, culture, diplomacy, and security.

HIST 97A "What is the History of Medicine?"
CourseID: 109926
Faculty:
Next Term Offered: 2020 Spring

The emergence of the science of medicine and its professionalization have been integral aspects of human history. The history of medicine allows us to trace the various traditions that have come together to create "modern medicine." In this section, students will examine the human endeavor to be healthy and to cure disease. The practice of medicine draws on changing ideas about the natural world and the body. It also demands interventions in the physical environment so as to maximize public health, and readily incorporates transformative technologies from other sectors of human society. Students will be asked to reflect on the interaction of medicine and culture through questions such as: How did western powers use biomedicine in the context of empire? How do non-western cultures appropriate and indigenize biomedicine?

HIST 97B "What is Intellectual History?"
CourseID: 109927
Faculty:
Next Term Offered: 2020 Spring

Intellectual historians study almost every period, place, and theme in human history: from classical times to the present, from Asia to the Americas, by examining philosophy and religion, social and political thought, literature and art, and other expressions of human agency and intention that range from ancient epics to graphic novels. This section will draw examples from a wide range of moments and regions to ask how intellectual history has developed as a field, what methods it uses, and how it can be distinguished from other forms of history even as it informs debates of interest to all historians.

HIST 97C "What is the History of History?"
CourseID: 109928
Faculty:
Next Term Offered: 2020 Spring

Everything has a history, and the discipline of history has a particularly long and broad one. In this section we'll focus on ideas about how and why to study history and on the practices of historical research and writing as they have varied across different cultural
contexts. In selected case studies we will consider who wrote and who read history, and how historians answered questions that we also ask ourselves today. E.g. What features are essential to a good historical account? Does the study of history teach moral lessons? How does history interact with memory?

HIST 97D "What is Environmental History?"
CourseID: 109929
Faculty:
Next Term Offered: 2020 Spring

This section gives new History concentrators an introduction to environmental history. Most historians leave the natural world out of the story, but environmental historians regard nature as the inescapable context for human history, including the human impact on nature. We will explore how the histories of the environment and of humans can (and perhaps should) be written together. Is there a "natural archive" which historians can consult in parallel with conventional libraries and archives? Do places have "biographies," just as people do? Can natural entities (mountains, dogs, rivers, microbes, climate) have "agency" in the same way human actors can?

HIST 97K "What is Social History?"
CourseID: 203047
Faculty:
Next Term Offered: 2020 Spring

For a long time, the writing of history focused mainly on kings, politicians, landlords, slave owners, capitalists ?that is, on those with the means to write letters, autobiographies, official documents. In the past decades, historians have increasingly studied the lives of people not apparently entitled to have their histories told: peasants, slaves, women, industrial workers. Social History is the study of the experiences of those who lived most or all of their lives submitted to the power and the oppression of others. What did these people do with what was done to them? What sources are there to investigate this question and how should historians analyze them?

HIST 97L "What is Atlantic History?"
CourseID: 204987
Faculty:
Next Term Offered: 2020 Spring

We live in a world of intense exchange across borders and seas, yet most history is still taught from a national or regional perspective. By studying inter-regional developments of societies around the Atlantic Ocean, we will examine how the histories of Europe, North America, Latin America and Africa are intertwined. What methods have historians used to study the trade, migration, inter-imperial competition and revolutionary upheaval that together have helped create an "Atlantic World"? Topics include trade in
commodities and slaves, the Atlantic and Haitian Revolutions, and the ecological impact of exchange, among other themes.

HIST 1002 The American Revolutionary War
CourseID: 203018
Faculty: Jane Kamensky
Next Term Offered: 2019 Fall

This course explores the causes, experience, and consequences of the war known in the United States as the American Revolution. Treating the conflict as a multi-sided struggle, our vantage point will range among the thirteen rebellious colonies of the North American seaboard, the thirteen other colonies that comprised Britain's America, and the vast stretches of the American continent that lay outside Britain's domain, but were nonetheless embroiled in the bloody civil war that reshaped the first British Empire and resulted in the founding of the United States. We will also take in the view from London and elsewhere around the globe, as America's revolution remapped European alliances and colonial relationships among Europe, the Americas, Africa, and Asia. Our focus will largely center on the war itself, with only a brief foray into the politics and society of the early United States. We will try, whenever we can, to view history forward rather than backwards, thus exploring the contingencies, interdependencies, and possibilities that scholars too often flatten into a narrow, smooth road to American Independence.

HIST 1005 The Early American Republic: The United States from 1783-1873
CourseID: 204982
Faculty: Annette Gordon-Reed
Next Term Offered: 2019 Fall

This course will explore the creation of the United States after the conclusion of the American Revolutionary War through the presidency of Andrew Jackson. We will focus on politics, social and cultural life during this period. We will discuss, among other things, the concepts of republicanism and federalism, the French and Haitian Revolutions' effect on politics in the 1790s, Jefferson versus Hamilton, slavery, and attitudes toward Native Americans and women. Other topics: Jefferson's election in 1800, the War of 1812, the initial conflicts over slavery, the calls for a "white man's government" and the overall effects of Jackson's presidency.

HIST 1007 War, State, and Society
CourseID: 204990
Faculty: Derek Penslar
Next Term Offered: 2020 Spring

This course surveys the relationship between warfare, the military, politics, and society from the 18th century to the present. Combining methodologies from History and
International Relations, we will examine the distinction between war and other kinds of inter-human conflict; the origins and effects of conscription; the relationship between modern nationalism and military service; gendered and minority perspectives on combat; and the impact of 20th- and 21st-century global wars on combatants and civilians. The course is divided into halves. The first half deals with our main themes via a broad, comparative approach that encompasses world history over the past 250 years. The second half applies general concepts to two case studies: the First World War and the Middle East War of 1948.

HIST 1014 Gender & Empire
CourseID: 156553
Faculty: Genevieve Clutario
Next Term Offered: 2019 Fall

This course takes a cultural approach to connected histories and more contemporary developments of (post)colonial national identity formations, U.S. empire, and globalization during the nineteenth and twentieth centuries through the lenses of gender, race, and appearance. We will examine visual and performative cultural arenas such as beauty pageants, advertising, mass media, film, and video and investigate how discourses of racial and gendered aesthetics functioned in structuring and maintaining colonial forces and empire.

HIST 1030 Studying Twentieth-Century American History: An Introduction
CourseID: 110490
Faculty: Brett Flehinger
Next Term Offered: 2019 Fall

Introduces students to historical study by focusing on selected topics in Twentieth-Century American history. The course teaches students how to use the systematic patterns of thought that historians use to recreate and analyze the past. These are patterns of thought common among all historians and the skills and experiences gained will provide students a way to enter historical study across time and geography. Topics include, the history of race-based disfranchisement, the Dust Bowl, the history of birth control, Thoreau’s influence on twentieth-century reform movements, and others.

HIST 1032 A History of Brazil, from Independence to the Present
CourseID: 202988
Faculty: Sidney Chalhoub
Next Term Offered: 2020 Fall

This course will analyze major themes in the social and political history of Brazil from Independence (1822) to the present. Themes to be addressed are the following: Independence, colonial legacies and national identity; state formation and the question of citizenship rights; the African slave trade; land and labor policies in a slave society;
slave emancipation and the crisis of the monarchy; the establishment of the republican regime; gender and the crisis of patriarchy; urban renewal and popular protest; social movements in rural areas; the labor movement; populism; the myth of racial democracy and its crisis; dictatorship and democracy.

HIST 1068 United Nations: A Global History  
CourseID: 110511  
Faculty: Emma Rothschild  
Next Term Offered: 2019 Fall

Explores the history of international organizations, including activities concerned with economic development, security, and environment. Taught in conjunction with the development of new web-based sources on United Nations history.

HIST 1206 Empire, Nation, and Immigration in France since 1870  
CourseID: 109409  
Faculty: Mary Lewis  
Next Term Offered: 2019 Fall

This course explores the history of France from the foundation of the Third Republic to the beginning of the 21st century. Topics include the advent of modern left-wing, right-wing, and anti-Semitic politics; imperial expansion and its consequences; the devastating impact of the First World War; the tumultuous interwar era; the Second World War and the politics of resistance, collaboration, and memory; decolonization; the May 1968 movement; immigration and identity politics since the 1970s.

HIST 1265 German Empires, 1848-1948  
CourseID: 110285  
Faculty: Alison Frank Johnson  
Next Term Offered: 2019 Fall

This course examines the history of Germans in Europe and elsewhere, starting with the revolutions of 1848 and ending with the separation of Austria, West Germany, and East Germany following the Second World War. We will consider multiple different visions of what "Germany" should be, what borders it should have, and who should be considered "German."

HIST 1270 Frontiers of Europe: Ukraine since 1500  
CourseID: 124506  
Faculty: Serhii Plokhii  
Next Term Offered: 2019 Fall

The history of Ukrainian territory and its people within a broad context of political, social
and cultural changes in Eastern Europe in the course of the half of a millennium. Special emphasis on the role of Ukraine as a cultural frontier of Europe, positioned on the border between settled areas and Eurasian steppes, Christianity and Islam, Orthodoxy and Catholicism, as well as a battleground of major imperial and national projects of modern era.

HIST 1280 History of the Soviet Union, 1917-1991
CourseID: 113970
Faculty: Terry Martin
Next Term Offered: 2020 Spring

Examines the history of the Soviet Union from the Russian Revolution to Gorbachev’s failed reforms. Focus on the period 1928-53 when industrialization, nationalization and political terror created a distinct Soviet society and culture. Readings include novels, short stories, memoirs, Soviet propaganda, high policy deliberations, letters, journalism, songs, jokes, etc.

HIST 1330 Social Thought in Modern America
CourseID: 111490
Faculty: James Kloppenberg
Next Term Offered: 2020 Spring

An inquiry into American ideas since 1870, examining developments in political and social theory, philosophy, and literature in the context of socioeconomic change. Topics include the breakdown of Victorian idealism and laissez-faire; the emergence of social science and progressivism; conflicts over gender, race, and ethnicity; interwar cultural ferment and political reform; post-World War II theories of consensus and 1960s radicalism; and the consequences for democracy of our contemporary culture of hyper-partisanship.

HIST 1405 American Legal History, 1776-1865
CourseID: 127948
Faculty: Annette Gordon-Reed
Next Term Offered: 2019 Fall

This course will trace the development of the American legal and political system from 1776 to 1865. We will discuss the formation of state constitutions and the Federal Constitution, slavery and law, the development of American private law, the "Revolution of 1800" and the "Age of Jefferson", the mechanisms of westward expansion, the "Age of Jackson", and the coming of the Civil War.

HIST 1457 History of American Capitalism
CourseID: 125496
Faculty: Sven Beckert
Next Term Offered: 2019 Fall

Examines the development of the American economy from its beginnings to the present. Focuses on the nature of economic change during the past 400 years and the reasons for and effects of capitalist growth. Topics include Native-American economies, the industrial revolution, slavery, the rise of new business structures, labor relations, and technological change.

HIST 1465 The United States in the World since 1900
CourseID: 117932
Faculty: Erez Manela
Next Term Offered: 2019 Fall

A wide-ranging overview of American interactions with the world from the Spanish-American War through 9/11 and beyond. We will consider the changing patterns of international politics, the causes and implications of imperialism and decolonization, the pivotal impact of the world wars and the Cold War, the significance of cultural interactions and social movements, the challenges of globalization, the complexities of international development, and the roots of current world (dis)orders.

HIST 1513 History of Modern Latin America
CourseID: 108533
Faculty: Kirsten Weld
Next Term Offered: 2019 Fall

This course surveys Latin America from its 19th-century independence movements through the present day. How did the powerful legacies of European colonialism, and the neocolonial economic order that emerged to replace it, shape the Americas’ new nations? Themes include nationalism and identity, revolution and counterrevolution, populism, state formation, race and ethnicity, gender and sexuality, social movements, the role of foreign powers, inequality and social class, dictatorship, democratization, and human rights.

HIST 1520 Colonial Latin America
CourseID: 109436
Faculty: Tamar Herzog
Next Term Offered: 2020 Fall

This course is an introductory survey of colonial Latin American history, spanning the sixteenth to the early nineteenth century. Organized chronologically and thematically, it will examine developments in Spanish and Portuguese America by reading both secondary and primary sources (available in English translation).

HIST 1610 Environments: China, Japan, Korea
CourseID: 205113
The future is not what it used to be. Nowhere is this more evident than in the natural world, where climate change and fading biodiversity, energy anxieties and environmental disasters have undermined the bedrock of history: the assumption of a stable continuity between past, present, and future. This class visits East Asia—China, Japan, and the Koreas, vibrant economies and agents of historical change, to explore the transformation of the natural world in modern times. We will analyze nuclear power plants and cruise rivers, explore industrial ruins and debate public policy as we define Asia's role in the global environmental future.

HIST 1623 Japan in the Modern World
CourseID: 124213
Faculty: Andrew Gordon
Next Term Offered: 2019 Fall

Explores Japan's emergence as a world power and the Japanese experience of modernity across the twentieth century. Examines politics, social movements, and culture of the imperial era. Considers the experience of empire, war and its surprising aftermath: the "rise and fall" of Japan's world beating economy, and great social and cultural transformation. Offers historical context for contemporary issues ranging from economic crisis and inequality to tension with Asian neighbors.

HIST 1700 The History of Sub-Saharan Africa to 1860
CourseID: 124404
Faculty: Emmanuel Akyeampong
Next Term Offered: 2019 Fall

Survey of sub-Saharan Africa to 1860, with attention to the range of methodologies used in writing early African history, including oral history, archaeology, and anthropology. Will address themes of the impact of climate change on migration and settlement, trade and commerce, state formation, slavery, and the impact of Islam and Christianity on the continent. Will provide a methodological and historiographical framework in which more specific historical processes and events may be placed and understood.

HIST 1701 West Africa from 1800 to the Present
CourseID: 140979
Faculty: Emmanuel Akyeampong
Next Term Offered: 2020 Spring

The course explores the internal dynamics of West African states from 1800, and West Africa's relations with the wider world. Innovations in science, technology and finance made the 19th century an era of social and economic opportunity and of political experimentation; a phase curtailed by European imperialism. The course examines
African perspectives on colonialism, the two world wars, nationalism, and the transfer of political power. We will review post-colonial political economies and the search for workable political and economic models.

HIST 1878A Ottoman State and Society I (1300-1550)
CourseID: 142695
Faculty: Cemal Kafadar
Next Term Offered: 2019 Fall

Surveys the emergence of the Ottoman state from a frontier principality into a world empire in its social, political and cultural dimensions. Topics include pre-Ottoman Anatolia; frontier society; methods of conquest; centralization and institutionalization of power; land regime and peasantry; urbanization; intercommunal relations; religion and learning; architecture and literature. Relations with Byzantium as well as Islamic and European states are examined.

HIST 1878B Ottoman State and Society II (1550-1920)
CourseID: 148158
Faculty: Cemal Kafadar
Next Term Offered: 2022 Spring

Surveys the transformations of the Ottoman order in the Middle East and southeastern Europe in the early modern era and in the long nineteenth century until the demise of the state. Topics include changes in the conduct of state; social and religious movements; the impact of the new world economy and new trade routes; relations with Europe; emergence of nationalism; the `Eastern Question.' Ethnic and religious diversity, rural society, urban popular culture, guilds, gender and family life are also examined. The importance of this era for understanding today's Middle East is stressed.

HIST 1900 Feminisms and Pornography, c 1975-1995
CourseID: 205054
Faculty: Jane Kamensky
Next Term Offered: 2020 Fall

This course focuses on the conflict among US feminists over pornography, a legal and cultural struggle that continues to inform feminist thought. Students will write article-length original essays based on archival research in the collections of the Schlesinger Library. The class meets twice weekly, once in traditional seminar format and the other time in laboratory format at the Schlesinger. In addition to their individual research and collaborative work with the class as a whole, students will participate in planning a daylong workshop on our topic, to be held the following semester, on Friday March 23, 2018.

HIST 1907 Germans and Jews
This course provides an intensive examination of the history of Jews in the modern German Kulturbereich—that swath of Europe where German was the sole, or a primary, language of political administration, education, communication, and high culture. Covering the period from the eighteenth through mid-twentieth centuries, we will explore the meaning of Germanness to Jews and of Jews to German Christians. Among the topics to be explored are debates over Jewish emancipation, Jewish struggles with religious and secular identities, processes of acculturation and integration, antisemitism and Jewish responses, economic and family life, Jewish culture in the German empire and Dual Monarchy and in the post-1918 German and Austrian republics, and the fate of the Jews in Nazi Germany and its annexed territories.

HIST 1908 Racial Capitalism and the Black Radical Tradition
CourseID: 205076
Faculty: Vincent Brown
Next Term Offered: 2020 Fall

This course explores a history of radical responses to a world system dependent on war, empire, enslavement, and genocide. Guided by the writings of such scholars as W.E.B. Du Bois, C.L.R. James, Eric Williams, Walter Rodney, and Cedric Robinson, among others, students will examine the history of racial capitalism through the rebellions it has inspired, considering them as crucial occasions in the making of a black radical tradition.

HIST 1909 East European Identities: Russia and Ukraine
CourseID: 203036
Faculty: Serhii Plokhy
Next Term Offered: 2020 Fall

Discusses the formation of modern national identities in the Slavic world, and traces the development of competing imperial and national projects from the Napoleonic Wars to the collapse of the Soviet Union and the rise of independent successor states. Examines the reflection of growing national awareness in Russian and Ukrainian political writings, historiography, literature, and culture, as well as the role of multiple "others" in the formation of modern East Slavic identities.

HIST 1910 The History of Energy
CourseID: 205112
Faculty: Ian J. Miller
Next Term Offered: 2019 Fall

The history of energy is the history of modern political economy. The history of energy is the history of a scientific concept and its technological application. The history of energy...
is the history of climate change and environmental catastrophe. The history of energy is the history of life, the universe, and everything. All of these statements are true. This seminar is a critical introduction to the roles that energy has played in history and historiography. Using this ubiquitous and fundamental concept, we will explore questions ranging from climate change and capitalism to causality and colonialism in diverse places and times.

HIST 1911 Pacific History  
CourseID: 107925  
Faculty: David Armitage  
Next Term Offered: 2020 Fall

The Pacific Ocean covers a third of the Earth's surface and one-third of humanity lives on its shores and islands, from Russia to New Zealand and from Southeast Asia to South America. This seminar introduces students to oceanic and global history via works in Pacific history by scholars of the Pacific Islands, Asia, Australasia, Europe, and the Americas. Themes covered include cultural encounters, exploration, migration, history of science, geopolitics, and economic history.

HIST 1912 History Design Studio  
CourseID: 109422  
Faculty: Vincent Brown  
Next Term Offered: 2020 Fall

Weekly seminar and studio for multimedia history. The course encourages students to design new modes of historical storytelling by embedding historians' core values and methods in the innovative products of artisanship and craft. Extensive use of primary sources, attention to processes of change over time, keen historiographical awareness, and an overarching respect for evidence will guide a range of multimedia historical projects.

HIST 1913 Dirty Wars, Peace Processes, and the Politics of History in Latin America  
CourseID: 108531  
Faculty: Kirsten Weld  
Next Term Offered: 2020 Spring

Latin America's "dirty wars" generated intense struggles over historical memory. Course focuses on Chile, Argentina, El Salvador, and Guatemala, and comparatively examines how societies reckon with bloody recent pasts that are anything but settled. Looks at both these countries' dictatorships and their fraught peace processes (including truth commissions, transitional justice, artistic representations, human rights activism, international law, foreign involvement, backlash) in order to probe the stakes and politics of historical interpretation.
HIST 1914 The History of Environmental Activism
CourseID: 159654
Faculty: Joyce Chaplin
Next Term Offered: 2019 Fall

Why do some human beings step forward to defend the non-human? It has been unusual, in human history, to express concern for the non-human parts of nature; to do something politically relevant with that concern is rarer still. In this class, we will examine the history of why and how people have done both. We will trace the origins of environmental ideas, broadly defined, and then the historical processes by which activism on behalf of the environment has become part of national and global cultures. As well, we will analyze different media and modes for expressing environmentalist action, as they have developed over time. And we will interrogate the character and role of the activist.

HIST 1915 The Nine Lives of Benjamin Franklin
CourseID: 119039
Faculty: Joyce Chaplin
Next Term Offered: 2019 Fall

Examines the eighteenth century through some of the many lives of Benjamin Franklin. Students analyze in depth one of these lives, or identify and explore yet another, to better comprehend Franklin and the worlds in which he lived: colonial America, British empire, independent US, books, science, popular culture, politics, war, social reform, personal improvement, and many others.

HIST 1916 The History of Evidence
CourseID: 110442
Faculty: Jill Lepore
Next Term Offered: 2021 Spring

This course will examine the rules and standards of evidence in law, history, science, and journalism. What counts as proof in these fields varies and has changed over time, often wildly. Emphasis will be on the histories of Western Europe and the United States, from the middle ages to the present, with an eye toward understanding how ideas about evidence shape criminal law and with special attention to the rise of empiricism in the nineteenth century, the questioning of truth in the twentieth, and the consequences of the digital revolution in the twenty-first. Topics will include the histories of trial by ordeal, trial by jury, "spectral evidence," "negro evidence," case law, scientific testimony, footnotes, the polygraph, statistics, anonymous sources, fact checking, and big data.

HIST 1917 Are You Now or Have You Ever Been an Android?: The New Materialism
CourseID: 204981
Faculty: Joyce Chaplin
Many historians now believe that the material and nonhuman elements of human life and experience should be foreground, not background. Humans and their histories exist, after all, within and in relation to nonhuman material entities and forces: animals, climate, androids, food, computer code, commodities, inanimate things, entire landscapes, and every other kind of stuff. Several fields from the human sciences and natural sciences have been important in establishing how our material worlds are fundamental to our identities, roles, beliefs, and futures. This course will explore dimensions of the new materialism, as it is playing out in interpretations of the past.

HIST 1923 Japan's 2011 Disasters and Their Aftermath: A Workshop on Digital Research
CourseID: 109459
Faculty: Andrew Gordon
Next Term Offered: 2020 Fall

The course explores the historical and ethnographic contexts of Japan's compound disasters of March 2011. As people sought to survive and make sense of the disasters, social media as well as photos, videos and websites played critical roles. We examine the role of these records, using a participatory digital archive developed at Harvard. Student teams will develop research questions, collect digital material, and create multimedia narratives. Students will complement their research with study of responses to similar global events as well as critical reflection on digital scholarship and the emerging practice of "crisis archiving."

HIST 1925 Europe and its Other(s)
CourseID: 109437
Faculty: Tamar Herzog
Next Term Offered: 2019 Fall

This course examines how Europeans interacted with those they considered different inside and outside Europe during the Medieval and the Early Modern periods. Reading will alternate between primary and secondary sources.

HIST 1929 Slavery, Commerce, and Emancipation in the Age of the French and Haitian Revolutions
CourseID: 203027
Faculty: Mary Lewis
Next Term Offered: 2020 Fall

Examines the institution of slavery and how it was alternately challenged and reinforced by the tumult of political revolutions in France and Haiti. Major themes will include the legal and economic underpinnings of plantation slavery; the causes and worldwide
consequences of the Haitian Revolution (1791-1804); the political economy of counter-revolution, re-enslavement, abolitionism, and new forms of labor coercion such as indentured servitude. Our focus will be primarily on French colonies, with comparisons made to Cuba, the British Caribbean, South America, and the American South where appropriate.

HIST 1931 Slavery, Disease and Race: A View from Brazil
CourseID: 159657
Faculty: Sidney Chalhoub
Next Term Offered: 2020 Spring

Slavery and emancipation were major issues in nineteenth-century Brazilian history. In the 1870's and 1880's, with the drama of emancipation unfolding, yellow fever meant death to European immigrants and a major obstacle to achieving a social configuration that valued the whitening ideal and excluded people of African descent from social and economic opportunities. Although the primary focus of this course is Brazil, students may opt to write a final paper that compares an aspect of the social history of slavery and/or race and/or disease in Brazil and another nation or region. Class materials will include a range of primary sources.

HIST 1932 Fictions of Adultery: from Flaubert to Machado de Assis
CourseID: 202989
Faculty: Sidney Chalhoub
Next Term Offered: 2021 Spring

This course seeks to analyze the ways in which Machado de Assis, the most important Brazilian novelist of all times, appropriated the European tradition of the novel of adultery. In doing so, he sought to discuss literary models (realism), scientific ideologies (social Darwinism), gender (he expected the misogyny of readers to fill the lacunae of the narration), and class conflict (characters in dependent relations, women in particular, deploy an array of strategies to deal with the potential violence of patriarchal figures). Readings: selected pieces on theoretical approaches to fiction from the perspective of social history and novels by Flaubert and Machado de Assis.

HIST 2006 Readings in Native American and Indigenous Studies: Seminar
CourseID: 206979
Faculty: Philip Deloria
Next Term Offered: 2020 Fall

This course offers a survey of the historiography of Native American and Indigenous Studies. Centered on six themes?Power and the Middle Ground, Borderlands, Settler Colonialism and Sovereignty, Race and Slavery, Modernity and Futurity, and Global and Comparative Indigeneity?the course is designed to allow explorations into additional terrain, including gender and sexuality, law and policy, and comparative ethnic studies,
among others. Core readings will focus on recently published scholarship. To explore field trajectories, scholarly exchange, and indigenous politics, members of the class will research and write historiographical essays that will be shared collectively, and form the basis for seminar discussion.

HIST 2035 Topics in Byzantine History: Seminar  
CourseID: 202985  
Faculty: Dimiter Angelov  
Next Term Offered: 2019 Fall

The seminar introduces graduate students to advanced research in the field of Byzantine history. Special attention is paid to critical methods of historical analysis as well as to new approaches and methodologies.

HIST 2055 Early Medieval History, Archaeology and Archaeoscience: Seminar  
CourseID: 114862  
Faculty: Michael McCormick  
Next Term Offered: 2019 Fall

Joint philological analysis of Latin texts, archaeological and scientific evidence illuminating the fall of Rome and the origins of medieval Europe, culminating in a research paper.

HIST 2056 Readings in Late Antique and Medieval History: Seminar  
CourseID: 205068  
Faculty: Michael McCormick  
Next Term Offered: 2019 Fall

A critical introduction to and group discussion of special themes in the historiography of late antique and medieval history with readings in English and French or German, culminating in a term paper. Themes will range from transdisciplinary approaches to history to "is there a Mediterranean history"?

HIST 2260 Central Europe: Seminar  
CourseID: 121634  
Faculty: Alison Frank Johnson  
Next Term Offered: 2020 Fall

Major themes include nationalism, communism, the `Polish question,' the `Jewish question,' the political and economic viability of the Habsburg Empire, cultural exchange and diplomatic relations between Austria, Germany and the Russian Empire/Soviet
HIST 2270 Reformation and the Making of Religious Practice in Britain and Colonial America, c. 1550-1700
CourseID: 205243
Faculty: David Hall
Next Term Offered: 2020 Spring

A research seminar, this course covers the coming of Reformed (Calvinist) Protestantism to England and Scotland in the sixteenth century and the maturing of the Puritan movement in those countries and New England in the seventeenth. Attentive to theology and politics, this course also explores lived religion, especially devotional practice.

HIST 2271 The Soviet Union: Proseminar
CourseID: 122085
Faculty: Terry Martin
Next Term Offered: 2020 Spring

Introduction to major debates in the historiography of the Soviet Union and late imperial Russia.

HIST 2277 Eastern Europe: Peoples and Empires: Proseminar
CourseID: 109605
Faculty: Serhii Plokhii
Next Term Offered: 2020 Spring

This course is an introduction to major themes and debates in the early modern and modern history of the "other Europe." Its main focus is on the histories of European Russia, Ukraine, Belarus, Lithuania, and Poland. Readings discuss international and political developments in the region and their impact on the formation of imperial, national, religious and cultural identities from the rise of Reformation to the collapse of Communism. The course is designed to prepare students for a general exam field in East European history. It is open to graduate and advanced undergraduate students working on a senior thesis.

HIST 2300 Methods in Intellectual History: Proseminar
CourseID: 124505
Faculty: David Armitage
Next Term Offered: 2020 Fall

Introduction to advanced research in intellectual history with special reference to
philosophy and political thought. Readings will include primary and secondary materials drawn from East-Asian and Euro-American traditions. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

HIST 2320A Foundations of Modern European Intellectual History: Seminar
CourseID: 127616
Faculty: Peter Gordon
Next Term Offered: 2019 Fall

This graduate seminar provides a survey of major themes and controversies in modern European intellectual history from the Enlightenment to the post-war era. The seminar is intended primarily for graduate students who are preparing for the qualifying examination. The course is offered on a yearly basis, and it meets every other week throughout the academic year. Please consult with the instructor for further details. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

HIST 2320B Foundations of Modern European Intellectual History: Seminar
CourseID: 160385
Faculty: Peter Gordon
Next Term Offered: 2020 Spring

This graduate seminar provides a survey of major themes and controversies in modern European intellectual history from the Enlightenment to the post-war era. The seminar is intended primarily for graduate students who are preparing for the qualifying examination. The course is offered on a yearly basis, and it meets every other week throughout the academic year. Please consult with the instructor for further details. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

HIST 2400 Readings in Colonial and Revolutionary America: Proseminar
CourseID: 114881
Faculty: 
Next Term Offered: 2019 Fall

An introduction to scholarly literature on colonial and revolutionary America. Required for History Department graduate students specializing in US history. Open to those from other fields or programs.

HIST 2412 Topics in the History of Atlantic Slavery: Seminar
CourseID: 123095
Faculty: Vincent Brown
Next Term Offered: 2021 Spring
Will introduce graduate students to major synthetic works on the history of Atlantic slavery, surveying the period between the mid-15th century and the late 19th, and provide them an opportunity to develop original research projects.

HIST 2442 Readings in the History of the U.S. in the 19th Century: Proseminar
CourseID: 114882
Faculty:
Next Term Offered: 2020 Spring

The second in the sequence of three proseminars required of all graduate students in American history and open to graduate students in other history fields and other departments as space permits.

HIST 2480A The Political Economy of Modern Capitalism: Seminar
CourseID: 117955
Faculty: Sven Beckert
Next Term Offered: 2019 Fall

A year-long research and reading course on the history of capitalism during the past 300 years. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

HIST 2480B The Political Economy of Modern Capitalism: Seminar
CourseID: 204961
Faculty: Sven Beckert
Next Term Offered: 2020 Spring

A year-long research and reading course on the history of capitalism during the past 300 years. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

HIST 2485 European Legal History Workshop
CourseID: 203246
Faculty: Tamar Herzog
Next Term Offered: 2020 Spring

Offered jointly with the Harvard Law School, this workshop will examine some of the most innovative research in European Legal history, conducted by both historians and legal scholars. Classes will alternate between in-group discussions of certain fields, questions or methodologies, and presentations by leading scholars.
HIST 2639 The History of the People's Republic of China: Research Seminar
CourseID: 202996
Faculty: Arunabh Ghosh
Next Term Offered: 2020 Fall

For long, 1949 marked a boundary that historians of China did not transgress. The post-1949 years were almost exclusively the domain of political scientists, sociologists, economists, and anthropologists. But over the last twenty years, spurred by the increasing accessibility of materials inside and outside the archive and by methods such as oral history, historians have offered new and compelling perspectives on the early years of the People's Republic of China. In this research seminar students will explore this history by reading some of the most innovative work in the field and developing and presenting research that will culminate in a 25-35 page research paper. Each week we shall also have the opportunity to discuss a particular kind of source. This will help prepare students for research in China by giving them practical experience of dealing with a variety of materials, textual and non-textual.

HIST 2652 Topics in Japanese History: Research Seminar
CourseID: 204954
Faculty: Andrew Gordon
Next Term Offered: 2020 Fall

Research seminar will focus on different topic in modern Japanese history from year to year. First half of course will focus on a common set of secondary readings and documentary sources in both Japanese and English. Students will prepare research papers on the topic in workshop setting in second half of the course.

HIST 2653 Historiography of Modern Japan: Proseminar
CourseID: 124013
Faculty: Andrew Gordon
Next Term Offered: 2019 Fall

A critical introduction to the historiography of modern Japan, with emphasis on English-language scholarship.

HIST 2692 Colonial and Post-Colonial Histories of South Asia: Seminar
CourseID: 116677
Faculty: Sugata Bose
Next Term Offered: 2019 Fall

Analyzes trends and debates in historical research and writing on colonial and post-colonial South Asia.
HIST 2708 Sources, Methodology, and Themes in African History: Seminar
CourseID: 117941
Faculty: Emmanuel Akyeampong
Next Term Offered: 2020 Spring

Seminar to equip graduate students with the necessary tools for archival research and fieldwork, as well as to introduce them to recent approaches in the historiography.

HIST 2709 Themes in Modern Sub-Saharan African History: Proseminar
CourseID: 116161
Faculty: Caroline Elkins
Next Term Offered: 2019 Fall

An in-depth study of the major themes in sub-Saharan African history from the mid-19th century to the present, including the scholarship and debates on the changing relationship between Africa and the West.

HIST 2805 Gender & Sexuality: Comparative Studies of Islamic Mid. East, N. Africa, & S. Asia: Proseminar
CourseID: 119090
Faculty: Afsaneh Najmabadi
Next Term Offered: 2020 Spring

Informed by theories of gender and sexuality, this seminar investigates how historically notions of desire, body, sex, masculinity, femininity, gender and sexual subjectivities have formed and reformed in Islamicate cultures of the Middle East, North Africa, and South and East Asia.

HIST 2884 Topics in Ottoman Social and Cultural History: Seminar
CourseID: 147101
Faculty: Cemal Kafadar
Next Term Offered: 2020 Spring

Topic to be announced.

HIST 2919A International Society in Global Context: Seminar
CourseID: 160050
Faculty: Erez Manela
Next Term Offered: 2019 Fall

A year-long research and reading course on the history of international society in global context from the early modern period to the near present. Themes include international thought; imperial, national, and post national orders; and projects of “civilization,”
development, and modernization in global context. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

HIST 2919B International Society in Global Context: Seminar
CourseID: 160051
Faculty: Erez Manela
Next Term Offered: 2020 Spring

A year-long research and reading course on the history of international society in global context from the early modern period to the near present. Themes include international thought; imperial, national, and post national orders; and projects of "civilization," development, and modernization in global context. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

HIST 2989 The United States in the World: Proseminar
CourseID: 205242
Faculty: Erez Manela
Next Term Offered: 2020 Spring

Readings on the history of the United States in the world since 1776. Required of students preparing for a general exam in the field but also open to others.
History and Literature

HIST-LIT 90CU Fashion and Slavery
CourseID: 205574
Faculty: 
Next Term Offered:

This course examines the politics of fashion among people of African descent during slavery and the period immediately followed emancipation. Fashion is generative, yet underutilized analytic to explore the experience of the enslaved and their descendants. Geographical breadth is crucial to examining the African Diaspora in its full complexity; therefore, course material will cover the United States, Caribbean, Latin America, and Africa. We will examine in particular the relationship between slave consumerism and the development of modern capitalism in the Atlantic World. Other topics of the course will include: sumptuary law, wealth accumulation among the enslaved and formally enslaved, honor and respectability politics, commodification of the enslaved, gendered sartorial expression, etc.

HIST-LIT 90DR American Speeches
CourseID: 212821
Faculty: 
Next Term Offered:

This course will explore speeches across the sweep of American history, examining them both as windows into their own era and as texts created to inform and persuade. We will ask who speaks and how and the ways that has evolved over time, and we will seek to identify the enduring and changing elements of effective oratory from Jonathan Edwards to Frederick Douglass to J.K. Rowling's Harvard commencement address, to the emergence of TED. Assignments will include the composition and delivery of a speech.

HIST-LIT 90DS Listening to US Culture around 1900
CourseID: 212822
Faculty: 
Next Term Offered:

What did life in the United States sound like at the turn of the twentieth century, and what can attention to sonic culture--from tent shows to urban noise complaints, from player pianos to poetic representation--teach us about the conflicts of social belonging that characterized this era? This class takes these questions as a guide, as we explore an era when commercial radio didn't yet exist, new genres of music like ragtime were becoming popular, and cities were growing rapidly. Our primary source materials are drawn from various special collections in the Harvard Libraries and
Museums, including the Loeb Music Library, the Houghton Library, the Schlesinger Library, and the Peabody Museum. Assignments will likely include a small, collaboratively produced exhibit and an individually written research paper about an object in the Harvard library collections. No experience with music is necessary.

HIST-LIT 90DT Asian American History to 1924
CourseID: 212823
Faculty:
Next Term Offered:

This course will focus on Asian American history from the 19th and early 20th centuries. Our aim will be to engage the longer history of Asian migration and labor in the United States. As such, we will focus on topics prior to the Immigration Act of 1924 (also sometimes known as the Asian Exclusion Act). We will explore how empire, capital, and labor informs the transnational movements of ideas, commodities, and people. Topics we will discuss include coolie labor, immigration exclusion, and U.S. empire. Readings and discussions will aim to think through how ideas of race, gender, and sexuality operate and change over time within these histories. Our readings will focus on monographs on Asian American history combined with primary sources.

HIST-LIT 90DV Red Scares
CourseID: 212825
Faculty:
Next Term Offered:

When, in his 2019 State of the Union address, President Trump said, "We are born free, and we will stay free. Tonight, we renew our resolve that America will never be a socialist country," he invoked American rhetoric that is at least one hundred years old. The first so-called Red Scare, precipitated by World War I and the Bolshevik Revolution in Russia, produced the Espionage Act, which was recently used to charge former CIA analyst Edward Snowden in the leak of classified documents related to the NSA's surveillance program. In the second Red Scare that followed World War II, the House Un-American Activities Committee (HUAC), Senator Joseph McCarthy, the FBI, and others conducted widespread investigations of suspected communists and purged "subversives" from all levels of government, the entertainment industry, public and private schools, colleges and universities. Beginning with early 20th-century fears that revolutionary socialism could spread from Russia around the world, this course explores anxieties about subversion and perversion in American politics and culture at the dawn of the Cold War. Readings will include texts by Emma Goldman, Sacco and Vanzetti, John Dos Passos, Langston Hughes, Elia Kazan, Richard Wright, Lillian Hellman, E. L. Doctorow, and Tony Kushner, as well as films such as The Manchurian Candidate, Pickup on South Street, Invasion of the Body Snatchers, My Son John, and On the Waterfront. Assignments will include research involving Harvard archives and FBI files.
HIST-LIT 90DW Queering the South: Race, Gender, & Sexuality in the American South
CourseID: 213371
Faculty:
Next Term Offered:

The course examines the intertwined histories of race, gender, and sexuality in the American South from the end of Reconstruction in 1877 through to the present. We will consider how struggles for gender and sexual freedom are linked to race in the modern South. The course proceeds along two tracks: first, we gain knowledge about the lives of women, trans people, and gay people in the South. Second, we consider how African Americans, women, and LGBTQ individuals struggled for freedom and how these efforts changed over time in response to opposition, developments elsewhere in the world, and victories. We will explore the circumstances under which people from different backgrounds come together in pursuit of a common goal and the times when conflicts arise. We will read poetry and novels, manifestos and diaries, and secondary literature written by historians. In addition, we'll watch videos and listen to music to understand the different ways people queered the South during the last century. The course recognizes that Southerners do not fit neatly into racial, gender, or sexual boxes and so investigates the intersections of identities to lend complexity and verve to the histories of people often forgotten.

HIST-LIT 90DX Environmental Justice in North America
CourseID: 213372
Faculty:
Next Term Offered:

This course examines how the right to natural resources became contested in North America following European conquest and westward expansion, with a particular emphasis on the period before 1865. Sometimes these contested resources have been clean air, soil, and water, while at other times they included fisheries, forests, agricultural fields, animal pastures, or oil. From when pilgrims first arrived at Plymouth Rock in 1620, race, class, and gender have been the determining factors in regulating resource access rights. We will explore the social, political, and economic processes by which some people have been denied the basic right to resources by studying the histories of European colonization, indigenous dispossession, the enslavement of Africans, "Manifest Destiny," and the rise of capitalism. We will look at the diversity of indigenous resource management regimes at work across the continent, and consider how these methods changed in response to encounters with colonialism and capitalism. We will interrogate what happens when natural resources become capitalist commodities, and how the history of European colonialism heralded the transformation of North American nature—a process which produced such contradictions as the beauty of Yellowstone National Park and the carnage of the Cuyahoga River which famously caught on fire in downtown Cleveland in 1969. Throughout the semester alongside these transformations we will study the ways people organized in response to them. The course culminates with the 2016-17 protests at Standing Rock to ask how the past informs the future of resource conflict between the government and business on one side and indigenous and
other underrepresented populations on the other in the twenty-first century.

HIST-LIT  90DY Race and American Empire  
CourseID: 213373  
Faculty:  
Next Term Offered:  
This course examines the early 20th century expansion of U.S. military influence in the Atlantic and Pacific, and how this expansion shaped and was shaped by theories of race. Beginning with the Spanish-American War (1898), we will follow a series of U.S. interventions in the Atlantic (Cuba, Dominican Republic, Haiti, Honduras, Mexico, Nicaragua, Panama, Puerto Rico, Venezuela) and Pacific (Guam, Hawaii, Philippines). We will also explore the tensions between imperialism and white supremacy, as theorized by Madison Grant and Lothrop Stoddard. Special attention will be paid to black intellectuals (W.E.B. Du Bois, Anna Julia Cooper, Katherine Dunham, Jessie Fauset, Amy Jacques Garvey, Langston Hughes, Zora Neale Hurston, James Weldon Johnson, Eric Walrond, Ida B. Wells) who both aided and contested U.S. imperial designs. Through photographs, architecture, film, novels, ethnographies, memoirs, speeches, and cartoons, we will study debates about the international role of the U.S. through World War II.

HIST-LIT  90DZ Too Soon? Comedy in Europe's Tragic Twentieth Century  
CourseID: 213374  
Faculty:  
Next Term Offered:  
In the first half the twentieth century, Europe was the site of two wars that depleted the world's population by three percent, dislocated millions, and stripped once diverse regions of the continent of their minority populations. Even as Europe started to rebuild itself in the 1950s, progress occurred under the shadow of two hegemonic superpowers in possession of weapons capable of incinerating not just both sides of the Iron Curtain but the entire planet.

What cultural role has comedy played in coming to terms with all of this tragedy? In a 1966 profile of Bertolt Brecht for The New Yorker, Hannah Arendt would write of "the terrible freshness of the post-war world"?in which all that poets could do in the rubble was laugh at the sky that remained. As Europe destroyed and reinvented itself through the twentieth century, how did humor serve as a tool for working through the past and its relation to the present? This course will draw on sources in various media to examine how comedy can be a means of not just coping with history but understanding it. We will consider humor as a tool of political critique, historical analysis, and mourning and pay particular attention to the boundaries and historicity of taste. Assigned readings and films include works by Bertolt Brecht, Sigmund Freud, Henri Bergson, Hannah Arendt, Ernst Lubitsch, Billy Wilder, Charlie Chaplin, Mel Brooks, Jean- Luc Godard, Milos Forman,
HIST-LIT  90EA Water Justice and Resistance in the Americas
CourseID: 213375
Faculty:
Next Term Offered:

Water is life, but is it a human right? Water governance is a contentious issue globally because humans rely on water for nearly every productive activity; moreover, it is often scarce and not distributed equally. To better understand the persistence and escalation of struggles over water access around the world, this course uses a multidisciplinary approach that allows students to examine both the social and physical shape of water in a modern and historical context. While all bodies of water deserve mention, civilizations have most often centered on rivers acting as veins pumping their life blood. This class discusses water issues in a global context, but pays particular attention to populations from South America through Canada. This course often takes an ethno-gendered approach by specifically examining women's and indigenous peoples' hydraulic social mobilization practices through the lens of their physical and cultural connection to water sources. Students will have the opportunity to interrogate the complexity of water policies, and learn how marginalized groups executed water justice strategies to defend their identity, material wealth, and health.

HIST-LIT  90EB Gender and Empire in the Modern Mediterranean
CourseID: 213376
Faculty:
Next Term Offered:

Questions of empire were fundamentally intertwined with questions of gender. This course will focus on the imperial and intercultural contact zones of the Mediterranean—at once connecting and dividing Europe, the Middle East, and North Africa—from the eighteenth to the twenty-first century. With an interest both in men's and women's experiences and in representations of masculinity and femininity, our inquiry will also straddle the divide between colonizer and colonized. Readings will include both primary and secondary sources, ranging from images, novels, and films to memoirs, testimonials, and government documents, and from Edward Said and Frantz Fanon to Assia Djebar and Tahar Ben Jelloun. Students will learn to assess how modern imperial encounters were mediated by gendered logics of power; how these overlapped with dynamics of race, class, and nation; and how the Mediterranean region itself gave rise to different understandings of gender and empire.
History of Science

HISTSCI 108 Bodies, Sexualities, and Medicine in the Medieval Middle East
CourseID: 127093
Faculty: Ahmed Ragab
Next Term Offered: 2019 Fall

This course will examine the ways in which medical, religious, cultural, and political discourses and practices interacted in the medieval and early modern Middle East to create and reflect multiple understandings of human bodies and sexualities. Special attention to debates on health, sexuality, and gender and racial identities.

HISTSCI 132 History of Environmental and Earth Sciences
CourseID: 204998
Faculty: Naomi Oreskes
Next Term Offered: 2019 Fall

Our understanding of Earth has changed radically in the last two centuries: after many years of debate, many major questions have come to be seen as largely answered. It is now accepted that the planet formed over 4.5 billion years ago; that the Earth's surface is made of rigid segments?called plates?whose horizontal motions are responsible for the major terrestrial features, and that there is both life and deep circulation in the deep ocean. Most recently, contributions from planetary sciences and astrobiology have queried Earth's uniqueness. This course introduces students to the history of the earth and environmental sciences from the eighteenth century to now. We investigate debates over gradualism versus catastrophism, plate tectonics, ocean circulation, Biblical and geological understandings of Earth's origins, the Gaia hypothesis, and anthropogenic climate change, as well as the emergent technology of "geoengineering."

HISTSCI 149 The History and Culture of Stigma
CourseID: 110099
Faculty: Allan Brandt
Next Term Offered: 2021 Spring

This course will investigate the history of a number of stigmatized conditions and diseases including, for example, cancer, mental illness, addiction, obesity, AIDS, and disability. A central goal will be to understand the stigmatization of disease and its effects in diverse historical and cultural contexts. The course will evaluate both the impact of stigmatization on health disparities and outcomes, as well as attempts to de-stigmatize conditions that are subject to discrimination, prejudice, and isolation.
HISTSCI 152 Filming Science  
CourseID: 114680  
Faculty: Peter Galison  
Next Term Offered: 2020 Fall  

Examination of the theory and practice of capturing scientific practice on film. Topics will include fictional, documentary, informational, and instructional films and raise problems emerging from film theory, visual anthropology and science studies. Each student will make and edit short film(s) about laboratory, field, or theoretical scientific work.

HISTSCI 158 Latin America as Laboratory, 1492-Present  
CourseID: 207953  
Faculty: Gabriela Soto Laveaga  
Next Term Offered: 2021 Spring  

Since 1492 outsiders have tried to explain and define the region we now call Latin America. In the fifteenth century the inhabitants of the Americas, often displayed as curiosities in the courts of Europe, served as a source of perplexed wonder. Were these humans? If so, what type? Questions about the humanity of natives led to philosophical debates about the nature of humankind and introduced the concept of race. Unknown flora, arriving on ships, sparked notions that expanded the fields of botany, biology, and medicine. Ocean navigation and a new understanding of the relationship between land and water emerged when mariners experienced the hurricanes of the Caribbean. From royal botanical expeditions to astronomy European scientific knowledge expanded with the introduction of knowledge and raw material coming from the Americas.

In this course students will understand the role that the Americas played in building our modern world, they will broaden their understanding of knowledge circulation from the fifteenth to the twenty-first century; examine place and knowledge production; race, citizenship, and science; and how Latin America fueled Europe's Age of Reason and the Industrial and Scientific Revolutions. By placing Latin America in conversation with Europe we gain a fuller understanding of how science is produced and consumed.

HISTSCI 170 Broken Brains  
CourseID: 160496  
Faculty: Anne Harrington  
Next Term Offered: 2019 Fall  

An exploration of the complex relationship between doctors and scientists who study and treat different kinds of “broken brains,” the patients they study and treat, and larger public conversations about being human in today’s neurological society. Topics include iconic cases of brain damage that catalyze new scientific understandings (like the case of H.M.), the study of brain damage in war, the emergence of writings (including memoirs and novels) that attempt to describe “what it is like” to suffer from disorders like autism and Alzheimer’s, and controversies over recent efforts to see psychiatric
disorders like depression as simple products of a chemically "broken brain."

HISTSCI 174 Critical Experiments in the Human Sciences  
CourseID: 122167  
Faculty: Rebecca Lemov  
Next Term Offered: 2020 Fall

This course focuses on high-impact experiments - among them, the Milgram "Obedience" experiments and the Stanford Prison Experiment - carried out in the twentieth-century human sciences by anthropologists, sociologists, social psychologists, and/or experimental psychologists. Many dreamed of a "technology of human behavior" and conducted experiments toward this end. What were the results, and how do they continue to affect our thinking and daily lives today?

HISTSCI 176 Brainwashing and Modern Techniques of Mind Control  
CourseID: 126335  
Faculty: Rebecca Lemov  
Next Term Offered: 2019 Fall

This course examines the phenomenon of "brainwashing" as a modern set of techniques that can apparently force a subject radically to alter her beliefs against her will. The Cold War roots of 'brainwashing' - both the myth and the reality -- lie in the politics of twentieth-century anti-Communism and the deeper fear that people's most strongly held thoughts, ideas, and ideological commitments could be vulnerable to powerful infiltration. In order to understand the dynamics of this process we will examine case studies beginning with the Korean War-era emergence of the term 'brainwashing', the American interdisciplinary science of "coercive persuasion" that arose in response, and successive waves of technological, political, and sociocultural developments. We will also look at how brainwashing and analogous persuasive techniques may operate among larger groups, crowds, organizations, and mass societies.

HISTSCI 178 History of the Psychotherapies  
CourseID: 156325  
Faculty: Elizabeth Lunbeck  
Next Term Offered: 2019 Fall

Examines the history of the current psychotherapeutic landscape, looking at the development, methods, aims, efficacy, and limitations of a range of psychotherapeutic modalities from Freud's time to our own, among them psychoanalytic, psychodynamic, cognitive, behavioral, manualized, and evidence-based treatments; individual, play, family, and group therapies. Explores tensions between therapy as a quest for self-improvement and a means of relieving symptoms, between focusing on cognition and on behavior, and between mind and brain. Looks at providers and patients, at the testimonies of writers and poets, and at office-based, hospital, and computer therapies.
The question of the relationship between professional practices and the rise of a popular therapeutic sensibility is central to the course.

**HISTSCI 179 The Freudian Century**  
CourseID: 109859  
Faculty: Elizabeth Lunbeck  
Next Term Offered: 2020 Fall

Explores the consolidation and rise to prominence of a distinctively modern psychological perspective on human nature, motivation, and desire from 1900 to the present. Opens with the debut of therapeutic culture and the Freudian recasting of the self, with attention to dreams, sexuality, interiority, gender, and cultures of trauma. Moves to the mid-century period and beyond, the heyday of the psychological perspective in the United States, looking at the psychology of affluence, the invention of "identity," the new narcissism, and personalities and power in the workplace. Ends with an assessment of the virtues and liabilities of the 21st century expressive self.

**HISTSCI 181 Humans in Space: Past, Present, Future**  
CourseID: 160334  
Faculty: Matthew Hersch  
Next Term Offered: 2019 Fall

This lecture course will survey the history of spaceflight, beginning with ancient anticipations and ending with space travel in the twenty-first century and beyond. From high-altitude ballooning and airplane flight to rocketry and interplanetary travel, we will both trace the development of technologies humans have used to leave their home planet, and place these technologies within the context of political, economic, and social change. The course will also examine how the development of space vehicles was accompanied by transformations of the human body and mind, from the development of high-altitude pressure suits to the rise of space psychology.

**HISTSCI 184 Technology and Capitalism**  
CourseID: 207695  
Faculty: Victor Seow  
Next Term Offered: 2020 Spring

How have capitalist economies facilitated technological change? Conversely, how have technological developments shaped and sustained the system of capitalism? Technological inventions and innovations have resulted in products that have generated consumer demand and desire. Technology has also altered processes of production and, in so doing, shifted the meaning of work. This seminar looks at the complex relationship between technology and capitalism through cases drawn from all around the globe. Topics we will cover include but are not limited to patents and intellectual property, research and development, and mechanization and automation. Readings
consist of primary sources, classic works, recent scholarship, and a graphic novel. As part of this course, we will be working with archival materials in Baker Library at the Harvard Business School.

HISTSCI 185 Communicating Science: From Print Culture to Cybersocieties
CourseID: 107619
Faculty: Alex Csiszar
Next Term Offered: 2020 Spring

Science doesn't just happen in the lab. Scientific results have to be communicated among scientists, and to the public. This course investigates the ways in which scientific knowledge circulates, and pays special attention to how new communications media have shaped knowledge-in-the-making. Topics will include the history of scientific genres (letters, encyclopedias, periodicals), popular science, peer review, intellectual property, and new information technologies. Selected classes will take place in Houghton Library.

HISTSCI 188 Open Minds, Wired Worlds: Computers and Cyberculture
CourseID: 160371
Faculty: Matthew Hersch
Next Term Offered: 2020 Spring

From the birth of the electronic computer through the rise of social networking, this lecture course will trace both the eighty-year effort to create an electronic information machine, and the parallel effort to use this technology to enable people to create new kinds of communities. Beginning with the rise of information science and cybernetics, and continuing through the origins of digital logic and electronic computation, this course will explain the rise of smaller, faster, and more personal computers while examining the attendant political, social, and economic forces that spurred the development of a global communications network.

HISTSCI 199 Science and Religion in America
CourseID: 203705
Faculty: Naomi Oreskes
Next Term Offered: 2019 Fall

This course examines the history of science and religion, with a focus on the United States. Science and religion are often viewed as intrinsically at odds with each other, but are they?? Or have we over-emphasized a small number of conspicuous conflicts? And why have certain controversies loomed so large in U.S. historiography? Topic will include the founding father's views of science and religion; the 19th century creation of government-based scientific agencies; the development of research universities as an alternative to denominationally-based higher education; Andrew Dickson White and the "warfare of science and religion" thesis, the trial of Tennessee school teacher John
Scopes for teaching evolution and the popular interpretation of that trial; creationism in the mid-late 20th century, and religious-based opposition to climate science. We will pay particular attention to the question of how the relationship between science and religion has changed over the course of U.S. history, and the drivers of those changes.

HISTSCI 224 Science and Security
CourseID: 207808
Faculty: Benjamin Wilson
Next Term Offered: 2021 Spring

Modern states have interpreted science as an instrument of security and a realm of special security concern. This graduate seminar contemplates security as a subject and an analytical category in the history of modern science. It considers various approaches to historical writing about ideals, concepts, and practices of security at the intersection of knowledge and power. Readings will touch on projects of imperial control and postcolonial modernization; the Cold War and the nuclear age; environmental and energy security; and broad themes including security expertise and its construction, risk, prediction, and secrecy.

HISTSCI 231 Transforming Technologies: Science, Technology, and Social Change
CourseID: 110280
Faculty: Naomi Oreskes
Next Term Offered: 2020 Fall

Climate change threatens severe dislocation of our environment, culture and infrastructure, as well as substantial losses to biodiversity and natural beauty. Virtually all experts agree that to avoid extensive disruptive climate change, we must transform our energy system from one based on burning carbon-based fuels to renewables or other energy sources that are net carbon-neutral. This will require a technological transformation. This course examines that challenge in light of past and present transforming technologies. In the first part of the class, we examine past examples of technological transformation, and consider what we might learn from them. In particular, we consider the questions: where do new technologies come from? What has been the role of the free market v. the role of conscious planning? Does technology drive social change or does social change drive technological innovation? Above all, how do we get the technologies we need? Do we get the technologies we need? In the second part we examine the required energy transition to prevent anthropogenic climate change, and the obstacles to it.

HISTSCI 231A Transforming Technologies: Science, Technology, and Social Change: In the Field
CourseID: 207582
Faculty:
Next Term Offered: 2020 Summer
Companion field work for HistSci 231 in Ladakh, India.

HISTSCI 238 Rethinking the Darwinian Revolution: Seminar
CourseID: 122166
Faculty: Janet Browne
Next Term Offered: 2020 Fall

We will explore the new historiography of evolutionary ideas, covering the political, social, literary, and scientific commitments of 19th and early 20th century thought, and reassess the roles of Charles Darwin and Alfred Russel Wallace. There will be an opportunity to read key Darwin texts.

HISTSCI 238A Rethinking the Darwinian Revolution: In the Field
CourseID: 205270
Faculty: Janet Browne
Next Term Offered: 2020 Fall

Companion field work for graduate seminar: We will explore the new historiography of evolutionary ideas, covering the political, social, literary, and scientific commitments of 19th and early 20th century thought, and reassess the roles of Charles Darwin and Alfred Russel Wallace. There will be an opportunity to read key Darwin texts.

HISTSCI 242 Global Perspectives on the History of Medicine
CourseID: 205195
Faculty: David Shumway Jones
Next Term Offered: 2020 Fall

The seminar will design and develop a General Education course that uses a global perspective to teach key themes in the history of disease and medicine.

HISTSCI 244 Magic, Miracles, and Prophetics: Medicine and Religion in the Medieval Islamic World
CourseID: 203614
Faculty: Ahmed Ragab
Next Term Offered: 2021 Spring

Along with herbs, pills and pastes of different tastes and colors, amulets, prayers and images of prophets and saints served as tools for healing and for medical care constituting a significant part of the landscape of medical practice. In the Islamicate context, 'Prophetic medicine' was considered the most important representation of these types of "religious healing." Relying on sayings and deeds of Muhammad and his companions, volumes of prophetic medicine discussed medical questions and offered
medical advice. From the ninth century to the present, this body of literature, accompanied by certain types of foods, herbs and other preparations, continued to survive in changing shapes and forms that reflected changes in medical knowledge and in the study of prophetic traditions. This course will investigate the traditions of prophetic medicine and ask questions about the relationship of medicine and Islam from the medieval to the modern period.

HISTSCI 245 The Changing Concept of Race in Science and Medicine in the U.S.: From Jefferson to Genomics
CourseID: 108811
Faculty: Evelynn Hammonds
Next Term Offered: 2019 Fall

This course explores the history of the concept of "race" as used by biologists, anthropologists, and physicians from the 17th century to the present and social and political responses to the concept of race in these fields.

HISTSCI 247 Current Issues in the History of Medicine: Seminar
CourseID: 126322
Faculty: Allan Brandt
Next Term Offered: 2019 Fall

Explores new methods for understanding disease, medicine, and society, ranging from historical demography to cultural studies. Topics include patterns of health and disease, changes in medical science and clinical practice, the doctor-patient relationship, health care systems, alternative healing, and representations of the human body. The course will focus on historical problem-framing, research strategies, and writing.

HISTSCI 248 Ethics and Judgment in the History of Science and Medicine
CourseID: 107682
Faculty: David Shumway Jones
Next Term Offered: 2020 Fall

Examines the tensions felt by historians and physicians between historicizing past ethical behaviors and norms and wanting to pass judgment on past actors and actions. Topics include contested diseases, accusations of unethical research, and controversial therapeutics.

HISTSCI 251 Feminist Science Studies
CourseID: 205427
Faculty: Sarah Richardson
Next Term Offered: 2019 Fall
An introduction to central texts, theories, and research methods in scholarship on gender and science.

HISTSCI 253 Bioethics, Law, and the Life Sciences  
CourseID: 122616  
Faculty: Sheila Jasanoff  
Next Term Offered: 2020 Spring

Seeks to identify and explore salient ethical, legal, and policy issues - and possible solutions - associated with developments in biotechnology and the life sciences.

HISTSCI 261 Ethnography of Science and Technology  
CourseID: 108933  
Faculty: Sophia Roosth  
Next Term Offered: 2020 Spring

This course surveys monographs in the ethnography of science, both canonical and current. How have the methods and tools of the interpretive social sciences been applied to cultures of science and technology? What is the relation of description to analysis in ethnographies of science? How do such ethnographies approach theory-building and interpretation? Beginning with early work in the sociology of scientific knowledge and laboratory studies, students will read work in feminist science studies, field and environmental studies, multi-sited ethnography, sensory ethnography, and ethnographic accounts of digital worlds. Throughout, pressure will be placed on issues of method, style, and representation.

HISTSCI 268 Health, Science, and Development in the Twentieth Century  
CourseID: 204422  
Faculty: Gabriela Soto Laveaga  
Next Term Offered: 2019 Fall

In this graduate seminar we examine how the rhetoric of science was used to 'solve' problems in Africa, Latin America, and South Asia in the twentieth century. From civil engineering wonders, like the Panama Canal, to agricultural solutions, like the Green Revolution, we will discuss the unexpected consequences of foreign models in colonial and postcolonial spaces. Examining cases such as uranium extraction in African nations or glaciology in Peru can help us understand the socio-political consequences of science-on-ground when countries become laboratories for foreign-led aid.

HISTSCI 272 Big Data: Past, Present, Future  
CourseID: 156326  
Faculty: Rebecca Lemov  
Next Term Offered: 2019 Fall
The goal of this class is to understand more deeply the roots and current practices involved in "Big Data," an umbrella term and current buzzword used to mark the revolutionary potential inherent in working with scaled-up collections of data and new data-processing and -storage technologies. We will begin by examining claims that Big Data has ushered in a new era of epistemology and scientific understanding. Next, we will investigate the historical development as well as material and political conditions that produced the current moment. We will read histories and ethnographies of Big Data and its historical precursors across fields as diverse as (but not limited to) bioinformatics, climate science, anthropology, library science, and paleontology, and will consider the interpenetration of Big Data's practices in commerce, national security, personal life ("self-tracking") and the project of self-engineering. The aim of the course is to be better able to assess the challenges and opportunities the current "data deluge" poses to society.

HISTSCI 279 Freud and His Legacies: Readings in the History of Psychoanalysis
CourseID: 109860
Faculty: Elizabeth Lunbeck
Next Term Offered: 2020 Fall

Selected topics in psychoanalysis from Freud to the present, with attention to conceptualizing and writing the discipline's history. Among topics to be covered are the conditions of theory change, historicizing the analytic self, and assembling the analytic archive; locating major figures and national schools (Klein, Lacan, Kohut; Britain, France, Argentina); case studies in thinking with psychoanalysis-understandings of people and possessions, conflict and aggression, warfare and welfare; and pathologies of everyday life, from the abused wife to the corporate titan. Throughout, the seminar will focus more generally on writing intellectual and disciplinary histories. Note: Open to advanced undergraduates with permission of the instructor.

HISTSCI 280 Science and New Technologies in South Asia, Latin America, and Africa
CourseID: 205434
Faculty: Gabriela Soto Laveaga
Next Term Offered: 2021 Spring

This seminar uses examples from Latin America, South Asia, and Africa to explore key ideas in STS and history of science. Students will understand how concepts such as citizenship, race, class and poverty influence and reshape the practice of science on the ground. Co-taught with Professors Clapperton Mavhunga and Dwai Banerjee (MIT Program in Science, Technology, and Society); the class will meet at Harvard.

HISTSCI 282 Genre and Knowledge
CourseID: 156487
Faculty: Alex Csiszar
Next Term Offered: 2020 Fall

How and to what extent is knowledge shaped by the forms and genres through which it has been produced? Bringing history of science and technology together with media studies, book history, and cultural theory, we will consider histories and theories of representation, textuality, authorship, reading, illustration, translation, and the archive. Readings will include Foucault, Chartier, Latour, Kittler, Daston, Biagioli, Gitelman, Elshakry, and Kirschenbaum.

HISTSCI 287 Teaching the History of Science and Technology
CourseID: 203611
Faculty: Matthew Hersch
Next Term Offered: 2020 Spring

This seminar provides graduate students with both an accelerated introduction to the history of science and technology, and to current methods for teaching this subject to undergraduates. While the course will engage with methodological questions, our principal focus will be on developing a series of explanatory frameworks for 5,000 years of techno-science, and crafting a series of discrete lessons capable of conveying important knowledge and skills to students. Intended for graduate students in any field, this course serves as both a refresher on Western technological history and a teaching practicum intended to prepare doctoral students for oral examinations and teaching positions in the field.

HISTSCI 293 Agnotology: The History of Knowledge and Ignorance
CourseID: 203706
Faculty: Naomi Oreskes
Next Term Offered: 2020 Spring

Historians of science have traditionally been concerned with the production of scientific knowledge, but in recent years have turned their attention to the production of ignorance. This course focuses on the production of ignorance as a social, political, cultural, economic and epistemic question, with attention both to techniques of deliberate ignorance production, and to the inadvertent and often uncontested production of ignorance that arises from accepted research practices and from the conditions that shape the direction and forms of scientific inquiry.
LING 146 Syntax and Processing
CourseID: 122516
Faculty:
Next Term Offered: 2019 Fall

Selected grammatical phenomena will be examined from a theoretical and experimental perspective, with a view toward answering questions like the following: What theoretical treatments are available? How do experimental studies distinguish among competing theoretical approaches? What kind of future experimental work is needed to resolve the outstanding issues?

LING 152 Prosody and Intonation
CourseID: 123619
Faculty:
Next Term Offered: 2020 Spring

Prosody and intonation are intricately linked to many domains of language use and linguistic structure. We examine the phonetic form of prosodic contours and intonational grouping, the function of prosody in expressing semantic and pragmatic information and in disambiguation during sentence production and comprehension, and the use of “implicit” prosody even in silent reading.

LING 160 Psychology of Language
CourseID: 156739
Faculty:
Next Term Offered: 2020 Spring

How do children manage to learn the sounds, the words and the grammar of their native language in three years or less? Does the language that we speak change how we think? What happens in the mind (and brain) that allows us to convert sound into meaning during language comprehension (and meaning into motor movements during language production)? Why are human languages similar to each other in some ways, and what allows them to vary in others? We will explore these questions integrating the perspectives of linguistics, psychology and cognitive neuroscience.

LING 910 Supervised Reading & Research
CourseID: 212968
Faculty:
Next Term Offered:
Supervised study with a faculty member. For students who wish to pursue a particular linguistics topic not covered in other course offerings. Regular meetings and assignments supervised by a faculty member. Weekly or biweekly meeting times as agreed upon instructor and student. Lettered graded.
Mathematics

MATH 101 Sets, Groups and Topology
CourseID: 159783
Faculty:
Next Term Offered:

An introduction to rigorous mathematics, axioms, and proofs, via topics such as set theory, symmetry groups, and low-dimensional topology.

MATH 145A Set Theory I
CourseID: 156119
Faculty:
Next Term Offered: 2019 Fall

An introduction to set theory: ordinals, cardinals, transfinite induction, the cumulative hierarchy, ZFC, the theory of the infinite, and the basics of independence.

MATH 145B Set Theory II
CourseID: 156120
Faculty:
Next Term Offered: 2020 Spring

An introduction to large cardinals and their inner models, with special emphasis on Woodin’s recent advances toward finding an ultimate version of Godel’s L. Topics include: Weak extender models, the HOD Dichotomy Theorem, and the HOD Conjecture.

MATH 153 Mathematical Biology-Evolutionary Dynamics
CourseID: 119502
Faculty:
Next Term Offered: 2019 Fall

Introduces basic concepts of mathematical biology and evolutionary dynamics: evolution of genomes, quasi-species, finite and infinite population dynamics, chaos, game dynamics, evolution of cooperation and language, spatial models, evolutionary graph theory, infection dynamics, somatic evolution of cancer.

MATH 156 Mathematical Foundations of Statistical Software
CourseID: 156000
Faculty:
Next Term Offered: 2019 Fall

Presents the probability theory and statistical principles which underly the tools that are built into the open-source programming language R. Each class presents the theory behind a statistical tool, then shows how the implementation of that tool in R can be used to analyze real-world data. The emphasis is on modern bootstrapping and resampling techniques, which rely on computational power. Topics include discrete and continuous probability distributions, permutation tests, the central limit theorem, chi-square and Student t tests, linear regression, and Bayesian methods.

MATH 162 Introduction to the Mathematics of Quantum Computing
CourseID: 204980
Faculty:
Next Term Offered: 2020 Spring

This course will introduce the mathematics for quantum computation. This includes basic notions from quantum mechanics, linear algebra, probability theory and number theory. No a priori knowledge of linear algebra is required except for a familiarity with basic facts about complex numbers and 2x2 matrices; in particular, what is taught in Mathematics 21b suffices. No a priori knowledge of either number theory or probability is needed.

MATH 224 Representations of Reductive Lie Groups
CourseID: 125563
Faculty:
Next Term Offered: 2020 Spring

This course will introduce algebraic groups, along with some necessary tools from algebraic geometry. The goal of the course is to arrive at the classification of reductive groups in terms of root data.
Molecular and Cellular Biology

MCB MCB358 Mass Spectrometry
CourseID: 212804
Faculty:
Next Term Offered:

This course will provide an introduction to shotgun proteomics: from sample preparation, the processes within mass spectrometer, and how to analyze the data obtained from this technique.

MCB 68 Cell Biology Through the Microscope
CourseID: 109851
Faculty:
Next Term Offered: 2020 Spring

MCB 68 explores three fundamental fields of eukaryotic cell biology: chromosome segregation, cell motility, and neuroscience. Each topic is approached from a historic and technical perspective. Students will discover these systems as the scientific field did, learning how each successive advance in microscopy revealed new biological details. Students will come away with a theoretical and hands-on understanding of microscopy as well as a grasp of the biological findings each technology revealed.

MCB 81 Fundamentals of Neuroscience
CourseID: 159708
Faculty:
Next Term Offered: 2020 Fall

An intensive introduction to topics in neuroscience, ranging from the inner workings of neurons, to the function of small neuronal networks, to the function of brain systems that give rise to perception, thought, emotion, cognition and action. The course will emphasize student-directed learning and will follow an "inverted" structure: students will be expected to watch lecture videos and complete exercises outside of class, and classroom time will be primarily reserved for discussion and in-class exercises.

MCB 101 Human Genetics
CourseID: 156009
Faculty:
Next Term Offered: 2019 Fall

Genomic information is accelerating the discovery and characterization of the molecular and cellular basis of human health and disease. This new lecture/discussion course will
explore how knowledge from new technologies is used to advance our understanding of human biology. Topics will include personal genomics, understanding genome-wide associated studies, epigenetics, gene-environment interactions, and complex traits, the importance of model organisms to investigate molecular mechanisms, and the prospects for cancer genomics and gene/genome therapy. This lecture/discussion course will rely extensively on primary literature and contemporary review articles. Students will actively participate in class discussions and prepare four written summaries of assigned articles and two literature-based research projects (one in the middle of the term and one at the end of the term) that critically assess the scientific basis of popular news articles and consumer-targeted genomics information.

**MCB 148 The Neurobiology of Pain**
CourseID: 159880
Faculty:
Next Term Offered: 2019 Fall

This course will explore the neurobiological systems and mechanisms underlying both acute and chronic pain. Topics will include nociceptive/sensory systems, molecular basis and modulation of pain, neuroanatomy of peripheral and central pain circuits, pain pathologies, pharmacological and non pharmacological treatments. The emphasis will be on understanding basic neurobiological concepts underlying pain systems and reading/discussing the primary scientific research in the field.

**MCB 157 Developmental Genetics and Genomics**
CourseID: 108338
Faculty: Craig Hunter
Next Term Offered: 2020 Fall

Our goal is for students to gain a fundamental understanding of the genetic control of development in four genetically accessible animal models; the nematode C. elegans, the fruit fly Drosophila melanogaster, the zebra fish Danio rio, and the mouse Mus musculus. A focus of the course is to compare and contrast genetic analysis of and the genetic control of developmental processes and mechanisms in these four organisms. The course consists of lectures, student presentations, and written assignments.

**MCB 165 Interplay between Viruses and their Hosts**
CourseID: 156010
Faculty: Victoria D'Souza
Next Term Offered: 2020 Spring

This course provides a foray into virology, advanced cell biology, biochemistry and structural biology topics through the lens of viruses as they invade their hosts. To demonstrate concepts, a particular emphasis is placed on the human immunodeficiency virus (HIV), which provides well-studied examples of intricate virus-host interactions that
occur throughout its complex life cycle.

MCB 188 Chromosomes
CourseID: 114864
Faculty:
Next Term Offered: 2020 Spring

Chromosome morphogenesis in prokaryotic and eukaryotic organisms. Topics will include chromosome structure, interactions between chromosomes (sisters and homologs), DNA recombination and repair, topoisomerases, transposable elements and site-specific recombination, epigenetic inheritance. Genetic, cytological, and biochemical approaches will be integrated. Lecture, reading, and discussion of classical and current literature and consideration of future experimental directions.

MCB 195 Foundations of Systems Biology and Biological Engineering
CourseID: 123837
Faculty:
Next Term Offered: 2019 Fall

This course builds an understanding of design principles in biology. We will ask why biological circuits are built the way they are and answer using mathematical models. Topics: elementary circuits in biological networks, robustness, pattern-formation in embryos, error-correction, and evolutionary optimization.
Medieval Studies

MEDVLSTD  107 Authority and Invention: Medieval Art and Architecture
CourseID: 118135
Faculty:
Next Term Offered: 2019 Fall

Masterworks of art and architecture in Western Europe from the decline of Rome to the
dawn of the Italian Renaissance. Explores the creative tension between the impulse to
originality and the authority of classical models in the search for new art forms.
Emphasis on representative works considered in their totality (architecture, painting,
sculpture, and minor arts) as experiential wholes; and on the plurality of geographical
and cultural contexts (Italy, Germany, France, and Spain).

MEDVLSTD  119 Constitutional and Legal History of Medieval Continental
Europe
CourseID: 147748
Faculty:
Next Term Offered:

A survey of continental European constitutional and legal history from the fall of the
Roman Empire to the "Rise of absolutism" at the beginning of the seventeenth century.
Focuses on the main expressions of European legal culture over this long period of time.
In each period an effort is made to relate the types of law produced to social, political,
and religious history.

MEDVLSTD  210A Introduction to Medieval Paleography: Seminar
CourseID: 126850
Faculty:
Next Term Offered: 2019 Fall

This bi-weekly workshop will train participants to read medieval handwriting from a
variety of text-types, regions, and periods, and to recognize and decipher the
abbreviations commonly used by medieval scribes. While the workshop's focus will be
on Latin paleography, some vernacular texts will be examined as well. Students will be
required to transcribe from manuscript samples in facsimile, as well as original
documents in Harvard's Houghton Library, throughout each semester. Successful
completion of both units of this workshop fulfills the Medieval Studies graduate
secondary field requirement in paleography.

MEDVLSTD  210B Introduction to Medieval Paleography: Seminar
CourseID: 205055
This bi-weekly workshop will train participants to read medieval handwriting from a variety of text-types, regions, and periods, and to recognize and decipher the abbreviations commonly used by medieval scribes. While the workshop’s focus will be on Latin paleography, some vernacular texts will be examined as well. Students will be required to transcribe from manuscript samples in facsimile, as well as original documents in Harvard’s Houghton Library, throughout each semester. Successful completion of both units of this workshop fulfills the Medieval Studies graduate secondary field requirement in paleography.

MEDVLSTD  280 Literary Theory and Criticism in the Middle Ages:
Seminar
CourseID: 112657
Faculty:
Next Term Offered: 2019 Fall

Examines literary theory and criticism inside the curriculum (trivium) and outside it (oral culture), manuscripts and commentary tradition, biblical exegesis, the arts of poetry, letter-writing, and preaching, Platonic and Aristotelian traditions, allegory/allegoresis, and sign theory. Writers examined include Augustine, Snorri, Dante, and Boccaccio.
This course aims to introduce you to a variety of music repertories, and a range of ways to think, talk, and write about them. While we explore some of the great "classics" of the Western musical canon, including works by male composers such as Bach, Beethoven, and Stravinsky, we will also discover the critical roles played by renowned female performers, patrons, and writers, as well as the significant impacts made by artists of color. Ending in the present day, we will investigate what "Western classical music" means in a global context, and a world increasingly shaped by new technologies and digital networks. During the semester, you will build a vocabulary for analyzing music and articulating a response to it. No prior knowledge of music history or Western musical notation is necessary, and you will be graded on the improvements you make in engaging with the material. By the end of class, you will be equipped to embark on a lifetime of informed listening.

Music, Theater, and Dance of South Asia will focus on the unified arts of South Asia. In ancient times, music was understood as part of a larger unit that included literature, drama, and dance (muttami? in Tamil and sang?ta in Sanskrit) analogous to mousiké in ancient Greece. The course will examine vernacular musical forms ranging from tribal music in South India, to Nepali drumming, to folk song of Northern Pakistan. Part of the course will be devoted to the vigorous literature on classical dance in relation to courtesanship and nationalism. Throughout the course, students will have the opportunity to do at least one assignment involving art-making or critical media practice. The entire class will participate in a set of workshops that constitute the highlight of this first offering: a visit to Harvard of a Kudiyattam troupe. Kudiyattam is the only living Sanskrit theater form today, found in the South Indian state of Kerala and normally performed for multiple days in connection with temple festivals. A UNESCO masterpiece of the oral and intangible heritage of humanity, Kudiyattam is rarely seen outside of India. Students in this class will learn to perform a little bit of abhinaya.
(conventional facial and bodily expressions), basic postures for standing and sitting, and transitions from one persona to another. If the students are inspired to do so, they may include a brief performance inspired by this visit (and the other course materials) in their final projects.

MUSIC 123R Choral Literature of the 20th & 21st Century
CourseID: 128033
Faculty:
Next Term Offered: 2020 Spring

American Choral Music During World War II. In the America of the 1940s, concert music attained an unprecedented cultural relevance and ubiquity that is hard to imagine today. During the Second World War, choral music in particular was called upon to fulfill a cultural desire for fervent public expressions of patriotism and national chauvinism. Music was politicized and harnessed for numerous war-related tasks, including propaganda, cultural diplomacy, therapeutic recuperation, and social uplift. One could argue that American musical identity itself was forged during this time of crisis. This course will trace the historical currents and themes of American choral music from 1940-1950 through the study of representative choral works. Using various archives at Harvard, students will also examine the choral scene at the University during World War II, including the repertoire, activities, and the membership profile of the Harvard Glee Club, Radcliffe Choral Society, and the University Choir. An extensive background in music theory and choral music repertoire is not required, but a familiarity with Western music notation will be assumed.

MUSIC 125 Conducting
CourseID: 132908
Faculty:
Next Term Offered: 2020 Spring

MUSIC 143R Topics in Modern Jazz
CourseID: 206892
Faculty:
Next Term Offered: 2020 Spring

*Cuban Counterpoint: Cuban Music through the Lens of Six Selected Composers from 1800 - 1950s.* Understanding the music of Cuba requires learning about its social structures, complex immigration history and cultural heritage. Positioned on what is known as the key of the Gulf in the Caribbean, Cuba has embraced all of the musical traditions that arrived in the Antilles since the 1500s to the present day. This course will introduce the students to the musical legacy of six composers including Miguel Failde, Ernesto Lecuona, Sindo Garay, Ignacio Piñeiro, Arsenio Rodriguez and Bebo Valdes. Their musical contributions represent distinctive historical moments in the evolution and definition of the Cuban identity. Their work helped shape new musical genres such as Habaneras, Contradanzas, Danzón, Trova Tradicional, Són, Cuban Zarzuela, Bolero,
Mambo, Cha-Cha-Chá and Jazz. By analyzing selected musical scores students will become acquainted with different musical styles and traditions and will develop an understanding of beat, syncopation and melodic counterpoint. Through the class students will become familiar with the fundamental rhythms of the clave, the cinquillo, cáscara, 6/8 clave and both rumba and son clave. Class work will include readings, DVD’s, period and contemporary recordings and field trips to experience firsthand Cuban music performed live in the Boston area.

**MUSIC 157R Theories of World Music**  
CourseID: 128035  
Faculty:  
Next Term Offered: 2020 Spring

**MUSIC 168 Analog Synthesizer and the Digital Age**  
CourseID: 000168  
Faculty:  
Next Term Offered:

**MUSIC 171R Music of the 20th & 21st Century**  
CourseID: 121897  
Faculty:  
Next Term Offered: 2020 Fall  

*The Music of Alvin Lucier*

**MUSIC 176A Music and Dis/ability I**  
CourseID: 160644  
Faculty:  
Next Term Offered: 2021 Spring  

Through field work, readings, discussions, and presentations, this course will explore topics related to disability in music history, music theory, and performance studies, and examine recent developments in neuroscience, music therapy, and music education. Defining disability as a cultural construction rather than as a medical pathology, the course will also consider the practice of music as a vehicle of empowerment, reflecting on music’s generative role in shaping communities and advancing social justice and human rights. Students will partner with inclusive and democratic community music projects and nonprofit organizations.

**MUSIC 180R Performance and Analysis: Seminar**  
CourseID: 111399
Faculty:
Next Term Offered: 2020 Spring

Weekly master classes and intermittent private coachings.

MUSIC 187R Composers of Today: The Music of Alvin Lucier
CourseID: 206893
Faculty:
Next Term Offered: 2019 Fall

This course will explore the music, writings and philosophy of Alvin Lucier - from the composer's groundbreaking 1970 work "I am sitting in a room" for voice and electromagnetic tape to recent and current projects - through a practice-based, collaborative approach which emphasizes performing, programming and presenting a final concert of Lucier's work, with the composer in attendance. The course is open to all graduate and undergraduate performers, improvisers, composers, musicologists, ethnomusicologists, sound artists, visual artists, writers or others who are interested in an in-depth exploration of this extraordinary figure's sound and imagination worlds. All students will be expected to perform and present on Lucier's work. Guest performers include the clarinetist Joshua Rubin and the sound engineer Levy Lorenzo from the International Contemporary Ensemble. The course will culminate in a special event, programmed and produced by the students in Music 187, during the composer's visit to campus in April 2018.

MUSIC 208RS Ethnomusicology: Seminar
CourseID: 108992
Faculty:
Next Term Offered: 2021 Spring

_African Music and Theory from the South_. This seminar explores leading contemporary cultural theorists of Africa such as Achille Mbembe, Jean and John Comaroff, Kofi Agawu, and Ngugi Wa Thiong'o in relationship to classic issues in the study of African musics. Beginning with popular, regional, and international musical genres the course takes hybridity as a point of departure and then examines historical presumptions about the nature of tradition in the ethnomusicological literature on African music. Classic issues in African music, such as rhythm, transcription, orality, social engagement, and religion are explored in the context of the anthropological and postcolonial literatures.

MUSIC 209R Ethnomusicology: Seminar
CourseID: 115680
Faculty:
Next Term Offered: 2019 Fall
MUSIC 213R Topics in Medieval Polyphony
CourseID: 125206
Faculty:
Next Term Offered: 2020 Spring

MUSIC 216R 18th-Century Music: Seminar
CourseID: 119785
Faculty:
Next Term Offered: 2020 Spring

*Instruments and Instrumentality.* This seminar will explore the history of musical instruments and the diverse ways in which we can think about what they are and what they do. We will touch on many topics including early organographies, notions of artisanal epistemology, the history of mediation, thing theory, and late eighteenth-century aesthetics. This seminar will draw on texts from a range of disciplines and will include a visit to the collection of musical instruments at the Museum of Fine Arts in Boston.

MUSIC 217R 19th- and 20th-Century Music
CourseID: 111385
Faculty:
Next Term Offered: 2020 Spring

*Film Music/Film Sound*

MUSIC 218RS 20th-Century Music: Seminar
CourseID: 120033
Faculty:
Next Term Offered: 2020 Fall

*Groove.* This seminar explores the phenomenon of groove, both as a topic of musicological discourse and an element within various musical practices. Common as the notion may be, groove resists simple definition. In certain contexts, "groove" may refer to relatively large-scale recursive structures (to which James Brown's "Play the groove!" makes reference). In other contexts, "groove" refers to the effect engendered by minute variations between sonic elements (summoned when performing musicians talk about "being in the groove"). What, then, is the relationship between these two conceptions of groove? What tensions arise from the term's multiple meanings? And how might the notion of groove be generalized beyond the contexts of popular music? This course seeks to examine these and other questions, in part, by showing how the syntactical and the sensory, the formal and the phenomenological dimensions of groove work together to animate various musical genres.
MUSIC 219RS 19th and 20th Century Music
CourseID: 121135
Faculty:
Next Term Offered:

*Classic Texts and Current Trends in American Music.* Explores the historiography of American music, with emphasis on recent developments. What is "American" music, and how does it fit into the world? The course cuts across time and deals with diverse genres, with explorations of race as a binding thread. Class projects will focus on local archives and resources, as well as the quickly growing realm of digitized sources.

MUSIC 220R Topics in Music Theory
CourseID: 108001
Faculty:
Next Term Offered: 2020 Spring

*Ancient Greek Music and its Afterlives.* While Ancient Greece counts as the wellspring of western culture, its music was quite different from our own. This realization aroused surprise and controversy in 16th-century Italy, when scholars started studying ancient sources again. Adaptations of supposedly Greek music led to new and sometimes radical innovation. We will read salient texts from antiquity to the early modern.

MUSIC 220R History of Music Theory
CourseID: 127184
Faculty:
Next Term Offered: 2019 Spring

*Structures of Feeling After Descartes.* This seminar traces a genealogy of affect theory from the birth of modernity to the present day, drawing attention to the surprising and central role that music plays within this tradition. Although the primary focus of the seminar is historical music theory, we will consider a wide range of texts under that broad rubric. During the early modern era, musical affect was theorized in books on aesthetics, manuals for musical composition, pamphlets debating the merits of opera, satirical writings, and in works of literature. Together we will discover the sonorous, performative, and radically material dimensions of these affect theories, as we follow their development from early accounts of the passions to nineteenth-century physiognomy to contemporary literary theory. Our primary goal is to better understand how the conceptual domains of music, sound, and affect have influenced each other during the past four centuries. Along the way, we will have occasion to meta-critically reflect on our current post-subjective or posthumanist moment, and on the place of affect and music within it.

MUSIC 221R Current Issues in Music Theory
CourseID: 124044
Faculty:
Next Term Offered: 2019 Spring
What does Music Theory mean in the 21st century? What are the current debates? How might the field change in the near future? We will examine recent and contemporary discussions in (and about) the field, and we will attempt to trace some of the recent history of the field in order to better understand the present state of affairs. Three or four prominent theorists will be invited to share their perspective.

MUSIC 223R Neo-Riemannian Analysis
CourseID: 119074
Faculty:
Next Term Offered: 2019 Fall

*Neo-Riemannian Analysis.* Explores the new body of transformational analytical techniques usually grouped as "Neo-Riemannian Theory." Analysis of pertinent musical passages, discussion of key texts (Riemann, Lewin, Hyer, Cohn, Kopp), context and limits of these ideas.

MUSIC 230R Topics in Music Theory
CourseID: 116618
Faculty:
Next Term Offered:

MUSIC 242R Topics in Music Criticism
CourseID: 204414
Faculty:
Next Term Offered: 2020 Spring

This course is designed to stage next-generation research on the history of reading. Working outward from classic studies on print and orality by Roger Chartier, D. F. McKenzie, Jack Goody, Bruce Smith, and Michel de Certeau and grounded in close study of the material forms in which texts are conveyed, the seminar's interpretive toolkit will also draw theories from applied linguistics, musicology, and performance studies. Weekly assignments will be keyed to these readings. Seminar participants will produce a substantive essay treating an original source chosen in consultation with the professor. Global and cross-cultural studies are encouraged, as are perspectives of students specializing in literature, theater, linguistics, and history. Guest speakers include Roger Chartier and Ann Blair.

MUSIC 264R Electronic Music Composition: Seminar
CourseID: 111123
Faculty:
Next Term Offered: 2019 Fall

*Electroacoustic Maker Space.* This course explores sensors, Arduino, UDOO, 'raspberry pi' and wireless communication as tools to enhance our instruments and methods of making and shaping sounds. Both aspects, programming and building objects with solenoids, stepper motors, etc. will be explored.
Enrollment limited to 10 students.

**MUSIC 266R Creative Music Seminar**
CourseID: 156122
Faculty:
Next Term Offered: 2019 Fall

For advanced musicians (graduate or undergraduate) prepared for work in improvisation and original composition.

**MUSIC 280R Theorizing Improvisation**
CourseID: 156365
Faculty:
Next Term Offered: 2020 Spring

*The Problem of Presence.* This is a cross-disciplinary research seminar in critical improvisation studies, focusing on the three interrelated topics of interest from the last few decades: temporality, embodiment, and improvisation. Their common underlying "discovery" is the very problem of presence. In our studies, recent scholarship in African diasporic music and aesthetics will join a larger conversation on improvisation across multiple areas of inquiry in the arts, the sciences, and the humanities. Through this range of readings, we will examine improvisation as a central feature of individual and collective subjectivities.
Neuroscience

**NEURO 101IA The Neurobiology of Drug Addiction**
CourseID: 109592  
Faculty:  
Next Term Offered: 2019 Fall  

Students will examine primary literature to understand the acute and chronic action of drugs of abuse, including opioids, cannabinoids, psychostimulants, nicotine, and ethanol. The course will introduce the models of addiction and examine animal and human research results to build an understanding of how modifications to molecular signaling, cells and neural circuits underlie the development of the addicted brain. Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

**NEURO 101IB The Neurobiology of Drug Addiction**
CourseID: 159698  
Faculty:  
Next Term Offered: 2020 Spring  

Students will examine primary literature to understand the acute and chronic action of drugs of abuse, including opioids, cannabinoids, psychostimulants, nicotine, and ethanol. The course will introduce the models of addiction and examine animal and human research results to build an understanding of how modifications to molecular signaling, cells and neural circuits underlie the development of the addicted brain. Students must complete both parts of this course (parts A and B) within the same academic year in order to receive credit.

**NEURO 101JA Using Deep Learning to Understand and Analyze the Brain**
CourseID: 207610  
Faculty:  
Next Term Offered: 2019 Fall  

In this course we will dive into deep learning (DL) with a twofold motivation. DL provides state of the art methods for many prediction tasks relevant for data analysis in neuroscience and provides models of brain function in their own right. Thus, we will learn about the mathematics of DL and learn how to use modern software tools like TensorFlow.  

Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.
NEURO 101JB Using Deep Learning to Understand and Analyze the Brain
CourseID: 207611
Faculty:
Next Term Offered: 2020 Spring

In this course we will dive into deep learning (DL) with a twofold motivation. DL provides state of the art methods for many prediction tasks relevant for data analysis in neuroscience and provides models of brain function in their own right. Thus, we will learn about the mathematics of DL and learn how to use modern software tools like TensorFlow.

Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

NEURO 101KA Synaptic Circuits in Brain Health and Disease
CourseID: 207612
Faculty:
Next Term Offered: 2019 Fall

The tutorial will be centered on the analysis of synaptic and circuit mechanisms involved in the pathogenesis of brain disorders. We will dialectically discuss findings from human pathology and studies from animal models of diseases. The main goals for this course include: 1) to gain familiarity with functioning of synaptic circuits in normal brain physiology; 2) to learn how to study brain circuits experimentally; 3) to get critical insights into the pathophysiology of disorders. At the conclusion of the course students will have a holistic understanding of the multifaceted circuit dysfunctions underlying different brain disorders, such as autism, schizophrenia and intellectual disabilities.

Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

NEURO 101KB Synaptic Circuits in Brain Health and Disease
CourseID: 207613
Faculty:
Next Term Offered: 2020 Spring

The tutorial will be centered on the analysis of synaptic and circuit mechanisms involved in the pathogenesis of brain disorders. We will dialectically discuss findings from human pathology and studies from animal models of diseases. The main goals for this course include: 1) to gain familiarity with functioning of synaptic circuits in normal brain physiology; 2) to learn how to study brain circuits experimentally; 3) to get critical insights into the pathophysiology of disorders. At the conclusion of the course students will have a holistic understanding of the multifaceted circuit dysfunctions underlying different brain disorders, such as autism, schizophrenia and intellectual disabilities.
Students must complete both terms of this course (parts A and B) within the same academic year in order to receive credit.

NEURO 148 The Neurobiology of Pain
CourseID: 207607
Faculty:
Next Term Offered: 2019 Fall

This course will explore the neurobiological systems and mechanisms underlying both acute and chronic pain. Topics will include nociceptive/sensory systems, molecular basis and modulation of pain, neuroanatomy of peripheral and central pain circuits, pain pathologies, pharmacological and non pharmacological treatments. The emphasis will be on understanding basic neurobiological concepts underlying pain systems and reading/discussing the primary scientific research in the field.

NEURO 1303 The Human Brain Then and Now
CourseID: 212833
Faculty:
Next Term Offered:

This course will explore the "mismatch" between our ancestral brain and the modern world. After covering the evolution of the human brain, the bulk of the course will focus on case studies including how drugs hijack the normal function of brain systems, how the Facebook age places stresses on social systems that evolved to handle close-knit groups of 25 or so individuals, and how the brain degenerates as we live unexpectedly long.
Organismic and Evolutionary Biology

OEB 56 Geobiology and the History of Life
CourseID: 130331
Faculty: David Johnston
Next Term Offered: 2020 Spring

Within our solar system, Earth is distinguished as the planet with life. Life was born of planetary processes, has been sustained for some four billion years by planetary processes, and through time has emerged as a set of planetary processes that is important in its own right. In this course we will investigate the ways that Earth and life interact, focusing in particular on the biogeochemical cycles of major elements. This will provide a framework for interpreting the history of life reconstructed from fossils and phylogeny.

OEB 59 Plants and Human Affairs
CourseID: 143445
Faculty: Charles Davis
Next Term Offered: 2019 Fall

An introduction to the uses of plants by humans. Topics include the form, structure and genetics of plants related to their use as sources of food, shelter, fiber, flavors, beverages, drugs, and medicines. Plant structure and reproduction are studied in lecture and laboratory with a particular focus on relationships between the plant's structural, chemical, or physiological attributes and the utility plant.

OEB 101 Biology of Mammals
CourseID: 156751
Faculty: James Hanken
Next Term Offered: 2019 Fall

An introduction to the biology of mammals. Lectures and laboratories examine the morphology, systematics, natural history, behavior, ecology, evolutionary relationships, and biogeography of all major taxa.

OEB 109 Conservation Ecology and Practice
CourseID: 208260
Faculty: David Foster
Next Term Offered: 2019 Fall

The conservation of land and waters has become a major tool in determining the patterns of land use, conserving biodiversity, combating global change, and ensuring
that the benefits of nature are secured for society. With a focus on the U.S., this course will examine the history and changes in conservation rationale and approach, the ecological theory and research that helps guide conservation planning and execution, and the policies, finances, and practice that enable land conservation to be a powerful agent of landscape change. Field trips will focus on case studies and discussions with practitioners engaged in New England conservation from Boston to extremely rural landscapes.

OEB 126 Vertebrate Evolution
CourseID: 160453
Faculty: Stephanie Pierce
Next Term Offered: 2020 Spring

This course provides a comprehensive survey of the origin and evolution of vertebrates through an examination of the fossil record. A primary focus will be on major events in Earth’s evolutionary history, with an emphasis on anatomical and physiological transformations in fish, amphibians, reptiles, birds and mammals. To compliment in-class lectures, students will be given hands-on experience identifying fossil material. As an added bonus, the course offers a spring recess fossil dig to the Triassic beds of Arizona.

OEB 130 Biology of Fishes
CourseID: 140830
Faculty: George Lauber
Next Term Offered: 2020 Spring

Fishes inhabit diverse aquatic environments including deep seas, intertidal zones, coral reefs, polar waters, the vast Amazonian basin, and great East African lakes. A single fish species may occupy diverse environments through extraordinary long distance horizontal and vertical migrations. To explore this unparalleled diversity, the course emphasizes bridging traditional academic boundaries with integrative analyses of the biology underlying rapid evolutionary radiations and stasis.

OEB 141 Biogeography
CourseID: 145864
Faculty: Gonzalo Giribet
Next Term Offered: 2019 Fall

Biogeography aims to explain distributions of organisms through historical and ecological factors. This course will focus on the history of biogeographic research, developments in the area of historical biogeography, and on ecological processes that affect distributions of whole clades. Topics include plate tectonics and earth history, vicariance and dispersal, areas of endemism, phylogenetic niche conservatism, latitudinal gradients in species richness, and the theory of island biogeography. Software
for biogeographical analysis will be discussed and evaluated.

OEB 157 Global Change Biology
CourseID: 143485
Faculty: Paul Moorcroft
Next Term Offered: 2020 Spring

This course examines how natural and anthropogenic changes in the earth system are affecting the composition and the functioning of the world's land and ocean ecosystems. Topics include: the ecological impacts of natural and anthropogenic changes in the earth's physical environment, and the effects of introduced species, species extinctions, land-use change, agriculture, and fishing.

OEB 167 Herpetology
CourseID: 145020
Faculty: James Hanken
Next Term Offered: 2020 Spring

An introduction to the biology of amphibians and reptiles. Lectures and laboratories examine the morphology, systematics, natural history, behavior, ecology, evolutionary relationships, and biogeography of all major taxa.

OEB 173 Comparative Biomechanics
CourseID: 145006
Faculty: Andrew Biewener
Next Term Offered: 2020 Spring

An exploration of how animals and plants contend with their physical environment, considering their biomaterial properties, structural form, and mechanical interaction with the environment. Through lectures, seminar discussions, and student presentations based on readings, students are introduced to topics related to biomechanical performance.

OEB 181 Systematics
CourseID: 142844
Faculty: Gonzalo Giribet
Next Term Offered: 2019 Fall

Theory and practice of systematics, emphasizing issues associated with homology statements and alignments, methods of tree reconstruction, and hypothesis evaluation. The course combines theoretical considerations, paying special attention to algorithmic aspects of phylogenetics, with the use of different computer programs for conducting evolutionary and phylogenetic analyses.
OEB 190 Biology and Diversity of Birds  
CourseID: 143846  
Faculty: Scott Edwards  
Next Term Offered: 2020 Spring

An introduction to the biology of birds. Covers the fossil record and theories for avian origins, physiology and anatomy, higher-level systematics and field characters of the ~27 orders, speciation processes, nesting and courtship behavior, vocalizations, mating systems and sexual selection, cooperative breeding, demography and conservation. Optional field trip during spring break. Laboratories will consist of gross anatomy, bird watching excursions in the Cambridge area, field techniques and specimen preparation, and systematic study of avian groups using the collections of the Museum of Comparative Zoology.

OEB 200 The Evolution of Stem Cells and Regeneration  
CourseID: 204479  
Faculty: Mansi Srivastava  
Next Term Offered: 2020 Spring

Among the many unique challenges that multicellular organisms face relative to unicellular ones is how they deal with the death (or loss) of a part of the organism. Should the organism heal and continue life without the missing part, or should it regrow that part? The vast majority of animal (and plant) lineages have species that will replace the missing portion, i.e., they are capable of regeneration. Despite the phylogenetically widespread nature of regeneration, very little is known about any universal cellular, molecular and genetic principles, if any, that control this process. In pursuit of these principles, the course will delve into the literature from a diverse range of species. We will focus on stem cells, which enable the production of new cells that reconstitute the missing tissues. First, we will address what it means to be a stem cell. We will explore how molecular studies of adult stem cells in species ranging from jellyfish to humans are revealing essential and highly evolutionarily conserved molecular mechanisms for stem cells. Second, we will compare the features of adult stem cells to those of other multipotent cells, such as early embryonic cells. Third, we will consider how different species maintain pluripotent stem cells versus those with restricted potential, i.e., lineage-restricted stem cells. We will explore these ideas through the critical reading of the primary literature, including both classical and very recent papers in stem cell biology. Students will obtain a deep understanding of the main concepts and methods concerning the study of stem cells and will become familiar with comparative approaches as applied to stem cell biology and regeneration.

OEB 203 Advanced Community and Ecosystem Ecology  
CourseID: 207216  
Faculty: Paul Moorcroft  
Next Term Offered: 2020 Spring
A critical discussion of research in plant community ecology and ecosystem ecology with a focus on recent advances relevant to understanding and predicting terrestrial ecosystem responses to climate change.

OEB 217R What Makes a Rodent?
CourseID: 160459
Faculty: Stephanie Pierce
Next Term Offered: 2020 Spring

A student directed course that explores the origin and evolution of rodents through a mixture of literature discussions, cadaveric dissection and fossil observation. Discussion topics will be broad and far reaching, including such things as: evolutionary dynamics, ecomorphology, feeding and locomotor performance, disease, or even use as a model organism. Alongside in class discussions, students will participate in dissecting cadaveric material with the aim to build hands-on anatomical knowledge.

OEB 223 Topics in Neurogenetics
CourseID: 145012
Faculty: Yun Zhang
Next Term Offered: 2020 Spring

We will discuss current literatures related to genetic effects on neural functions, including: (1) mental illness; (2) neurodegenerative diseases; (3) various behaviors; (4) learning and memory.

OEB 230 Comparative Genomics
CourseID: 145414
Faculty: James Mallet
Next Term Offered: 2020 Spring

This discussion-based course will survey modern ideas about evolution and speciation, and how they have changed as a result of genomic approaches. As well as readings and discussions in class, the course will utilize some live online video sessions with major players in the field of evolutionary and comparative genomics.

OEB 275R Phylogenetics and Phylogeography in the Era of Genomics
CourseID: 143845
Faculty: Scott Edwards
Next Term Offered: 2019 Fall

The course will review the recent literature on methods of analysis in phylogenomics and phylogeography, with particular attention to analysis of large-scale data sets; accommodating gene tree heterogeneity; adequacy of models at the level of DNA
sequence evolution and demographic history; and estimation of critical parameters of population history, such as phylogenetic relationships, reticulate evolutionary histories, rates of gene flow and species boundaries. Weekly sessions will consist of presentations and discussions led by students and by international experts, including hands-on sessions working with state-of-the-art software.
Philosophy

PHIL 14 Morality and the Good Life: An Introduction to Ethics
CourseID: 132738
Faculty:
Next Term Offered: 2020 Spring

You probably want to live the best life for yourself. But what would that look like? Feeling pleasure, and avoiding pain? Having your desires satisfied? Maybe achieving knowledge, or securing fulfilling relationships? You might also care about living a moral life. But what would that look like? What actions are morally right or wrong, and what makes them that way? In this introduction to ethics, we'll begin by looking at three important theories of the good life: the pleasure theory, the desire-satisfaction theory, and the pluralist theory. We'll then turn to moral theories, investigating the relative strengths and weaknesses of those views that focus only on our actions' consequences, and those that reject this approach. In closing, we'll consider questions about the status of morality. What kind of judgment are we making when we say, for example, that something is morally wrong? Are there moral facts awaiting our discovery? If there are, how did they come to be - are they determined by humans and varying across cultures, like facts about the law or etiquette? Or perhaps determined by God? Or could they somehow have not been determined by anyone, standing as fundamental facts about reality?

PHIL 17 Feminist Political Philosophy
CourseID: 203261
Faculty:
Next Term Offered: 2020 Spring

Political philosophy is the project of offering and evaluating answers to normative questions about politics?about how we as a society should get along and share in all the benefits and costs of living cooperatively. The "feminist" in "feminist political philosophy" can be taken to modify different aspects of that project. Unsurprisingly, then, work in feminist political philosophy is extraordinarily diverse. Notwithstanding some in-fighting about the right way to be a feminist political philosopher, this diversity is part of what equips us to make good progress in developing and refining answers to important political questions. Still, we might wonder what unifies these different traditions and methodologies. Many regard "the personal is political" as the unifying insight of contemporary feminist philosophy. This will be the unifying theme for us as well, as we work to better understand that slogan and explore its implications. We will begin by examining foundational work in contemporary political philosophy on theories of justice, as well as feminist challenges to that work. The tradition of liberalism is of particular interest, because the values it celebrates seem at once empowering and problematic from the perspective of feminist political philosophy. Ideals of liberty, individuality, and free choice can be deployed by feminists to critique unjust institutions, but they also
appear to shield a great deal of injustice from censure. On the applied side, then, we'll consider some "hard cases" for liberal feminist political philosophers: prostitution, pornography, and the gendered division of labor. Along the way, we'll hear from some more radical voices, and we'll explore intersections between feminism, social class, and race.

PHIL 117 Medieval Philosophy
CourseID: 156021
Faculty:
Next Term Offered: 2020 Fall

This course will examine three great traditions in medieval philosophy (Neoplatonism, Scholastic-Aristotelianism, and Nominalism) through each tradition's greatest proponent (Augustine, Aquinas, and William of Ockham). Specific topics will include skepticism, knowledge, human nature, divine nature, language, realism, conceptualism, and happiness. Students in the course will acquire a firm understanding of the major currents in one of the most important if still neglected periods in western philosophy.

PHIL 120 The Rationalists
CourseID: 111716
Faculty:
Next Term Offered: 2019 Fall

The seventeenth and eighteenth centuries were among the most exciting and revolutionary periods in the history of philosophy. Among the most prominent philosophers working in that period, Descartes, Spinoza and Leibniz have traditionally been grouped together under the label "Continental Rationalists" in virtue of their embrace of systematic metaphysics and emphasis on rational reflection as a source of knowledge. This course aims to provide an overview of the development of early modern rationalism while exploring in detail a number of central issues, arguments and controversies. Topics will include philosophical methodology, skepticism, knowledge, substance, mind-body relations, and the metaphysical foundations of science.

PHIL 125 Beyond Dualism: Descartes and His Critics
CourseID: 121954
Faculty:
Next Term Offered: 2020 Spring

We will explore Descartes' dualism in its historical context. After examining the transformation that Descartes brought about in our conceptions of body and mind (and ourselves), we will consider some of the notorious metaphysical problems his dualism gives rise to and some 17th- and 18th- century attempts to push back against it in the figures of Princess Elizabeth of Bohemia, Henry More, Margaret Cavendish, Anne Conway, and Anton Amo.
PHIL 140 Fundamentals of Logic
CourseID: 111424
Faculty: 
Next Term Offered: 2020 Fall

Analysis of the central concepts of logic: validity, satisfiability, implication. Basic elements of model theory: completeness, compactness, Löwenheim-Skolem theorem. Applications to the foundations of mathematics. Attention also to higher-order logic and to non-classical (constructive) logical systems.

PHIL 141 Frege, Russell, and the Early Wittgenstein
CourseID: 146752
Faculty: 
Next Term Offered: 2019 Fall

An examination of the beginnings of analytic philosophy, with primary interest in the reformulation of traditional philosophical problems by these three authors and the analytic and logical methods they introduced to treat them.

PHIL 144 Logic and Philosophy
CourseID: 109447
Faculty: 
Next Term Offered: 2020 Spring

Three philosophically important results of modern logic: Gödel's incompleteness theorems; Turing's definition of mechanical computability; Tarski's theory of truth for formalized languages. Discusses both mathematical content and philosophical significance of these results. Prerequisite: Some knowledge of deductive logic.

PHIL 147 Philosophy of Language
CourseID: 146883
Faculty: 
Next Term Offered: 2020 Spring

An introduction to philosophical and other accounts of meaning. Topics may include: human and non-human modes of communication; thought and reference; skepticism about meaning; vagueness; social meaning; truth and relativism.

PHIL 149Z Philosophy of Science
CourseID: 114427
Faculty: 
Next Term Offered: 2020 Spring
Survey of 20th century and contemporary views on the nature of scientific knowledge, and related issues. Topics may include: logical empiricism, Popper and "falsifiability", induction and confirmation, explanation, scientific realism, causation and laws of nature, and the sense (if any) in which "everything reduces to physics". In one unit of the course we will take up these issues with respect to the burgeoning science of happiness and well-being.

PHIL  150 Philosophy of Probability
CourseID: 156133
Faculty:
Next Term Offered: 2020 Spring

Probability, remarked Bishop Butler, is "the very guide of life." In this course we will investigate the extent to which probabilistic tools can help answer basic questions like these: How should I choose among my options? What should I believe? How should I revise my beliefs upon acquiring new information? Does it make sense to believe in God? No background in math is necessary; the beginning of the course will cover the essentials of probability theory.

PHIL  157 Philosophy of Action
CourseID: 132280
Faculty:
Next Term Offered: 2019 Fall

An examination of the nature and understanding of intentional action. Topics will include agency and causal explanation, the role of freedom and rationality in understanding action, the agent's own perspective on her action, the scope and variety of actions themselves (mental, physical, social, institutional). Readings will include Davidson, Anscombe, Frankfurt, Velleman and others.

PHIL  168 Kant's Ethical Theory
CourseID: 123509
Faculty:
Next Term Offered: 2020 Fall

A study of Kant's moral philosophy, based primarily on the *Groundwork of Metaphysics of Morals*, the *Critique of Practical Reason*, and *The Metaphysics of Morals*.

PHIL  173X Practical Reasons
CourseID: 203456
Faculty:
Next Term Offered: 2020 Spring
Reasons are considerations that count for or against something - actions, in the case of practical reasons (as usually distinguished from beliefs, in the case of theoretical reasons). The notion of a practical reason has played a central role in ethical theorizing over the past several decades, and continues to enjoy close philosophical attention today. In this course, we'll first endeavor to get a clear sense of the general structure of practical reasons, and to disentangle them from nearby, but distinct, concepts. We'll then take a close look at several contemporary disputes about practical reasons. Primary among them is a question about how practical reasons are grounded: what makes it the case that something is a reason? Investigating this question will bring us into contact with debates about how reasons are related to desires, motivation, value, and moral requirements. We will also consider error-theoretic approaches to practical normativity, according to which there are no genuine practical reasons of the sort that most ethicists have in mind.

PHIL 179 Race and Social Justice
CourseID: 124577
Faculty:
Next Term Offered: 2020 Spring

Critically examines recent philosophical work on questions of racial justice: What is racism? What makes racial discrimination wrong? Are reparations owed for past racial injustices? Is racial profiling ever justified? Under what conditions should we regard racial disparities (e.g., in wealth or employment) as unjust? Should government foster racial integration in schools and neighborhoods? Is affirmative action unfair? Is a just society a "color-blind" society?

PHIL 240L Latin Philosophical Texts
CourseID: 212877
Faculty:
Next Term Offered:
Population Health Sciences

PHS  334 Improving Service Delivery in LMICs
CourseID: 207240
Faculty: 
Next Term Offered: 
PHYSICS 175 Laser Physics and Modern Optical Physics
CourseID: 121941
Faculty:  
Next Term Offered: 2020 Spring


PHYSICS 211CR Cosmology and Other Topics
CourseID: 213240
Faculty:  
Next Term Offered:

Standard cosmological model and inflation, scalar inflationary models, cosmological perturbation theory, brief introduction to quantum fields on cosmological backgrounds, interactions and in-in (Keldysh-Schwinger) perturbation theory, non-gaussianities, symmetries and cosmological Ward identities.

PHYSICS 212 Cosmology
CourseID: 203431
Faculty:  
Next Term Offered:

Graduate course on Physical Cosmology. Topics will include: the physics of Inflation, Cosmic Microwave Background anisotropies, evidence for Dark Matter, discovery of the accelerated expansion of the Universe, primordial gravitational waves, gravitational lensing, likelihood analysis, structure formation.

PHYSICS 287C Conformal Field Theory
CourseID: 160571
Faculty:  
Next Term Offered: 2019 Fall

The role of conformal field theory in describing critical phenomena in statistical mechanics and quantum field theory. Virasoro algebra, conformal blocks, two dimensional rational and irrational conformal field theories, the conformal bootstrap in
two and higher dimensions, a-theorem, and other recent developments.

PHYSICS 289R Euclidean Random Fields, Relativistic Quantum Fields and Positive Temperature
CourseID: 118733
Faculty:
Next Term Offered: 2020 Spring

The course will give the reconstruction of relativistic quantum fields from Euclidean fields as well as the relation between representations of the Poincaré group to those of Euclidean group. Related topics are reflection positivity and Osterwalder-Schrader quantization, and supersymmetry, some of which will be covered.
Romance Languages and Literatures

PORTUG  61N Communication and Culture within the Contemporary Brazilian Business World
CourseID: 160616
Faculty:
Next Term Offered:

This course focuses on linguistic and cultural components of the contemporary Brazilian Business world. Students will experience the current Brazilian business world by using multi-media resources, focusing on practices, customs, and the linguistic intricacies involved when conducting business in Brazil. Immersed in a simulated professional environment, students will develop essential communicative skills in Brazilian Portuguese, engaging in interactive oral and written activities.

Communication and Culture within the Contemporary Brazilian Business World

ROM-STD  168 Futurisms (a comparative history)
CourseID: 205157
Faculty:
Next Term Offered:

From its foundation in 1909 through WWII, futurism developed into the first international cultural-political avant-garde. Its aim was the revolutionary transformation of all spheres of life and its influence extended from Europe to the Americas to Asia. The seminar adopts a cross-disciplinary and comparative focus; and includes such topics as humans and machines; experimental poetics; futurism's ties to anarchism, bolshevism and fascism. Media surveyed include poetry, performance, music, painting, photography, radio, and film.

SPANSH  110 Hispanic Literature: The Middle Ages
CourseID: 125060
Faculty:
Next Term Offered:

Introduction to Old Spanish literature from origins through 15th century. Close reading of works in historical context, including: Cantar de Mio Cid and La Celestina. Includes critical approaches and overarching themes in medieval Iberian literatures.

SPANSH  238 Lugar a dudas: Ethics and Literature in Latin America
CourseID: 207685
Faculty:
Next Term Offered:
Literary texts that raise more questions than answers exercise a stamina for doubt that may be the main contribution of the Humanities to many other fields. Framed by a first philosophy of ethics (Emmanuel Lévinas) and a Kantian tradition of aesthetic philosophy, this seminar considers classic and recent narratives to explore ways that art can open difficult issues and keep them open long enough to train a faculty of judgement.
How does the global architecture and local organization of brain systems support behavioral and cognitive functions? In this class, classical and newer neuroanatomical discoveries will be discussed that cover what defines brain areas; how areas are organized into parallel, distributed circuits; how distinct areas and systems are organized; and how anatomical form relates to function. Anatomy in the human brain and from model systems (worm, mouse, barn owl, and monkey) will be used to illustrate principles. Newer techniques and analytical approaches will be discussed including micro-scale and macro-scale connectomics. The goal of this class is to survey examples of how emerging understanding of neuroanatomy provides insight into function. Each class will consist of lecture and discussion.

This course will explore the "mismatch" between our ancestral brain and the modern world. After covering the evolution of the human brain, the bulk of the course will focus on case studies including how drugs hijack the normal function of brain systems, how the Facebook age places stresses on social systems that evolved to handle close-knit groups of 25 or so individuals, and how the brain degenerates as we live unexpectedly long.

Knowledge of objects and actions encompasses their perceptual and motor properties as well as more abstract properties such as information about their function (e.g., what they are used for, the goal of an action). How is this knowledge represented and
organized in the brain? We will read and discuss key papers on object and action representation and critically evaluate results from behavioral, neurophysiological, neuropsychological, neuroimaging, and computational studies. The seminar will provide a critical review of the current literature and identity important challenges that await future research.

**PSY 1451 Debugging the Brain: Computational Approaches to Mental Dysfunction**  
CourseID: 203211  
Faculty: Samuel Gershman  
Next Term Offered: 2019 Fall

This course examines recent work applying computational models to mental disorders. These models formalize psychopathology in terms of breakdown in fundamental neurocognitive processes, linking normal and abnormal brain function within a common framework. Computational modeling has already begun to yield insights, and even possible treatments, for a wide range of disorders, including schizophrenia, autism, Parkinson's, depression, obsessive-compulsive disorder, and attention-deficit hyperactivity disorder. The course will consist of weekly readings from the primary literature, with one student leading the discussion of each paper.

**PSY 1584 Leadership Decision Making**  
CourseID: 205646  
Faculty: Jennifer Lerner  
Next Term Offered: 2019 Fall

Organizational leaders make decisions involving risk and uncertainty every day. Whom should our organization hire? Should we choose the gamble or the sure thing? How should we structure accountability systems? How do we avoid operating out of fear? But a leader's impact only goes so far unless s/he takes steps to engineer optimal decision environments for the organization as a whole. By gaining an understanding of fundamental mind-brain-behavior relationships in judgment and decision making, you will become better able to design decision environments that make everyone smarter - i.e., less susceptible to common errors and biases. Taking this course will not tell you what to choose but it will give you frameworks that reveal how to choose and how to structure optimal decision environments. Specifically, course topics will include (a) cognitive processes in perception, memory and context-dependence; (b) how questions affect answers; (c) models of decision making; (d) heuristics and biases; (e) social and group influences; (f) common traps; and (g) de-biasing techniques. We will also discuss emotional influences on decision making. The lectures and discussions will be coordinated to complement weekly readings, which draw from psychology, behavioral economics, and neuroscience.

Throughout the course, the overarching goals are to: (1) Learn about the academic field of behavioral decision making, its major theories, results, and debates. (2) Become a
critical consumer of research findings, learning methodological standards for evaluating
the soundness of empirical studies. (3) Develop the ability to effectively write and speak
about behavioral science theories, results, and debates. (4) Acquire practical skills for
improving your own judgments and decisions. (5) Acquire knowledge of which biases
leaders can address with training/knowledge versus which biases respond best to
institutional design changes (e.g., nudges). (6) Learn when and how to conduct a
randomized controlled field experiment. (7) Develop a capstone project in which you
apply the material to improve professional decision making processes. Possible
applications to legal process, government institutions, medical settings, public health,
education, finance and other domains abound.

PSY 1750 Free Will, Responsibility, and Law
CourseID: 123305
Faculty: Joshua Greene
Next Term Offered: 2019 Fall

Examines the issues of free will and responsibility from philosophical, psychological, and
neuroscientific perspectives, with special attention paid to potential legal applications.

PSY 1857 Psychotherapy: Science and Practice
CourseID: 160646
Faculty: John Weisz
Next Term Offered: 2020 Spring

Would you pay someone to help you change? Millions of people do, every week.
Psychotherapy is a healing art, a subject of scientific inquiry, and?for many?a business
venture. In this course we will bring these strands together, focusing on how
psychotherapy is practiced in the real world and how clinical science is used to test
claims of success. We will examine competing models of therapy, evaluate their
scientific status, and dig into case examples of each. We will also explore hot topics in
the field, including whether all therapies have about the same effect (the "dodo bird"
hypothesis), whether internet-based therapies actually work, and how to get effective
therapies to traumatized people in war-ravaged and low-resource countries.

PSY 1861 Developmental Psychopathology
CourseID: 116095
Faculty: John Weisz
Next Term Offered: 2019 Fall

An overview of psychological problems and mental disorders in childhood and
adolescence. Topics include internalizing conditions (e.g., anxiety, depression),
externalizing conditions (e.g., conduct disorder and ADHD), eating disorders, autism,
and child responses to maltreatment and other forms of trauma. Theoretical
perspectives, diagnostic criteria, etiology, and treatment approaches are examined.
PSY 2040 Contemporary Topics in Psychopathology  
CourseID: 140850  
Faculty: Jill Hooley  
Next Term Offered: 2020 Spring

Advanced survey of current topics in experimental psychopathology.

PSY 2070 Psychometric Theory and Method Using R  
CourseID: 204369  
Faculty: Patrick Mair  
Next Term Offered: 2019 Fall

By its classical definition, Psychometrics is concerned with the theory and techniques of psychological measurement. In this class we will cover a wide variety of modern psychometric methods; a big portion of them going beyond the classical psychometrics definition boundaries.

We start the class with a variety of exploratory scaling methods (units 1-5) where the aim is to scale and visualize association patterns in complex, multivariate datasets. Such techniques include principal components analysis (PCA), correspondence analysis (CA), Gi? models, multidimensional scaling (MDS), and biplots. There will also be a unit on networks where we cover basic (social) network analysis as well as more advanced techniques such as latent networks.

In the second part of the class (units 7-10) we focus on some classical psychometric approaches. The starting points is path models (which also include mediator/moderator models as special cases) which will then be extended to latent variable path models such as structural equation models (SEM). Subsequently, we will have two units on item response theory (IRT), which represents a large family of methods for scale construction and scale evaluation. We will cover unidimensional as well as multidimensional IRT models.

The third part of the class (units 11-12) focuses on the analysis of functional magnetic resonance imaging (fMRI) data. We will learn how to work with big datasets in R, how to obtain a parametric map through a general linear model, and how to deal with the huge multiple testing problem. Subsequently, the last unit deals with multivariate fMRI methods such as independent components analysis (ICA) and some aspects of multivoxel pattern analysis (MVPA) such as representational similarity analysis (RSA).

All topics covered will be supported by corresponding computations and illustrations in
R. Basic R knowledge is required for this class. Lab units will be scheduled if needed.

PSY 2080 Statistical Learning  
CourseID: 110487  
Faculty: Patrick Mair  
Next Term Offered: 2021 Spring

The first series of lectures (units 1-4) covers advanced regression techniques. We extend the linear mixed-effects model in terms of non-linear effects which leads to generalized additive mixed-effects models (GAMM), with spline specifications at its core. At this point we will also introduce cross-validation as a tool for assessing predictive accuracy of a model while avoiding overfitting. This is followed by shrinkage/regularization techniques (Lasso) which are attractive for regression scenarios with many predictors. In the time series unit we introduce strategies for finding patterns in time trajectories and making corresponding predictions (ARIMA models, Holt-Winters smoothing).

In Unit 5 we model trajectories using concepts from functional data analysis (FDA) where each single individual is represented by a function (e.g. growth curve, EEG signal, etc.). Graphical models (Unit 6) allow us to model dependencies in complex multivariate datasets (e.g., studying relationships among clinical symptoms). In the subsequent units we move into Machine Learning territory. We start with unsupervised learning which is essentially clustering. Basic approaches such as hierarchical clustering techniques and k-means are explained. We proceed with borderline unsupervised/supervised approaches such as association rules and Kohonen networks. In Unit 9 we learn more advanced parametric clustering techniques (mixture distributions) which we will then integrate into a regression framework (mixture regression). Hidden Markov models will be introduced within this context as well.

The remaining three units are all about supervised learning where our aim is classification/prediction. Unit 10 presents tree-based approaches (decision/regression trees), model-based recursive partitioning (i.e., finding optimal predictor splits in e.g. a mixed-effects regression model), and ensemble tree learning (random forests).

In Unit 11 we briefly introduce discriminant analysis and extend it to support vector machines (SVM), often applied on fMRI data. Finally, we will cover neural networks and some modern "deep learning" flavors.

PSY 2190 Topics in Language Acquisition  
CourseID: 116646  
Faculty: Jesse Snedeker  
Next Term Offered: 2019 Fall
Seminar examining alternate theories of language acquisition and assessing their empirical validity. Focuses on speech perception, word learning, semantic and early syntactic development, interactions between language acquisition and cognitive development, and children’s online language comprehension.

**PSY 2390 Advanced fMRI Analysis**  
CourseID: 203089  
Faculty: Talia Konkle  
Next Term Offered: 2019 Fall

When approaching functional neuroimaging data, the landscape of possible analysis techniques (and their do's and don'ts) is constantly changing. This course will have both lab-style and lecture formats, to discuss the current cutting edge analyses methods, and to explore in detail the specific analysis challenges that you as an fMRI practitioner are facing in your current neuroimaging research projects. Students are strongly encouraged to have their own fMRI data set, and must have basic familiarity with the fMRI methodology and proficiency with MatLab/R.

**PSY 2400 Cognitive Psychology and Emotional Disorders**  
CourseID: 117820  
Faculty: Richard McNally  
Next Term Offered: 2020 Spring

Research and theory on the application of cognitive psychology methods applied to the understanding of anxiety and mood disorders. Limited to graduate students.

**PSY 2430 Cultural and Individual Diversity**  
CourseID: 119217  
Faculty: Matthew Nock  
Next Term Offered: 2020 Fall

Examines cultural, racial, ethnic, and other individual differences in human behavior which affect the practice of psychology. Reviews current science examining the relations between these factors and human behavior, psychopathology, and provision of psychological services.

**PSY 2445 Psychological Treatment Research**  
CourseID: 118606  
Faculty: John Weisz  
Next Term Offered: 2020 Spring

Review theories of behavior change, methods of studying such change (single-case research designs, randomized clinical trials, etc.), and current evidence-based
approaches to assessing and treating psychopathology. Examines historical, ethical, and cultural issues.

PSY 2464R Research Methods in Child & Adolescent Clinical Psychology
CourseID: 124970
Faculty: John Weisz
Next Term Offered: 2019 Fall

This course is designed to give you exposure to the concepts, as well as the nuts and bolts, of research in clinical psychology of childhood and adolescence. There is a special emphasis in this course (as in the lab) on intervention research addressing youth depression, anxiety, and conduct-related problems and disorders. If you are a psychology concentrator at Harvard, you may have already taken classroom-based courses covering theories and methods that guide research in clinical psychology, such as Abnormal Psychology and Developmental Psychopathology. You may also have taken courses that introduced you to the types of statistical analyses (Psych 1900) and research methods (Psych 1901) used in psychological research. In this course, we will build on the foundation you received in such courses by applying what you have learned to the conduct of specific research projects.

In this class, you will participate in several aspects of the clinical research process via your active involvement in the research of our psychology laboratory. More specifically, through attending weekly class/lab meetings and participating in one or more research projects, you will learn how specific research ideas take shape; how research questions and hypotheses are generated; how studies are designed to address these research questions and hypotheses; how data are collected, cleaned, entered into study datasets, then analyzed; and how findings are interpreted and organized for presentation at professional meetings and in scientific publications.

The main goals of research in our lab are to build an understanding of which interventions for child and adolescent mental health problems are effective, and to promote use of the best evidence-based assessment and intervention in everyday clinical practice for youths and families. In pursuing these goals, we and our colleagues develop ways of structuring evidence-based practices to make them user-friendly and tailored to the settings in which youngsters typically receive mental health care?e.g., community mental health clinics and schools. Much of our work focuses on developing and testing these tailored approaches. We also conduct meta-analyses of the youth psychotherapy research literature, to sum up what has been learned from all the treatment studies with children and adolescents.

This course is designed to be useful to students who plan to pursue a career in child and adolescent mental health, particularly those with an interest in psychological research. However, the skills conveyed (e.g., critical thinking, research design, science writing) may be useful in a variety of ways and relevant to a number of different career paths.
PSY 3250 Psychological Testing  
CourseID: 118610  
Faculty:  
Next Term Offered: 2018 Spring

This weekly seminar for graduate students in clinical psychology is designed to provide basic skills in administering and interpreting standardized tests in the areas of intellectual assessment and personality assessment.

PSY 3800 Psychometric Theory  
CourseID: 118008  
Faculty:  
Next Term Offered: 2020 Spring

Covers basic psychometric theory and methods essential for reliable and valid measurement. Also covers conceptual issues in the assessment of individual differences (e.g., intelligence, personality).
Religion, The Study of

RELIGION 14 Studying Religion and Media
CourseID: 207022
Faculty:
Next Term Offered: 2020 Spring

Religious language, imagery, and values permeate virtually all aspects of contemporary American life, even those that are explicitly taken to be "secular." While we may descry the horrific acts of torture and destruction done in the name of Islam by ISIS, we are far less likely to recognize as deeply Protestant the values and orientations embedded in American culture. Particularly in the case of the media, religious language and imagery continually bombard us, often without us recognizing them as such. This course invites you to think more deeply about what religion is and how it operates across a wide variety of media in the United States and around the world.

Jointly offered with the Divinity School as HDS 2043.

RELIGION 20 Ethnographies of Religion: Texts and Contexts
CourseID: 127834
Faculty:
Next Term Offered:

The course presents ethnographic works on Religion in the humanities and social sciences and introduces students to the concept and practice of ethnography.

RELIGION 62 Indian Religions Through Their Narrative Literatures
CourseID: 117604
Faculty:
Next Term Offered: 2020 Fall

An examination of the religious traditions and communities of South Asia through the stories they tell. This semester's focus will be the epics - the Mahabharata and the Ramayana - in their numerous textual, regional, sectarian, and performative tellings.

RELIGION 1426 Apocalyptic Literature from the Second Temple period to Byzantium and Early Islam
CourseID: 109541
Faculty:
Next Term Offered: 2019 Fall
The course will review a broad sample of texts belonging to the apocalyptic genre and composed between the third century BCE and the seventh century CE. The main goal of the course is to reflect on the crucial role played by apocalyptic literature in shaping religious thoughts and practices as well as socio-political movements and ethical choices in a span of time that witnessed the formation of the Jewish, Christian, and Islamic traditions as we know them today. Moreover, the course will introduce students to interpretive tools useful to think about the relationship between ancient apocalyptic literature and the contemporary world in selected areas such as historical imaginations of the future, violence and religion, and means to reflect on change.

RELIGION 1474 Christian Ethics, Persuasion, and Power II
CourseID: 125918
Faculty:
Next Term Offered:

Teaching ethics?or writing about it?can be a powerful effort at life-changing persuasion. Early Christians wrote in this way against older religious laws or rites but also in competition with philosophical curricula for soul-shaping. This course reads some exercises in ethical persuasion from Christianity's philosophical competitors: Plato, Aristotle, Epictetus, the Cynics. It juxtaposes these with early and medieval Christian authors that want to surpass the philosophers in persuasive power: Gregory of Nyssa, Augustine, the desert ascetics, Alan of Lille, Bonaventure, Thomas Aquinas, Marguerite Porete. Jointly offered with the Divinity School as HDS 2394.

RELIGION 1522 Calvin, Schleiermacher, Barth, Cone
CourseID: 205628
Faculty:
Next Term Offered: 2019 Fall

John Calvin, Friedrich Schleiermacher and Karl Barth are major figures of Reformed Protestantism whose work directly engaged the political and intellectual concerns of their own times. In the 1970s, James Cone's Black Theology took its point of departure, in part, from Cone's critique of Barth. This course will closely read each author, looking at similarities and differences in how they approach theological topics (e.g., God, human being, scripture, nature, salvation, church). Throughout, we will consider what these four projects can teach us both about the "tradition" of Reformed theology and the task and responsibility of theology more generally. Jointly offered the Divinity School as HDS 2278.

RELIGION 1529 The Holocaust and the Churches, 1933-45
CourseID: 124910
Faculty:
Next Term Offered: 2020 Spring
This seminar will approach the Nazi persecution of European Jewry from several disciplinary perspectives. Initially the seminar will explore the topic historically. In these weeks, the seminar will use a variety of historical materials dealing with the history of European anti-Semitism, German history from Bismarck to the accession of Hitler, the evolution of anti-Jewish persecution in the Third Reich, and the history of the Holocaust itself. Sources to be used will include primary sources produced by the German government 1933-1945, by Jewish victims-to-be or survivors, documentary films, and secondary interpretations. The aims of this part of the seminar will be to understand the basic background to and narrative of the Holocaust, to introduce students to the critical use of primary historical sources, and to familiarize them with some of the major historiographical debates. Then the members of the seminar will ponder religious and theological reactions to the Holocaust. The seminar will also consider the historical question of the role played by the Protestant and Catholic churches and theologies in the Holocaust. Throughout the seminar, participants will use various literary and cinematographic sources and test their limits in helping to understand and to represent the Holocaust. Jointly offered with the Divinity School as HDS 2293.

RELIGION 1557 Unitarian and Universalist History in the United States
CourseID: 126761
Faculty:
Next Term Offered: 2019 Fall

This survey course will trace the history of both Unitarianism and Universalism from their eighteenth-century origins to the present. Focusing especially on the experiences of local congregations, we will explore the diverse starting points of liberal religion in the United States; the challenges of Transcendentalism, spiritualism, and humanism; the interplay between liberal religion and social reform; and the experience of consolidation in the twentieth century.

RELIGION 1562 Alternative Spiritualities in the United States
CourseID: 127678
Faculty:
Next Term Offered: 2021 Spring

This course surveys spiritual practices and movements that have been labeled as metaphysical, esoteric, occult, harmonial, and New Age. We will begin with a historical survey of esoteric spirituality from colonial-era astrology and alchemy to New Age and neopagan traditions, then consider some leading constructive thinkers within alternative spiritual traditions, such as Starhawk and Joanna Macy. The course will also feature field trips to a variety of spiritual organizations and communities. Jointly offered with the Divinity School as HDS 2360.
RELIGION 1741 Modern Buddhism and Fiction  
CourseID: 125675  
Faculty:  
Next Term Offered: 2021 Spring  

An examination of how fiction is a vehicle for religious reflection in the modern Buddhist world. The genres of fiction will include both the novel and the short story, with examples drawn widely from across the Buddhist world.

RELIGION 1802 Introduction to Islamic Mystical Traditions  
CourseID: 113442  
Faculty: Ali Asani  
Next Term Offered: 2019 Fall  

This course offers an introductory survey of mystical traditions of Islam, popularly labelled as “Sufism.” It explores the fundamental concepts, practices, and institutions associated with these traditions, their historical development and their influence on the devotional, cultural and social lives of Muslim communities through the centuries. Through case studies drawn from the Middle East, South Asia, West Africa and North America, the course examines ways in which these traditions have developed and promoted alternative perspectives on what it means to be Muslim, challenging in recent times sectarian, legalistic and politicized understandings of Islam such as Wahhabi, Islamism and jihadism. The course assumes no prior knowledge of Islam.

RELIGION 2063 South Asian Religious Aesthetics: Seminar  
CourseID: 118446  
Faculty:  
Next Term Offered: 2021 Spring  

An examination of South Asian theories of aesthetics and their relevance for understanding Hindu, Buddhist, and Jain discourses of ethics, literature, and theology. Prerequisite: Previous coursework in the religious history of South Asia. Jointly offered with the Divinity School as HDS 3925.

RELIGION 2555 Readings in Twentieth and Twenty-first Century Theory  
CourseID: 156090  
Faculty:  
Next Term Offered:
An advanced reading course in modern theory. Although primarily intended for doctoral students in the study of religion or related fields, master's students with a background in theory are welcome to contact the professor about admission to the course. Content will vary each year.

Topic for Spring 2019: Pessimism

Jointly offered with the Divinity School as HDS 2759.
Slavic Languages and Literatures

RUSS    ATA Elementary Russian through Authentic Texts: Russian through Pushkin I
CourseID: 109273
Faculty: 
Next Term Offered: 

Part one of a two part introductory course to Russian language and culture through a selection from the verse and prose works of Russia's greatest poet, Alexander Pushkin (including The Bronze Horseman, excerpts from Eugene Onegin, shorter poems, and prose in The Queen of Spades). This literary and linguistic approach to Elementary Russian has a strong emphasis on reading authentic Russian, but all four major communicative skills (speaking, listening comprehension, reading, writing) are stressed. Covers all of the basics of Russian grammar, including all six cases, verbal conjugation, and verbs of motion.

RUSS    ATB Elementary Russian through Authentic Texts: Russian through Pushkin II
CourseID: 159636
Faculty: 
Next Term Offered: 

Part two of a two part introductory course to Russian language and culture through a selection from the verse and prose works of Russia's greatest poet, Alexander Pushkin (including The Bronze Horseman, excerpts from Eugene Onegin, shorter poems, and prose in The Queen of Spades). This literary and linguistic approach to Elementary Russian has a strong emphasis on reading authentic Russian, but all four major communicative skills (speaking, listening comprehension, reading, writing) are stressed. Covers all of the basics of Russian grammar, including all six cases, verbal conjugation, and verbs of motion. Assumes no previous knowledge of Russian.

RUSS  115 Advanced Russian for Academic and Professional Communication
CourseID: 130702
Faculty: 
Next Term Offered: 2020 Spring

Emphasis on close reading and stylistic analysis of the Russian language with continued development of grammatical, sociolinguistic, strategic, and discourse competencies at an advanced level. Emphasis on reading with considerable practice in speaking, presenting, and writing for professional and academic purposes.
SLAVIC 130 Russian Poetry and Its Borders: Conference Course
CourseID: 205636
Faculty: Stephanie Sandler
Next Term Offered: 2019 Fall

Without borders, can there be poetry? A white paper border surrounds printed poems; digital poems are bounded by the screen on which they are read; national boundaries keep cultural and linguistic traditions distinct; and aesthetic conventions create genres and demarcate poetry from music or dance or film. How Russian poetry perversely challenges such limits, and how it thrives at the edges of the permissible, will be the subject of this course.

We will study the cultural practice of poetry as it crosses four kinds of borders: performative, linguistic, geographic, and aesthetic. That yields four large topics: poetry in public places (how does poetry speak of politics, and how does it write collective trauma?); poetry and translation (how does translation change poetic practice? how to read mixed-language poems?); poetry and emigration/exile (what happens to identities and allegiances when poets cross geographical borders? What happens to the poet's language?); and poetry and the other arts (how have music, film, drama, paintings, photography, and the philosophical essay been felt in poetry? can poems become visual artifacts, or scripts for performance?).

Examples from the work of Aygi, Brodsky, Dragomoshchenko, Goralik, Glazova, Kaminsky, Khlebnikov, Mandelstam, Mnatsakanova, Nabokov, Pushkin, Sedakova, Slutsky, Vvedensky. Comparisons to American poets, including Susan Howe and Anne Carson, and to films by Tarkovsky and others.

SLAVIC 142 Russian and Soviet Avant-Garde Theater
CourseID: 159558
Faculty: Daria Khitrova
Next Term Offered: 2019 Spring

Explores the wave of radical reforms and revolutions in drama, staging and acting methods and systems, from Anton Chekhov and Konstantin Stanislavsky to Vladimir Mayakovsky and Vsevolod Meyerhold. Examines plays and productions against the broader Russian and early Soviet cultural, political and social background. Key notions include: emotional memory, biomechanics, Constructivism, theatricalization of life. Follows the effects innovative theories and practices in Russian and Soviet theater had on the style of film and stage productions as well as theater and drama studies across Europe and in the United States, including Brecht's Verfremdung, Method acting, and performance theory.

SLAVIC 147 Soviet Film After Stalin
CourseID: 125616
Faculty: Justin Weir  
Next Term Offered: 2019 Fall

Considers the intersection of film and politics during the "thaw" years after Stalin's death, as well as themes of sexuality, gender, and violence in Russian culture of the 1960s and 1970s. Examines several films by Kalatozov, Tarkovsky, Paradjanov, and Shepitko which are well known for their innovation in form and narrative.

SLAVIC 150 Moscow and St. Petersburg  
CourseID: 108383  
Faculty: Julie A. Buckler  
Next Term Offered: 2020 Spring

Explores the literary and cultural histories of Russia's two capital cities, their "urban geographies" and representations in visual and performing arts. Includes Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Bely, Zamyatin, Bunin, Bulgakov, Nabokov, Erofeev, Bitov, Tolstaya, Pelevin, Sokurov, Balabanov, Bekmambetov.

SLAVIC 154 Nabokov  
CourseID: 205527  
Faculty:  
Next Term Offered: 2019 Fall

This course explores Vladimir Nabokov's novels, focusing primarily on his Russian works in English translation (Despair, Invitation to a Beheading, The Gift) but concluding with his English language masterpiece Lolita. We will consider, among much else, themes of cross-cultural literature, self-translation, and emigration, and the course will pay particular attention to Nabokov's interest in cinema and film aesthetics.

SLAVIC 170 War and Literature: Responses to WWII in Polish Culture  
CourseID: 119975  
Faculty: Aleksandra Kremer  
Next Term Offered: 2019 Fall

The survey course War and Literature will introduce you to the works of Polish art and literature which resulted from direct experiences, collective memory, or an individual study of the Second World War, the event which demanded a radical revision of artistic means of expression, and continuously has numerous repercussions for Polish culture and politics. Literary works of different genres (poetry, novel, memoir, reportage, essay) and different traditions will be supplemented with visual arts (films, performances, paintings, photographs) and juxtaposed with recent scholarly texts and debates. We will examine works created between the 1940s and contemporary times, which refer to life under occupation, the Warsaw and Ghetto Uprisings, the Holocaust, Nazi concentration camps, Soviet gulags, as well as the post-war condition of the country, its art and survivors. Through this topic we will study different artistic strategies adopted by
renowned Polish authors: Mi?osz, Ró?ewicz, Borowski, Na?kowska, Bia?oszewski, Wat, Grotowski, Kantor, Wróblewski, Wajda, Krall, including works belonging to the so-called Polish Film School, Polish School of Poetry and Polish School of Reportage.

SLAVIC  174A Mi?osz and America
CourseID: 203535
Faculty: Aleksandra Kremer
Next Term Offered: 2020 Spring

Czes?aw Mi?osz spent almost half of his life in the United States, translated selected American poems, and maintained different personal contacts with American intellectuals. However, numerous roles that he played in the US as a professor of Slavic literatures, poet, essayist, translator, editor, and Nobel Prize winner, were mostly aimed at explaining and promoting his own cultural and historical background. His presentations of East-European heritage and his vision of poetry were built with American audience in mind and frequently in opposition to his convictions about Western culture. We will discuss diverse texts revealing different (often contradictory) faces of Mi?osz as a poet who tried to control translations of his poems and his reception, as a teacher of Polish literature and promoter of Polish poets, as an interlocutor and correspondent of Brodsky and Merton, as a critic of the West, as a speaker at Harvard, as a translator of Eliot and Whitman, or as an author dedicating his texts to Ginsberg and Lowell. We will also study the recognition that Mi?osz gradually won in the US and his impact on English-language poets, such as Hirsch, Hass, and Heaney.

SLAVIC  175 Introduction to Polish Culture
CourseID: 205086
Faculty:
Next Term Offered: 2020 Fall

In the sixteenth and seventeenth centuries, Poland was one of the largest countries in Europe and a multi-ethnic commonwealth; just two centuries later, it had been erased from the map, occupied by three different empires and subjected to constant struggles for independence. Today, it is a medium-size monolithic nation state in the middle of Europe, closely watched for its political developments.

Our course will survey key topics in Poland's 1000-year history by examining important works of literature, art, architecture, and film. We will consider how the past, both celebrated and contested, can shape a country's contemporary politics and cultural landscape. We'll also examine the interplay between local, national, and international geographies as we track Poland's ever-changing borders; students will create a personal travel guide and symbolic map of Polish culture, considering the contributions and histories of Poles, Jews, Lithuanians, Ukrainians, Belarusians, Germans and Russians in what was one of Europe's most multi-ethnic and multi-confessional spaces.
Czeslaw Milosz, Wislawa Szymborska, Zbigniew Herbert, and Adam Zagajewski have been widely read and translated by American poets and critics, who have identified a "Polish School of Poetry" oriented on witnessing history, ethics, and politics, and associated closely with the traumas of World War II and Communist rule. But how accurate is this picture, and what does Polish poetry look like "from the inside"?

In this course, we will combine these perspectives, confronting canonical authors with lesser-known, experimental and contemporary poets, and we will ask how Polish poetry has changed since the democratic transition of 1989. What shapes poetry's role in society? What makes poetry political? Are some kinds of poetry more "translatable" than others, and how does this shape the American reception of Polish poets? Our course discussions will combine close reading with consideration of social and political context (censorship and newspeak); we will also consider recordings and performances, translation and emigration, as well as larger themes of privacy, feminism, and religion.

A survey of the history of the Symbolist movement in Russia with emphasis on close reading of poetry by its major figures.

The major themes and modes of Russian poetry from pre-Romanticism to 'pure art.' Selections from Zhukovsky, Batiuskho, Baratynsky, Yazykov, Lermontov, Tiutchev, Nekrasov, Fet, and others.

In this course we will conduct a close reading of Tolstoy's novel Anna Karenina and a few additional short works of fiction and criticism. Readings are in Russian.
SLAVIC 186 Poetry after Brodsky: How Russian Is It?  
CourseID: 124482  
Faculty: Stephanie Sandler  
Next Term Offered: 2019 Fall


SLAVIC 188 Eugene Onegin  
CourseID: 160745  
Faculty: Daria Khitrova  
Next Term Offered: 2020 Spring

This course, which is an alternative to Slavic 98b. Tutorial - Junior Year for students who are not concentrators, is devoted to a single topic and provides concentrators with a more intensive reading experience. This year's focus will be devoted to the close reading of "Eugene Onegin" in original.

SLAVIC 189 The Other Russia: Twenty-First Century Films, Fictions, States of Mind  
CourseID: 205015  
Faculty: Stephanie Sandler  
Next Term Offered: 2020 Spring

Russia is in the news these days for its politics and espionage, but what about the daily lives of Russian people? Nothing gets at that reality in all its pettiness and grandeur better than Russian literature. The stories, poems, plays, movies, memoirs, and documentaries of the last twenty-five years are the subject of this course. We will trace the chaotic transitions of the 1990s, the disparities of wealth and polarized politics of the 2000s, the rise of religious thinking (Orthodox, Islam, Jewish), and the several conflicts at Russia's borders. The impact of travel, diaspora, and the internet on breaking down old walls that once isolated the USSR will be as important as changes in the legal order. The different fates of former Soviet republics will be compared, with examples from Ukraine, the Caucasus, and the far North.

Writers include Svetlana Aleksievich, Joseph Brodsky, Elena Fanailova, Linor Goralik, Alisa Ganieva, Boris Khersonsky, Viktor Pelevin, Liudmila Petrushevskaya, Vladimir Sorokin, and Serhiy Zhadan. Films to include *Leviathan*, *Four*, *Alexandra*, *My Joy*, and *Maidan*. Students will also interview and create portraits (visual, verbal, and video) of émigrés from the former Soviet Union living in the Boston area, using the interviews as a context for the cultural representations of life in and beyond Russia.
SLAVIC 197 The Power of the Powerless: Dissidents from Socrates to Václav Havel
CourseID: 123117
Faculty: Jonathan Bolton
Next Term Offered: 2020 Fall

From Socrates and Antigone to Pussy Riot and Ai Weiwei, we are fascinated by the courage of dissidents who oppose tyrannical regimes. But who are dissidents, and where do they gain the conviction, imagination, and political skill to stand up for their beliefs? In this course, we will investigate the role of non-violent dissent in political and cultural life, looking at both historical figures and political actors in the world today. After considering some classic statements of dissent (including Socrates' *Apology*, Sophocles' *Antigone*, and Martin Luther King's "Letter from Birmingham Jail"), we will turn to recent and contemporary dissidents to think about their paths into protest, their strategies of political and cultural protest, their complicated relationship with their fellow citizens, and their portrayal in domestic and international media.

Our focus will be on individuals rather than on social movements, and on non-violent rather than violent or revolutionary protest. Drawing examples from the Soviet Union and Eastern Europe during the Cold War, contemporary Russia, China, and other countries, we will consider figures such as Václav Havel, Aleksandr Solzhenitsyn, Vladimir Bukovsky, Liu Xiaobo, Ai Weiwei, Pussy Riot, and others.

SLAVIC 198 Czech Literary Culture after World War II: Conference Course
CourseID: 160013
Faculty: Jonathan Bolton
Next Term Offered: 2020 Fall

Czech literature and film from the Nazi occupation through the Communist period to the Velvet Revolution, with a focus on Hrabal, Havel, and Kundera, as well as directors of the Czech New Wave, including Forman and Němec. We will pay special attention to intersections of politics and literature, including censorship, samizdat, and forms of underground culture and dissent.

SLAVIC 201 Introduction to East Slavic Linguistics
CourseID: 115232
Faculty: Michael Flier
Next Term Offered: 2019 Fall

Introduction to the structure and history of Russian, Ukrainian, and Belarusian.

SLAVIC 268 Post-Soviet and Post-Modernist Ukrainian Literature
CourseID: 118111
Faculty: George Grabowicz
Next Term Offered: 2019 Fall

Focus on Dibrova and the onset of Post-Sovietism; the post-modernist performance of Andrukhovych and the Bu-Ba-Bu circle; Izdryk; Prochasko; Kurkov, Zabuzhko and feminist and anti-feminist writing, Zhadan and the post-modern nostalgia for the USSR; Ukrainian literature in the diaspora: Yurij Tarnawsky and Vasyl Makhno.

SLAVIC 280R Slavic Culture: Seminar
CourseID: 125507
Faculty: Michael Flier
Next Term Offered: 2020 Spring

The Culture of Medieval Rus': Art, Architecture, Ritual, Literature.

SLAVIC 287 Poetic Self-Creation in 20th-Century Russia: Seminar
CourseID: 112321
Faculty: Stephanie Sandler
Next Term Offered: 2021 Fall

Examines how poems create self-images for poets working in and after Russian modernism, including Khlebnikov, Vvedenskii, Mandel'shtam, Tsvetaeva, Barkova, Brodsky, Sedakova, Shvarts, Dragomoshchenko. Relies on literary and psychoanalytic theories of identity.
How can some animals regenerate large pieces of their bodies following injury? This course will use both classical and current primary literature to explore the fascinating process of regeneration across phyla, covering both invertebrates and vertebrates. Students will learn to distill questions into specific, key experiments; to design experiments with meaningful controls; and to use data to refine, reformulate, and develop new hypotheses.

The sequencing of the human genome has revealed the full extent of genetic variation that exists within us as a species. This genetic diversity underlies much of our physical variation as well as our differences in responsiveness to disease stimuli and their treatments. We will explore these and other ramifications of human genetic diversity by applying classical and contemporary genetic tools to the identification of specific genes and pathways that functionally underlie our variable biology.

This course is a hands-on introduction to computational analysis of RNA sequencing data as a measure of genome-wide transcription. We will cover methods spanning the spectrum of RNA-Seq analysis: starting from raw sequencing reads, obtaining gene expression measures, and interpreting biological significance by differential expression analyses, clustering, and visualization. Coursework will consist of programming assignments in Python exploring real datasets. The course will emphasize skills applicable to independent biological research.
This course will cover concepts and theories on evolutionary changes in nervous system regenerative capacities of different organisms. Material will be taught in a dynamic setting combining lectures and brainstorming of the literature with hands-on experience in the laboratory. Students will become familiar with classic, paradigm-changing experiments that have shaped how we think about brain regeneration and repair and also consider the newest theories on cellular reprogramming as a way to regenerate the nervous system.
In this course, we will explore how social life in contemporary East Asia is both influenced by and contributes to processes of globalization. Ethnographic readings on China, Korea, and Japan focus on migration, gender roles, consumption, media, and markets as we trace the role of the global in everyday life for rural and urban inhabitants of a variety of East Asian locations. For these individuals, engagement with the global structures how they make sense of the world and creates desires for future life change. This is a junior tutorial.

This course examines how governing through crime has become a dominant mode of power in Latin America and considers the political and social effects that such regime of governance has thus far produced. Combining social theory with ethnographic case studies—which include the "war on drugs" in Colombia and in Mexico, security tactics and aesthetics in urban Brazil, gang sovereignty and violence in El Salvador and Honduras, informal economies, smuggling, and unauthorized migration on the U.S.-Mexico border, among others—we will analyze historical, economic, and cultural processes that have shaped the organized brutalities and petty delinquencies in the region. The underlying questions throughout the semester will be the following: Who has the power to outlaw particular activities and what is the logic behind designating people who engage in them as criminals? How do security policies and strategies shape the urban environment, and why does security buildup, such as militarization of borders and the building of fortified enclaves, create, rather than reduce insecurity? While laws establish formal boundaries between the legal and the illegal, how does a bottom-up approach to the lived experiences of crime blur this separation? The main goal of this course to understand the entanglement between crime and security from a perspective that does not take the state or its legal categories for granted. This is a junior tutorial.

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What is fascism? How did fascists come to power in some states in interwar Europe? What are the legacies of fascism? Who are Europe’s radical right parties today, and what explains the appeals of a new wave of radical right politics that appears to be sweeping advanced democracies? These are the core questions we will address in this course. This is a junior tutorial.

SOC-STD  98QA Rawls & the Moral Feelings
CourseID: 205452
Faculty:
Next Term Offered: 2019 Fall

This tutorial will use the Harvard archive of the philosopher John Rawls to uncover his work on a complex theory of moral feelings in the 1950s. This moral theory would come to underpin Rawls’s political philosophy in his famous text A Theory of Justice, yet most of the relevant documents are unpublished. After learning approaches for archival research from this case study, students will write a historical research paper using other materials in the Rawls archive -- or another archive, with permission of the instructor. This is a junior tutorial.

SOC-STD  98QD Media, Power, and Resistance
CourseID: 205458
Faculty:
Next Term Offered: 2021 Spring

Media and power are inextricably linked. On the one hand, mass forms of communication, such as national television and mainstream dailies, circulate hegemonic discourses and give legitimacy to state ideologies. On the other hand, nicknamed the “Fourth Estate,” news organizations can act as watchdogs, monitoring the performance of the government and holding it accountable to the people. This course examines this dual role of the media in reproducing existing power relations and providing a forum in which citizens can critically discuss public matters. Using social theory and anthropology, we will pay close attention to the performativity of different media forms; consider how the media achieves effects of truth in its depiction of reality; and analyze situations in which it becomes a tool in the hands of those who seek to challenge official narratives and governance regimes. This is a junior tutorial.

SOC-STD  98QF Modern Art, Politics, and Society
CourseID: 205459
Faculty:
Next Term Offered: 2020 Spring

How can we understand modern society through art? How can modern art connect theories of politics and culture to lived experience? How do artworks, artistic communities, and ideas about aesthetic expression serve as the basis to analyze ?and in
some instances, change ?the features of modern life? This tutorial seeks to answer these questions by examining the intellectual history of modern art, including concepts of "modernity" and "modernism" in literature, performance, and the visual arts from the mid-nineteenth century to the present. Combined with our own observations of the contemporary art scene, we will examine how the convergence of modern art and politics has historically negotiated boundaries between tradition and avant-gardism, nature and technology, the self and the community, protest and participation, consumption and production, reason and intuition, the body and object. Our focus will be on Europe, Russia/USSR, and the United States. Weekly assignments will combine primary and secondary readings in intellectual history, the arts, social theory, and philosophy with screenings and listening sessions. Together, we will attempt to answer the deceptively simple question: what does it mean to be modern? This is a junior tutorial.
Temporary Protected Status (TPS) and Deferred Action for Childhood Arrivals (DACA) both grant certain undocumented immigrants in the United States the temporary, discretionary ability to live, work, and obtain drivers' licenses. However, with the end of DACA and the phasing out of TPS, the future of more than 1 million undocumented individuals who benefit from these programs is highly precarious. This research lab will explore how these two programs, and in particular the ways in which they have been discussed in the media, vary along important sociological axes. In this lab, students will explore how the programs' different constituencies affect the framing of these programs in our political and social movements discourse. How do public discussions of TPS and DACA differ based on the ethnic and national backgrounds of program participants, especially the crucial cases of Mexico, Central America, and Haiti? How are political and civic activism around these programs covered in the mainstream and ethnic media? And to what extent are TPS and DACA beneficiaries described differently (e.g., as "good" immigrants) relative to other undocumented communities?

In this research lab students will learn data collection and analysis skills that will help them answer these and related questions. Course content will include a robust research design and methodology component through its focus on media coverage of DACA and TPS in mainstream and ethnic media outlets. Course participants will develop qualitative research projects that analyze key sociological themes including race and ethnicity, social movements and political activism, civil unrest, crime, and the economic impact of immigration in sending and receiving communities. Students will learn how to formulate sociological research questions and hypotheses, collect and analyze data, and articulate findings in a formal academic paper. This course is limited to sociology concentrators; bilingual students are encouraged to enroll.
This course examines the role of meaning-making in political life, focusing on how people's understandings of political phenomena affect their political choices, how political actors frame their claims in order to mobilize public support, and how political institutions and bureaucratic classification systems shape inequality. The material will prepare students for developing their own research projects, which will be collaboratively workshopped in class. This is a junior tutorial.

**SOCIOL 98WC Sports and Society**  
CourseID: 127534  
Faculty:  
Next Term Offered: 2020 Spring

This course will examine sports through a sociological lens. We will examine processes of stratification in sports including class, race and gender, as well as sports as a business, the media and sports, and sports and health. Students will do an in depth independent or team based research project on the topic. This is a junior tutorial.

**SOCIOL 1010 Principles of Sociology**  
CourseID: 207545  
Faculty:  
Next Term Offered: 2019 Fall

This course introduces students to the foundational concepts and fields of sociology through an overview of the discipline's approach to both inequality and to conflict and change. Faculty from the Department of Sociology will lecture on both long-standing sociological debates and current research in a variety of subfields including race, gender, class, immigration, health, education, work, organizations and social movements. The course emphasizes sociology's interdisciplinary approach?touching on political, economic, cultural, and historical sociology?and its eclectic methodology. Throughout we will be attentive to sociology's comparative and international perspective, along with its attention to social problems and policy implications.

**SOCIOL 1024 Introduction to Social Inequality**  
CourseID: 117584  
Faculty:  
Next Term Offered:

In this course, we will identify the basic contours of the structure and culture of social inequality in the United States and beyond through engagement with sociological research on class, race and ethnicity, gender, and immigration. Through our reading and active participation in lectures, we will develop answers to the central questions that motivate much sociological inquiry into inequality: Who gets what? Who is
included and excluded? How and why? Should/can inequality be addressed?

SOCIOL 1025 Introduction to the Sociology of Organizations
CourseID: 113256
Faculty:
Next Term Offered: 2020 Spring

This course examines the evolution of the modern organization, focusing on changing approaches to corporate strategy and to managing employees. We read both social scientific analyses and Harvard Business School cases to trace the history of management, from the harsh principles of the "drive system" to the latest theories of how "work teams" improve productivity and how focusing on a firm's "core competence" improves the bottom line. The course covers research examining the efficiency and the equity of current corporate practice.

SOCIOL 1027 Introduction to Social Movements
CourseID: 109656
Faculty:
Next Term Offered: 2019 Fall

Social movements and revolution have long been driving forces behind political, social, and cultural change. From the Civil Rights movement of the 60s to the recent and unpredicted "Arab Spring," the extraordinary mobilization of ordinary people is routinely credited with fundamentally re-shaping societal institutions— the polity, the economy, religion, gender, race, and even the environment. But can we really define and study something as ephemeral as social mobilization? Do we know how social movements begin? Why might they become revolutionary? Can they make a difference in the societies they target? This course examines these questions within the sociological literature on collective action. Theories of social movements and revolutions are then applied to a series of case studies around the globe. Case studies may include the US, Iran, China, El Salvador, Chile, India, Poland, Argentina, Egypt, and Nigeria, among others. Students will also be required to apply course readings to the collective action case of their choosing throughout the semester.

SOCIOL 1103 Environment and Inequality
CourseID: 212756
Faculty:
Next Term Offered:

How does your zip code affect your health? What are the social and political consequences to building a dam? How do natural disasters exacerbate racial inequalities? This seminar explores environmental issues through the lens of inequality, focusing particularly on race, indigeneity, gender, and (dis)ability. We will borrow from
case studies across the globe: from toxic disasters in Bhopal, India, to the Grenfell Tower fire in London, UK, to Standing Rock, in the United States. While learning about the transnational and comparative-historical scope of environmental issues, students will apply key theoretical tools to situate course topics within broader themes, including cultural memory, popular culture, violence, and governmentality. Students will also develop an expertise in a course-related topic of their choice.

SOCIOL 1105 Sports and Society
CourseID: 109896
Faculty:
Next Term Offered: 2020 Spring

This course will examine the institution of sports and how it is shaped by society. Is sports a level playing field and meritocracy where the best person or team wins? Or is sports a mirror of an unequal society where power and wealth shape social life? How do class, race and gender shape the sports we play and how we play them? We will consider sports and higher education in the U.S. and at Harvard. We will also look at youth sports, sports as a business, the media and sports, and sports and health. Students will do an in depth research project on the topic and will actively discuss readings in class each week.

SOCIOL 1117 Social Trauma and Collective Identity
CourseID: 203441
Faculty:
Next Term Offered: 2020 Spring

Even though trauma is often a personal experience, it can also affect groups, regions, and even whole nations. This course explores the notion of social trauma by focusing on its emergence, commemoration, and transmission in different societies. How do ideas of trauma stay constant across generations? And what are the consequences of these processes in a variety of sites such as politics, social activism, art, and domestic life? The main analytic assignment enables students to further explore a site of their choice that represents collective trauma. Upon collection of primary evidence, students will analyze their case using the concepts and readings covered in class.

SOCIOL 1123 Social Movements
CourseID: 212768
Faculty:
Next Term Offered:

SOCIOL 1125 Personal Networks
CourseID: 203271
Faculty:
Next Term Offered: 2020 Spring
This course examines how individuals shape and are affected by their social networks. The course is substantive, not methodological. It is focused specifically on the networks of individuals, not broadly on network structure. Possible topics include the relationship between personal networks and social support, social capital, institutions, organizations, political beliefs, group membership, immigration, inequality, urbanization, online communication, and mobile technology.

SOCIOL 1129 Education and Society
CourseID: 122467
Faculty: 
Next Term Offered: 2020 Spring

Examines the key role played by the educational system in reproducing and transforming modern society. Considers the purposes served by an educational system, the distinctiveness of the American educational system in comparison to other countries, the ways that education connects to the labor market in the U.S. and other societies, and why educational attainment is related to social class and ethnicity.

SOCIOL 1133 War, Revolution, and Organized Crime: In Theory, in Film, and in Reality
CourseID: 159926
Faculty: 
Next Term Offered: 2019 Fall

This course explores war, revolution and organized crime as interrelated social phenomena. Students will read sociologists, historians, political scientists and philosophers addressing the nature, causes and consequences of these phenomena in different national and historical contexts. The course will combine influential theoretical frameworks (by Karl Marx, Max Weber, Sigmund Freud, Hannah Arendt), middle-range social scientific approaches (by Anthony Giddens, Charles Tilly, Michael Mann, Theda Skocpol), and empirical and historical analyses (by Eric Hobsbawm, Benedict Anderson, James C. Scott, Eugen Weber). The three phenomena will further be scrutinized through their (mis)representation in movies by Mike Nichols, Milos Forman, Bernardo Bertolucci and others.

SOCIOL 1141 Contemporary Chinese Society
CourseID: 116219
Faculty: 
Next Term Offered: 2019 Fall

Situating China in the context of the transition from socialism, this seminar provides an overview of contemporary Chinese society. We will explore recent structural changes in China’s economy, political system, legal institutions, media, family forms, education, stratification and inequality, and contests over space?as well as how all these various
changes interact with one another. We will begin with the Chinese Communist Revolution and then the Cultural Revolution as crucial historical context, and then move on to examine the profound social transformations of the post-1978 reform period. The course will examine how these changes have impacted social relations, how they have been experienced and understood by individuals, and how, in turn, the responses of individuals have also shaped the trajectory of reforms.

SOCIOL 1142 Sociology of Asian America
CourseID: 212728
Faculty: Next Term Offered: 

Today, over 22 million people living in the United States identify as Asian. Asian Americans and Pacific Islanders (AAPI) are one of the fastest growing populations in the US. What are the social, cultural, and political structures that shape the lives of AAPI? How have the experiences of AAPI changed from the nineteenth century to the present? This course takes a sociological view to examine "Asian America." Rather than analyzing AAPI as a monolithic group, this course explores the diversity of experiences and histories within Asian America. Through readings on a range of case studies, we will examine Asian America through important historical and social phenomena such as colonialism, environmental racism, war, migration, and social movements. We will look at the ways that AAPI have been socially and politically constructed as a racial group and the ways that such categorizations continue to shift. Finally, we will consider contemporary debates about AAPI that are particularly alive here at Harvard, such as affirmative action, socioeconomic mobility, and social justice.

SOCIOL 1143 Just Institutions
CourseID: 108673
Faculty: Next Term Offered: 2020 Spring

How can and do people build institutions that are just? This course examines the psychological and sociological underpinnings of people’s understanding of justice and their motivation to make situations just. The course draws heavily on real world cases from a variety of social, cultural, and historical settings, as well thinking and research from sociology, philosophy, and psychology.

SOCIOL 1144 Economic Sociology
CourseID: 204172
Faculty: Next Term Offered: 2020 Spring

The field of economic sociology brings our attention to ways that economic priorities and processes reflect social dynamics. From ceremonial exchanges of goods in the South
Pacific, to the development of modern capitalism, and from interlocking relationships between large corporations to wages, remittances, and social networks, economic sociology considers the social contexts that influence how individuals, communities, and societies organize their resources and how these processes in turn impact our lives. This course offers an overview of economic sociology's major theories and findings across several major themes. The first part of the course focuses on the theoretical underpinnings of economic sociology, and what characterizes a sociological view of the economy. In the second part of the course, we explore some of the social and cultural forces that have shaped key economic institutions such as corporations, insurance, wages and benefits, and marketplaces. The third part of the course considers the impact that these economic institutions have on the quality of life for individuals, communities, and societies. We conclude by asking how the field of economic sociology approaches issues of inequality and social mobility in the United States and globally.

SOCIOL 1147 The Shareholder Value Management Revolution
CourseID: 107351
Faculty: 
Next Term Offered: 2019 Fall

Since the late 1970s, the American style of management has been revolutionized. This course reviews the history of American management strategies, focusing on the origins and effects of the shareholder value approach that now prevails among leading firms. Shareholder value traces its roots to America's lackluster performance in the global economy during the 1970s, and the prescriptions offered by agency theorists in the field of financial economics. We explore how the shareholder value approach was promoted in American firms. We look at how the approach has changed core corporate strategy, how it has affected corporate performance, and how it has shaped labor markets, income inequality, and global trade.

SOCIOL 1164 Successful Societies: Markers and Pathways
CourseID: 127922
Faculty: 
Next Term Offered: 2020 Spring

Analyzes the markers of societal success and the social conditions that sustain it. Discusses various indicators ranging from the standard economic measures to the human development index, inequality, resilience to shocks, educational, child development and health measures. Considers the role of cultural and institutional buffers (how cultural repertoires and myths feed strong collective identities, cultural and institutional supports for coping with stigma, models of citizenship and immigration, and multi-level governance and their impact on welfare and poverty). Similarly addresses factors that present major challenges, or 'wicked problems', like concentrated urban poverty, well-being of indigenous and other racialized groups and some of the solutions attempted. Particular attention will be put on the United States, Canada, and other advanced industrial societies and to the role of space, institutions, and culture in shaping
the conditions for successful societies. Public policy implications will also be discussed.

SOCIOL 1170 Culture and Networks  
CourseID: 108274  
Faculty:  
Next Term Offered: 2019 Fall

This course will serve as an overview of the growing field of network research with a particular focus on how patterns of social interaction shape and are themselves shaped by cultural preferences and meaning-making processes. We will discuss a variety of substantive topics, including musical tastes, romantic relationships, organizational collaboration and competition, and social movement mobilization, while paying particular attention to the increasingly important role of social media in establishing and maintaining social ties.

SOCIOL 1172 Complex Organizations  
CourseID: 207691  
Faculty:  
Next Term Offered:

Organizations are central to our lives: most of us are born in hospitals, educated in schools, and employed in firms, non-profits, and governmental agencies. All these organizations attempt to encourage some behaviors and attitudes, such as love of learning or hard work, and discourage others, such as sexual harassment or free-riding. This course asks, when do organizations succeed in these attempts and when do they fail? We will investigate how culture, institutions, incentives, and individual agency interact in organizations to shape behavior, and how these forces intersect to produce desirable or undesirable outcomes for organizations and their members. As a capstone project, students will apply what they have learned to propose a new solution to an organizational problem of their choice.

SOCIOL 1182 Law and Society  
CourseID: 203485  
Faculty:  
Next Term Offered: 2019 Fall

Justice Oliver Wendell Holmes wrote: "The life of the law is not logic, but experience." While law school curriculum focuses on legal doctrine, law-in-action often diverges from law-on-the-books. For instance, although civil rights laws make workplace discrimination
illegal, such laws are not often enforced. This gap between law-on-the-books and law-in-action has prompted social-legal scholars to examine the latter more closely. Adopting a law-in-action approach, this course examines the relationship between law and society. We will survey major theoretical perspectives and empirical studies that analyze the dynamics between law and legal institutions and their social, political, economic, and cultural contexts. Topics that will be discussed include but are not limited to: (1) concepts and theories of law and society; (2) the experiences of different actors in the legal system, particularly, lawyers, judges, jurors, law enforcement agents, litigants, and citizens; (3) legal consciousness and legal culture; and (4) the relationship between law and social change. A major focus of the course will be civil rights. We will explore, for example, the extent to which court decisions on civil rights have brought about social change in the United States.

SOCIOL 1188 Politics and Social Class
CourseID: 203392
Faculty:
Next Term Offered: 2020 Spring

How does social class matter in politics? Do party coalitions reflect class divisions? Does class position shape opportunities for political mobilization? Has there been a realignment in class interests in recent elections? In this course, we will explore these questions in an effort to understand the complex relationship between social class and politics. Our primary focus will be the United States, though we will supplement our analysis with cross-national comparisons. Topics of study will include a review of sociological research on social class and class consciousness, an analysis of how class influences political behavior and party identification, a historical examination of developments in the relationship between class and voting behavior, and opportunities to apply course concepts to the 2016 elections.

SOCIOL 1189 Democracy and Social Movements in East Asia
CourseID: 109681
Faculty:
Next Term Offered: 2020 Fall

Social movements are an important part of both democratic and non-democratic societies. This course assesses the state of civil society in East Asia by surveying contemporary social movements in China, Taiwan, Hong Kong, Japan, and South Korea. We start the course by discussing the main concepts and analytic approaches in social movement theory. We then apply these theoretical frameworks to specific mobilization efforts in East Asia, keeping in mind each country's unique historical context. With the theoretical and empirical tools gleaned from the lectures and readings, students will pursue a case analysis of an East Asian social movement of their choosing.

SOCIOL 1198 Introduction to Social Network Methods
CourseID: 207219
This course covers foundations for studying networks comprised of social relationships, stressing underlying concepts together with quantitative approaches to representing and understanding patterns in network data. Among the topics treated are visualization, centrality, homophily, identification of subgroups or "communities", "egocentric" or "personal" networks, networks based on individual-group relationships, and the "small world" phenomenon. Students will develop familiarity with software for undertaking basic analyses of network data.

SOCIOL 2181 Social Change in Modern Korea
CourseID: 207636
Faculty:
Next Term Offered:

This course explores the incredible transformation of Korean society in the modern period. We begin with the demise of the Choson Dynasty at the end of the 19th century before covering the Japanese colonial period (1910-1945), the emergence of two Korean nation-states (1945-1948), the Korean War (1950-53), and the contemporary period (1960-present). The course is divided into two distinct parts. In the first part of the course we discuss Korea's political and economic transformation and in the second, we cover social and cultural change. Upon completion of the course, students should have a thorough grasp of the vast social changes Korea underwent in the 20th century.

SOCIOL 2219 "Doing" Transnational Historical Sociology
CourseID: 206969
Faculty:
Next Term Offered: 2019 Fall

Sociologists have analyzed empires through the entire history of the discipline. Using imperial frameworks as a unit of analysis was fruitful for learning about state formation and consolidation of power, the innovation of governance methods in multicultural settings, migration and political membership and the relationship between state violence, law, economic extraction, and the growing repertoire of toolkits of government. This intensive course incorporates primary historical, administrative and legal source from the Roman, Mongolian, Mughal, Ottoman and British Empires, with historians, sociologists and economists to provide basic skills to design a transnational historical research project, using historical archives, and particularly administrative data. Students will focus on methodological dimensions of transnational historical projects, will practice searching archive material from the British Empire (at Widener library) and are encouraged to bring their own research project to the course for discussion.

SOCIOL 2220 Introduction to Computational Text Analysis
This course will serve as an overview of sociological approaches to big data, with a specific focus on large textual corpora. Topics covered will include obtaining data from online sources using web scraping and APIs and text analysis using dictionary methods, supervised machine learning, topic modeling, sentiment analysis, and basic lexical tagging. Students will learn how to use Python to collect, clean, analyze, and visualize data, how to parse HTML, JSON, and XML code, and how to properly document their work. While the emphasis will be on the application of specific methods, the course will also address the affordances and limitations of computational text analysis as a method for answering sociological research questions. The course will meet once a week for two hours and feature a combination of lectures and hands-on programming workshops. While no experience with text analysis is necessary, students will be expected to complete a short online Python course prior to enrollment.

SOCIOL 2223 American Society and Public Policy: Research Seminar
CourseID: 108204
Faculty:
Next Term Offered: 2019 Fall

Explores growing inequality in the U.S., and its implications for public policy in the areas of social support for families and workers, immigration and citizenship, and access to higher education. Students are expected to develop and present their own research.

SOCIOL 2237 Contemporary Chinese Society: Seminar
CourseID: 114986
Faculty:
Next Term Offered: 2019 Fall

A seminar devoted to the intensive analysis of a particular aspect of contemporary Chinese society. This year the focus will be on trends in inequality and stratification in China.

SOCIOL 2242 Crime and Criminal Justice in Life-Course Perspective
CourseID: 205914
Faculty:
Next Term Offered: 2020 Spring

This seminar examines crime and criminalization across the life course. Social processes and context are emphasized. Key themes include the long-term study of continuity and change; trajectories, transitions, and turning points; cohort effects; and social change (e.g., mass incarceration, the crime drop). Both qualitative and quantitative approaches are covered, highlighting research on crime, inequality, and
contextual change. A major portion of the seminar will be devoted to the development of student projects.

**SOCIOL 2243 Economic Sociology**
CourseID: 118601
Faculty:
Next Term Offered: 2020 Fall

Introduction to economic sociology at the graduate level. Surveys economic inequality and the ways that economic behavior and outcomes are shaped by social institutions such as markets, networks, organizations, family, and culture.

**SOCIOL 2246 Seminar in Crime and Justice**
CourseID: 109694
Faculty:
Next Term Offered: 2019 Fall

This multidisciplinary seminar will read and discuss research on crime, the social context in which it occurs, and criminal justice policy. We address this literature in the historic context of shifts in US crime policy to a less punitive regime, where incarceration rates may be significantly reduced. Besides studying empirical research on crime and punishment, we will also consider the future of crime policy, and how principles of justice can guide the role of police and corrections in poor communities.

**SOCIOL 2248 Race, Politics, and Social Inequality: Seminar**
CourseID: 125300
Faculty:
Next Term Offered: 2019 Fall

Examines intersection of race, public will, and policy-making. Reviews theories of race-making and racial inequality, dynamics of public opinion, and effects of a racialized public sphere on social policy. Focuses on the welfare state, the criminal justice system, and the dynamics of a multiethnic society.

**SOCIOL 2255 Social Stratification: Seminar**
CourseID: 118858
Faculty:
Next Term Offered: 2020 Spring

This course examines the dimensions and magnitude of inequality in industrial societies, with a heavy emphasis on the United States since the mid-20th century. The readings and class discussion are designed to expose students to a broad range of influential pieces in the social stratification literature. In particular, we will study inequality through:
pay for work, race, neighborhoods, gender, family, mobility, education, social capital, and rising income inequality since 1980.

SOCIOL 2263 Historical Sociology: Cultural and Institutional Perspectives
CourseID: 107332
Faculty: Orlando Patterson
Next Term Offered: 2020 Spring

The seminar explores the emergence, dynamics and interaction of cultural, structural and institutional processes in the development, and underdevelopment, of capitalism in selected western and non-western societies. Among the topics explored, through close study of selected texts, are: merchant capital, network channeling and cultural change in renaissance Italy; institutional, cultural and imperial factors in the rise and divergence of West European capitalism; networks and informal institutions in the rise of capitalism in China; cultural and institutional change in Tokugawa Japan; and the institutional and cultural origins of development and underdevelopment in Latin America and the Caribbean. Our readings and discussions will be guided by the recurring theoretical problems of causality, origins, continuity and change in institutional and cultural processes and the fundamental problem of how the past influences later periods and present outcomes.

SOCIOL 2267 Political Sociology
CourseID: 125782
Faculty:
Next Term Offered: 2020 Spring

This course examines power relations between (and within) society and the state. We will focus on nation-state formation, revolutions, social movements, ideology and political attitudes, welfare state policies, and globalization, while interrogating the major theoretical traditions that have shaped the sociological study of politics.

SOCIOL 2274 Culture, Inequality, and Black Youth
CourseID: 139026
Faculty:
Next Term Offered: 2019 Fall

The seminar examines the complex situation of black youth in America with an emphasis on the matrix of cultures that support, enrich and, in conjunction with racial and structural forces, undermine their life chances. We will attempt to unravel the sociological puzzle of the socio-economic disconnection, hyper-segregation, violence, gender conflicts, familial fragility, and high incarceration rate that beset a significant minority of them, on the one hand, and, on the other, their remarkable prominence and integration in the nation’s popular culture. We tackle the complex and controversial problem of how best to understand, theoretically and pragmatically, the interactive role of culture in
disentangling this conundrum. We conclude with a review of the best policies and practices aimed at improving their condition.

SOCIOL 2290 Qualitative Network Analysis
CourseID: 131291
Faculty: Mario Small
Next Term Offered: 2019 Fall

This course examines how researchers have analyzed observational, interview, and textual data in the study of social networks. We will explore both classic and contemporary readings in anthropology, sociology, history, and other disciplines, and study both traditional and new techniques, including those based on large-n data but focused on meaning and qualitative aspects of the social world. Social Network Analysis or a similar course on SNA methods is strongly recommended but not required.

SOCIOL 2296B Proseminar on Inequality and Social Policy II
CourseID: 112354
Faculty:
Next Term Offered: 2020 Spring

Deals with causes and possible cures for economic inequality, including skill differences, discrimination, immigration, household composition, residential segregation, and the welfare state.

SOCIOL 3307 Proseminar on Inequality and Social Policy III
CourseID: 112355
Faculty:
Next Term Offered:

Students develop previously completed papers from Proseminar I and II into professional presentations and publishable articles, critique peer papers across disciplines, and discuss presentations of national experts.

SOCIOL 3313 The Urban Data Lab
CourseID: 203599
Faculty:
Next Term Offered: 2019 Fall

Professors Robert Sampson and Mario Small are organizing a small lab to support research by students and postdocs examining a subset of topics regarding the urban condition in the 21st century. Students enrolled in the lab must be working on one of the following datasets: the Project on Human Development in Chicago Neighborhoods, the Los Angeles Family and Neighborhood Survey, the project on Twitter Data and Human
Mobility, and the project on Alternative Measures of Resource Access in Poor Neighborhoods. The lab is organized around two themes: big data (fall) and the comparative analysis of urban dynamics in Chicago and LA (spring). Students will meet to discuss readings and present papers to others in the working lab. By permission.

**SOCIOL 3314 Workshop on Urban Social Processes**  
CourseID: 126400  
Faculty: Robert Sampson  
Next Term Offered: 2019 Fall

Cities are back, urbanization is rapidly expanding around the world, and new forms of data are presenting unique opportunities for research. SOC314 is a forum to explore the social mechanisms, processes, and structures that occur in urban settings and the diverse behaviors that are shaped by spatial inequality. The workshop highlights the presentation of graduate student research but also includes discussion sessions on selected readings and work-in-progress by faculty at Harvard and around the country.

**SOCIOL 3318 Quantitative Methods in Sociology**  
CourseID: 109750  
Faculty:  
Next Term Offered: 2019 Fall

This workshop provides a forum in which graduate students and faculty can present in-progress work to a substantively diverse group that shares an interest in quantitative methods. The practice of quantitative social science requires training not only in formal statistical methods but also in research design, model specification, management of complex survey data, and the interpretation of results. While Sociology graduate students receive training in statistical methods, many of the other tools of quantitative research are best taught through example and hands-on experience. This workshop fills a gap in the curriculum, providing an opportunity for students to receive methods-directed feedback on their research projects. Cultivating a sense of the types of concerns that get raised with quantitative social science and good practices for addressing those concerns, this workshop will contribute to building an informal community of quantitative students and faculty who can serve as resources to one another. Although intended primarily for graduate students and faculty in the Harvard Department of Sociology, the workshop is open to faculty, researchers, and students from other disciplines at Harvard and other schools throughout the Boston area.

**SOCIOL 3319 Workshop on Mixed Methods of Empirical Analysis**  
CourseID: 156057  
Faculty:  
Next Term Offered: 2019 Fall

The graduate workshop on mixed methods is a forum for graduate students and faculty
to present their empirical work-qualitative, quantitative, or mixed-methods-and get feedback on the empirical veracity of their claims. Individuals of all methodological persuasions are welcome. We are particularly interested in exploring synergies that can occur across methodological boundaries, either in the context of mixed-methods projects or in the context of collaboration between qualitative and quantitative researchers.

SOCIOL 3322 Qualitative Research and Practice
CourseID: 207242
Faculty:
Next Term Offered: 2019 Fall

Qualitative Research and Practice.
SPOL 303QC Introduction to Social Policy Research
CourseID: 126520
Faculty:
Next Term Offered:

Required of and limited to first-year PhD students in Social Policy. Explores current issues in Social Policy research based on the Multidisciplinary Program in Inequality &Social Policy Seminar Series.
Statistics

STAT 100 Introduction to Quantitative Methods for the Social Sciences and Humanities
CourseID: 113431
Faculty:
Next Term Offered: 2020 Fall

"Introduction to key ideas underlying statistical and quantitative reasoning. Topics covered: methods for organizing, summarizing and displaying data; elements of sample surveys, experimental design and observational studies; methods of parameter estimation and hypothesis testing in one- and two-sample problems; regression with one or more predictors; correlation; and analysis of variance. Explores applications in a wide range of fields, including the social and political sciences, medical research, and business and economics."

STAT 140 Design of Experiments
CourseID: 116364
Faculty:
Next Term Offered: 2019 Fall

Statistical designs for efficient experimentation in the physical, life, social and management sciences and in engineering. A systematic approach to explore input-output relationships by deliberately manipulating input variables. Topics include completely randomized and randomized block designs, inferential adjustments for multiplicity of estimands, balanced incomplete block designs, factorial designs, confounding in blocks, fractional replications, and re-randomization. Each topic motivated by real-life examples.

STAT 160 Design and Analysis of Sample Surveys
CourseID: 112121
Faculty:
Next Term Offered: 2019 Fall

Methods for design and analysis of sample surveys. The toolkit of sample design features and their use in optimal design strategies. Sampling weights and variance estimation methods, including resampling methods. Brief overview of nonstatistical aspects of survey methodology such as survey administration and questionnaire design and validation (quantitative and qualitative). Additional topics: calibration estimators, variance estimation for complex surveys and estimators, nonresponse, missing data, hierarchical models, and small-area estimation.
STAT 170 Quantitative Analysis of Capital Markets
CourseID: 122306
Faculty:
Next Term Offered: 2019 Fall

An introduction to the analysis of capital markets using quantitative methods. Concepts include risk, expected utility, discounting, binomial-tree valuation methods, martingales, continuous time stochastic calculus methods, stochastic discount factors, financial econometric models and Monte Carlo simulations. These concepts are applied to equities, risk management and derivative pricing.

STAT 240 Matched Sampling and Study Design
CourseID: 123714
Faculty:
Next Term Offered: 2019 Fall

This course provides an accessible introduction to the study of matched sampling and other design techniques in any field (e.g., economics, education, epidemiology, medicine, political science, etc.) conducting empirical research to evaluate the causal effects of interventions.

STAT 260 Design and Analysis of Sample Surveys
CourseID: 126393
Faculty:
Next Term Offered: 2019 Fall

Meets with Statistics 160, but graduate students will have an extended class period and complete additional assignments for a more theoretical, in-depth treatment of topics.

STAT 286 Causal Inference & Program Evaluation
CourseID: 156925
Faculty:
Next Term Offered: 2019 Fall

The course will introduce students to the basic concepts of Causal Inference primarily under the Potential Outcome approach. It will then guide students through recent advances in causal inference for the analysis of both experimental and observational studies. Topics will include: dealing with various "selection" problems or post-treatment complications, such as censoring due to death, noncompliance, missing outcomes, mediation analysis, through principal stratification; dealing with interference and estimation of spillover effects; sensitivity analysis to various identifying assumptions; different modes of inference for causal effects (moment-based, randomization-based, likelihood-based and Bayesian). The course will blend theory and application. Recent papers will be discussed, and participants will be encouraged to develop their own research problems in this active
area. After finishing the course, students should have a solid understanding of the philosophy behind causal inference, the ability to analyze experimental and observational data; the ability to design and implement a data analysis plan for a given scenario.

STAT 315 Modern high-dimensional inference
CourseID: 156490
Faculty:
Next Term Offered: 2020 Spring

Certain diseases have a genetic basis, and an important biological problem is to understand the contributions of specific genetic features (e.g., gene expressions or single nucleotide polymorphisms). In health care, researchers often want to know the relationship between electronic medical records and future medical costs. Political scientists study how demographic or socioeconomic variables determine political opinions. Economists are interested in the effect of the same demographic/socioeconomic variables but on future income. Data scientists in the technology industry seek out software characteristics they can change to increase user engagement. Problems of a similar nature abound in the current era of data-driven science and engineering. What they have in common is a deluge of explanatory variables, often many more than the number of observations (the high-dimensional regime), and the goal of making statistical inferences about the relationship between those explanatory variables and a response variable. This reading/research class will cover recent but foundational papers in the field of high-dimensional inference, with a focus on methodology and theory.

STAT 365R Philosophical Foundations of Statistics
CourseID: 204454
Faculty:
Next Term Offered: 2019 Fall

Controversies, paradoxes, fallacies, and philosophical issues in the foundations of probability and statistics. Bayesian vs. frequentist vs. fiducial; objective vs. subjective; design-based vs. model-based; low assumption vs. high assumption; robustness vs. relevance; population inference vs. individualized prediction.
We will examine how the some of the key requirements of living systems are implemented at the molecular level and how quantitative experimental methods and mathematical analysis can help us understand them.
An expansion of basic acting techniques, with an emphasis on the actor's work done during rehearsal: creating a character, building a role and finding one's own way of preparing for and making the most of rehearsal time. Actors will use exercises and improvs to help explore character and sharpen instincts, and do monologue and scene work using contemporary texts, both comic and dramatic.

Practical Aesthetics Acting Technique was developed by playwright David Mamet and actor William H. Macy, based on the work of the American acting teacher Sandford Meisner and the Russian acting teacher Konstantin Stanislavski. In this course, students will focus on rigorous text analysis combined with emphasis on enhancing the actor’s spontaneity through training in Meisner’s “Repetition Exercise.” Students will do scene work drawn from a wide selection of plays.

This course is an intensive study of Shakespeare's dramatic works from the point of view of the actor. It is important to remember that Shakespeare's verse dramas were written to be performed and that only when they are approached this way - as playable, theatrical texts - that they have their maximum impact. Through text analysis, scene study, vocal work, and acting exercises we attempt to find not only the meaning, but the music and theatrical power of Shakespeare's words.
A course developing the actor's approach to and playing of comedy and humor. The class will focus on marrying comedy's need for technical precision with a truthful and spontaneous approach to acting based on the methodology of Konstantin Stanislavski. Specific comic skills studied will include timing, focus, choreography, and the mechanics of how a joke builds from set up to punchline. Acting skills will focus on moment to moment pursuit of objective and creation of character. Styles of comedy will include farce, drawing room/comedy of manners and contemporary comic playwriting such as David Lindsay-Abaire, Nicky Silver, Christopher Durang and Sarah Ruhl.

TDM 124X Acting, Theory, and Public Speech
CourseID: 206861
Faculty: David Levine
Next Term Offered: 2020 Spring

This practice-based class treats works of art criticism and theory as dramatic texts, monologues to be analyzed, learned, invested with desire, and performed. Over the course of the term, students will examine a set of key texts in 20th century art history and criticism, from Greenberg to Benjamin to Krauss. Each will select a text to learn, prepare and perform, culminating in a final, site-specific, roaming performance at Harvard Art Museums. Open to concentrators and non-concentrators, visual and performance artists, art historians, actors, and students of literature, theory, and public speaking.

TDM 128X Death of a Salesman (or Two)
CourseID: 203087
Faculty:
Next Term Offered: 2019 Fall

This course combines research and practice, offering an introduction to discursive, realist, and devised theater by examining the legacy of Arthur Miller's 1949 play, Death of a Salesman. Hailed (by Americans) as an American masterpiece, at once maudlin, mordant, embarrassingly timebound and irritatingly prescient, the play provides a basis for thinking about capitalism, ethics, theater, film, and what it means to "act American." The course is open to specialists and non-specialists alike, and will combine experimental dramaturgy with regular performance and directing assignments. It will culminate in a final project.

TDM 133 Directing Film: Telling the Story and Working with Actors
CourseID: 109653
Faculty: Marcus Stern
Next Term Offered: 2020 Spring

In this course students will produce short films. Includes the study of scenes in film and instruction in the techniques of directing, working with actors, and video production.
Emphasis will be placed on clarity of storytelling, eliciting performances from actors, and visceral impact of the filmed events.

TDM 140R Fundaments of Improvisation and Composition: Dance
CourseID: 107422
Faculty: 
Next Term Offered: 2019 Fall

This course explores the fundamental skills of improvisation and composition. Using wide-ranging music, experimentation, problem solving, and an equal curiosity about both success and failure, this course investigates the processes of analytical and intuitive decision making in the dancing body. Students will learn a series of specific physical tasks, tools, and systems taught through intensive exercises, guided improvisations and rigorous real-time composition. Physical research and written work in the course connect dance to architecture, the visual arts, mathematics, philosophy, science, theater, and literature in ways which link the mind and body to innovation. Fall 2017 will focus on site-specific research.

TDM 141 Movement Lab
CourseID: 161233
Faculty: Jill Johnson
Next Term Offered: 2019 Fall

This course explores the practice of choreography in a dynamic research environment. Students will learn interdisciplinary tools for devising, modifying, and editing motion for the stage, screen or site-specific work. Compositional discernment and keen visual evaluation skills will be developed through: extensive studio practice creating and interpreting movement phrases and gestures; discussion and feedback of individual movement composition assignments; viewing and analyzing the structure, dramaturgy, music, set and lighting design in seminal dance and theater pieces from around the world (e.g. Fabre, Naharin, Jones, Graham, Bausch, Goebbels, Petipa, Pite, Kahn); and examining how new media can be utilized for appraising, capturing and documenting motion in the 21st century. Classes will be held in the seminar room and studio.

Class size: 20. No prior dance experience required. Enrollment determined by short interview during the first week of class (shopping week).

TDM 142 Contemporary Dance: Countertechnique
CourseID: 203636
Faculty: 
Next Term Offered: 2019 Fall

Countertechnique is a system of movement designed by esteemed Dutch
choreographer, Anouk Van Dijk. The technique offers a dynamic dance practice that focuses on directing and counter-directing the body through space so that each participant can develop authentic, sincere and unique movement vocabularies – tools that Van Dijk believes will prepare the dancing body and mind for negotiating demanding dance practices in the 21st century. Scale, risk-taking, fluidity, strength and flexibility are skills this course aims to expand.

TDM 145A Repertoire for Advanced Dancers
CourseID: 205359
Faculty:
Next Term Offered: 2019 Fall

Over the course of the semester students will learn, study and rehearse excerpts from choreographic works by renowned artists in contemporary dance. Excerpts by Mats Ek, Jiri Kylian, Paul Lightfoot &Sol Leon, William Forsythe, George Balanchine, and Crystal Pite will be covered. Class will begin with a 45-minute technique warm-up designed specifically for the choreographic excerpt scheduled for study. This is an advanced course in practice, with a written component, intended for students with prior dance experience.

TDM 147 Deconstructing a Novel Into a Dance
CourseID: 204032
Faculty: Mario Zambrano
Next Term Offered: 2020 Spring

This is a project-based course that will study the structure and thematic elements of a novel as a means to compose a choreographic work. Divided into three units, the course will begin with a close reading of three novels: *Giovanni’s Room* by James Baldwin, *The Waves* by Virginia Woolf, and *The Buddha in the Attic* by Julie Otsuka. Unit II (in studio) will be dedicated to improvisational tasks derived and inspired from the novels. By sourcing structure and language?metaphor, style, and rhythm?the movement exercises will embody the literature we study. Unit III will focus on composition, arranging what we’ve learned in prior units, and will culminate in a choreographic architecture both literary and physical.

TDM 155 Techniques in Theater Design and Technology
CourseID: 205360
Faculty:
Next Term Offered: 2019 Fall

This course provides a foundation of theater technology knowledge that can be built
upon throughout students' theater careers. This class will cover the basics of technical theater history, in addition to working hands-on with current technology. Students will become familiar with standard paperwork, safe practices, and working standards in the theater industry, as well as creative problem-solving through in-class projects.

TDM 161 Performing the Archives: American Melodrama
CourseID: 203537
Faculty:
Next Term Offered: 2019 Fall

Mining the archives of Harvard's Houghton Theater Collection, this class explores the ways in which contemporary artists interrogate and reanimate of what are often considered to be archaic theatrical genres. This fall, our focus will be 19th Century Melodrama, a popular theatrical genre that traded in stock characters, bombastic performance styles, pedantic moralizing and thrilling special effects.

Following a period of reading and discussion about melodramatic form we will conduct case studies on contemporary projects that mine this history in order to address contemporary cultural concerns. Moving from theory to practice, we will then collaboratively devise a performance project of our own based on our original archival research. This course is for writers, directors, designers and performers willing to work across disciplines.

TDM 175X Sport as Performance
CourseID: 159955
Faculty: Claire Conceison
Next Term Offered: 2019 Fall

This course links athletics to the disciplines of theatre, performance studies, sociology, anthropology, and history in order to understand sport as ritual, spectacle, and performance. Our investigations include professional and collegiate team sports, as well as individual athletic performances. The course includes examination of the role of women and how gender is performed in sport both in live events and in the media, as well as the performance of race, class, and nation in sport. A weekly seminar format features lecture, discussion, independent research projects, and guest speakers from the worlds of both athletics and theatre.

TDM 192 Total Theater
CourseID: 203544
Faculty: James Stanley
Next Term Offered: 2020 Spring

This class will take a space-specific and deeply collaborative approach to theater
making. Our goal will be to interrogate, through readings (in history, theory and critique) and through practice (by making our own piece of theater) the contemporary drift toward immersive theatrical forms. Starting with Wagner’s articulation of *gesamtkunstwerk* as theater as the Total Work of Art and Adorno’s blistering critique of it, we will trace thinking on immersive art and cultural forms and responses to them throughout the modern and postmodern periods. Concurrent with our readings, we will discuss contemporary immersive works, including Jim Findlay's *Dream of the Red Chamber*, Michael Counts’ escape room *Paradiso*, and Punch Drunk’s immersive juggernaut *Sleep No More*.

Meanwhile, employing all of the theatrical tools at our disposal (light, sound, space, song, movement, dance, language) we will come together as a company to create a site specific immersive theater piece of our own. This is a class for performers, directors, designers, dancers, choreographers and media artists who are game to participate across disciplines. Our class will culminate in a public performance of the piece we create.

**TDM 194 The Making of a Musical: The Creative Process**

This course introduces students to the collaborative process of creating a new musical by analyzing the real time development of two world premiere musicals (*Jagged Little Pill* and *American Music*) at the American Repertory Theater. In addition to these case studies, the course will examine other existing American musicals including *West Side Story*, *Assassins*, *Pippin* and *Waitress*. Through readings by historians, theorists and practitioners and visits from artists and professionals across the field, students will learn about the key components of a musical including: book and adaptation; music and lyrics; choreography; and visual design. There will also be a class devoted to the art of producing and the business of musical theater.

Over the course of the semester, students will develop a vision and "pitch" for their own musical project. As a final assignment, the class will collaborate on creative presentations drawn from the proposed musical projects.

As part of this course, students will attend a workshop rehearsal of *Jagged Little Pill* in New York City and see the A.R.T. production of *Waitress* on Broadway.
Visual and Environmental Studies

VES 14 Making Things: Form, Function, and Materials
CourseID: 203314
Faculty: Katarina Burin
Next Term Offered: 2019 Fall

This studio art course will explore some of the conceptual and material fundamentals of design, beginning with executed plans or drawings from which to then craft usable functional objects. The course will be divided into five sections in which we will study, investigate and gain expertise in various materials. Paper construction, architectural model making, cast ceramics, basic woodwork and book arts will be explored from initial design through to end product.

VES 21S New Grounds: Painting Course
CourseID: 127166
Faculty: Matt Saunders
Next Term Offered: 2020 Fall

What role does a studio "foundation" play in a technologically and ideologically diverse moment? This will be a painting foundations course, with an emphasis on building skills and exposure to different materials and methods; yet, we also aim to question what the grounds for a painting practice could be, with consideration of conceptual and personal motivation, technical proficiency, and openness to process and experimentation.

VES 23 Conceptual Figure
CourseID: 108842
Faculty: Matt Saunders
Next Term Offered: 2020 Spring

Portrait, person, effigy, model, anatomy, subject, self? the body is often central in art. This course will examine many ways of approaching the human figure through painting. Working first from life, we will also consider the body in media, in horror, in history and in absentia; as politics, as sexuality, as identity and as idea.

VES 24 Painting, Smoking, Eating
CourseID: 127177
Faculty: Matt Saunders
Titled after Phillip Guston, this course has two agendas: technical assignments that improve your ability to move paint around, and laying conceptual groundwork for personal projects. One task of an artist is to have a relationship with a world. From the vantage of individual studios, we will discuss the boundaries between interior and exterior discourse, as well as the social role of artists and the artist's voice through self-expression as well as abnegation? auteurs, flaneurs, and ventriloquists.

VES 37 Lay of the Land: A Studio-based Seminar
CourseID: 119646
Faculty: Stephen Prina
Next Term Offered: 2020 Fall

The pursuit of and response to the horizontal in art will be the focus of this studio class. To cite a few examples, abstract expressionist painting, cartography, earthworks, landscape photography, 19th century German Romantic landscape painting, and Rayograms will provide models of the horizontal that will be points of departure for studio projects, the forms of which will be determined by what the investigation provides. Students will shift medium from project to project.

VES 41A Introduction to Still Photography
CourseID: 122184
Faculty: Sharon Harper
Next Term Offered: 2019 Fall

Introduction to still photography with an emphasis on the medium as a vehicle for expression and personal vision. Covers technical, historical, and aesthetic aspects of the medium. Class is organized around slide lectures, individual meetings, group critiques, and readings.

VES 57R Maya and Multi Media
CourseID: 125076
Faculty:
Next Term Offered: 2020 Fall

This course will offer an introduction to 3D computer animation, and explore hybrid forms of animation and the new thinking they enable.

VES 59 Introduction to Narrative Filmmaking
CourseID: 108658
Faculty:
Next Term Offered: 2020 Spring

An introduction to fiction filmmaking, exploring the interrelationships between writing, direction, cinematography, and editing. Using video equipment, students will complete exercises and a final project. We will compare storytelling strategies and look at the different means by which narrative scenes achieve expressive power.

VES 63 On Objects: A Studio Course in Sculpture, Video and Performance
CourseID: 205410
Faculty: Karthik Pandian
Next Term Offered: 2019 Fall

This introductory course will investigate the contemporary status of the object through studio projects in sculpture, video and performance. Students will make things, make moving images that represent these things and make language and movement around these things in an exploration of medium, materiality and artistic persona. Work by artists such as Hollis Frampton, David Hammons, Hito Steyerl, Richard Tuttle, Lee Lozano and Mark Leckey will help introduce and guide our projects.

VES 73 Exploring Culture Through Film
CourseID: 117631
Faculty: Lucien Castaing-Taylor
Next Term Offered: 2020 Fall

Introduction to the history and theory of documentary and ethnographic film. A wide variety of works from 1895 to today will be screened and discussed. Different cinematic styles which have been used to depict human existence and the relationships between individuals and the wider cultural and political contexts of their lives will be compared.

VES 80 Loitering: Studio Course
CourseID: 123380
Faculty: Stephen Prina
Next Term Offered: 2019 Fall

You will hang out in the vicinity of culture and make things in response to it. This class is not thematic or linked to any particular discipline.

VES 83 The Devil, Probably x 8 + 1: A Studio-based Seminar
CourseID: 108844
Faculty: Stephen Prina
Next Term Offered: 2020 Fall
Part 1 is a weekly studio session during which participants will create 3 projects in any medium or discipline during the term. Part 2 is a screening of the film "The Devil, Probably," 1977 by Robert Bresson for 10 consecutive weeks, interrupted by the 3 project class presentations. Different readings will accompany each screening. The final screening is "The Third Generation," 1979 by Rainer Werner Fassbinder.

VES 100 Critical Studies: The Artist  
CourseID: 203367  
Faculty: Carrie Lambert-Beatty  
Next Term Offered: 2019 Fall

What does it mean to be an artist? Challenging assumptions about the artist as cultural role, this seminar explores the different ways makers of aesthetic things have been named and defined, trained and treated. It uncovers the histories that shaped the modern, Western model of the artist, and evaluates the challenges and alternatives that have weakened that model's dominance. Working toward an understanding of contemporary artists' many choices and challenges, we will turn to sources including works of art and conversations with contemporary artists as well as primary texts, historical and anthropological scholarship, films, literary representations, and biographies.

VES 115 Printed Matters: Studio Course  
CourseID: 128025  
Faculty:  
Next Term Offered: 2021 Spring

Painting's productive association with the technologies of reproduction. We will think both pre- and post-20th century, considering the analogue (intaglio printing, especially etching and aquatint; also block, book and commercial printing) and digital as worthy collaborators. Workshops in technique will support independent projects in any media.

VES 132R Object Matter of Jelly Fish: Sculpture Course  
CourseID: 203463  
Faculty: Nora Schultz  
Next Term Offered: 2020 Fall

Central issues of this studio course will be sculptural representation beyond the human scale and the special relationship between matter and meaning in sculptural production. The course investigates in the notion of "the other" in sculptural production and the possibility of sculpture to involve in different contexts of our time and reality, ranging from the moment when an object is liberated from its original circumstances of production to its continuing life and how it might reflect on new situations.

VES 141BR Making Mischief: Using Photography to Upset Expectations
This class uses photography to explore our expectations of the medium and to expand its possible applications. Students develop an independent work practice that is an extension of their own interests. Students will develop ideas for a project proposal at the outset of the semester and build a group of related photographs throughout the semester. The class will be organized around class discussions, critiques and individual meetings with the instructor. Slide presentations and readings will be given to deepen your understanding of the history of photography and contemporary art practices.

VES 159 Anti-Aesthetic Anthropology: Sighting, Sounding, Sensing, Stilling
CourseID: 207825
Faculty:
Next Term Offered:

VES 165V Vertical Cinema
CourseID: 205411
Faculty: Karthik Pandian
Next Term Offered: 2021 Spring

The ever-increasing flexibility of video presentation technology creates the opportunity to reconsider cinema’s most deeply rooted conventions. In this course, students will create vertical videos. Drawing on a history of artists who have investigated aspect ratio, portraiture and the creation of new contexts for moving image, we will pursue a phenomenology of format through the creation of 9:16 work. The course will culminate in the erection of a temporary cinema house dedicated to vertical videos.

VES 173 Visual Music
CourseID: 110045
Faculty: Laura Frahm
Next Term Offered: 2020 Spring

A course that explores the history of visual music throughout the 20th century and across different media. Our topics will range from early avant-garde films and Disney animations to post-war art scenes and pioneers of electronic music to a survey of jukebox films and music videos. By bridging the gap between experimental and popular approaches to visual music, this course will provide a multi-layered history of the interrelations between film, video, animation, and music.

VES 181 Film Theory, Visual Thinking
CourseID: 114647
Faculty: Giuliana Bruno
Next Term Offered: 2020 Spring
How do moving images transform the way we think? Introduction to film theory aimed at interpreting the visual world, and developing skills to analyze films and media images. Survey of classical and contemporary film theory goes from turn-of-the-century scientific motion studies to the virtual movements of today. Considers theories of space, time, and motion, including Eisenstein's theory of montage and architecture. Treats visual technology and sensate space, the cultural history of the cinematic apparatus, the body and physical existence, affect and gender, and screen theory. Different theoretical positions guide us in understanding and reading films.

VES 182 Film Architectures: Seminar
CourseID: 119771
Faculty: Giuliana Bruno
Next Term Offered: 2019 Fall

What is our experience of architecture in cinema? Considering the relation of these two arts of space, we look at how film and architecture are linked in history on the "screen" of the modern age. Highlighting the interaction of modernity, urban culture and cinema, we explore the architecture of film in relation to the architectures of transit and the culture of travel. Emphasis on readings and case study analysis to pursue research projects and conduct presentations.

VES 193 Fortunes of a Genre: The Western
CourseID: 110037
Faculty: Tom Conley
Next Term Offered: 2020 Fall

Studies American westerns through appreciation of genre theory and history with emphasis on French reception. Includes films of Boetticher, Dwan, De Toth, Ford, Fuller, Hawks, Hellman, Lang, Mann, Ray, Vidor, Walsh, et al.

VES 205 Graduate Seminar in Curricular Development: What is Media?
CourseID: 205203
Faculty: Laura Frahm
Next Term Offered: 2020 Fall

A graduate seminar in curriculum development that explores the theoretical and historical underpinnings of media studies with an emphasis on media in art and visual culture. Graduate students will be collaborators in proposing and composing course syllabi for a new introductory lecture course "Introduction to Media Theory" to be offered within VES in the coming years. This course will be constructed around novel media-based assignments, and curricular preparation will include research and resource development on media-based scholarship.

VES 215 Critical Printing
Incorporating both studio and seminar instruction, this intensive course will explore printmaking's history, trace its particular forms of intelligence, and test its future potential. The class will meet for three hours of studio and two hours of seminar/discussion per week. Assignments will include weekly readings, a short scholarly paper, and two studio projects. For the first half of the semester, students will pursue a rigorous grounding in a particular historical technique (etching/intaglio); in the second half students will translate what they have learned to another medium, thus exploring printmaking as an expanded field of practice.

**VES 241 New Media Theory**

CourseID: 110046  
Faculty: Laura Frahm  
Next Term Offered: 2020 Fall

A graduate course that surveys new developments in media theory and provides an overview of advanced approaches to the study of media. We will look at different schools and streams of thought that productively expand and transform the established corpus of media theory, ranging from cultural technologies, media archaeology, and object studies to non-representational theory, actor network theory, and process philosophy. Two research projects will further advance our critical survey of new media theory.

**VES 279 Materiality, Visual Culture, and Media**

CourseID: 203315  
Faculty:  
Next Term Offered: 2020 Spring

What is the place of materiality in our visual age of rapidly changing materials and media? How is it fashioned in the arts, architecture and media? This seminar investigates a "material turn" in philosophy, art, media, visual and spatial culture. Topics include: actor-network theory, thing theory, the life of objects, the archive, the haptic and the affect, vibrant materialism, elemental philosophy, light and projection, and the immateriality of atmosphere.

**VES 283 Screens: Media Archaeology and Visual Arts Seminar**

CourseID: 108653  
Faculty: Giuliana Bruno  
Next Term Offered: 2019 Fall

How do screens function as interface between us and the world? What is the role of the screen in contemporary visual arts and media culture? The art of projection has traveled from film exhibition to art installation. With the interdisciplinary approach of visual
studies, we examine the history and archaeology of screen media, their cultural and aesthetic dimensions, from pre-cinematic exhibition to the post-medium condition. Considering the art of screening in the deep time of media, we explore the changing architecture of screen space, at the crossroads of science and art, museum and moving images.

VES 351HFB Film Study Center Non-Fiction Filmmaking Workshop
CourseID: 160681
Faculty: Lucien Castaing-Taylor
Next Term Offered: 2018 Spring

A graduate workshop for Film Study Center non-fiction film and video projects. Students must complete both parts of this course (parts A and B) within the same academic year in order to receive credit.
Women, Gender, and Sexuality, Studies of

WOMGEN 1127 Beyond the Sound Bite: Women, Gender, and Sexuality in The Daily News
CourseID: 108619
Faculty:
Next Term Offered:

We are bombarded by sound bites from all over the globe, moving at disorienting speeds, reorganizing our relationship to time and space with increasingly dystopic results. This course will focus on selected televisual and digital events in "real time" from September-December 2016. We will analyze the embedded bits of gender and sexuality always at work in the representations of those events. Topics include: politics, the environment, military adventures, and popular revolt in dialogue with important texts in WGS Studies.

WOMGEN 1426 The Sexual Life of Colonialism
CourseID: 212894
Faculty:
Next Term Offered:

Sexuality has long shaped racial and civilizational assessments of what it means to be modern. We will investigate the role of colonialism in racial imaginations of gender and sexuality and how these histories shape contemporary understandings of queer politics, rights, and resistance around the world. We will explore histories of sexual control, colonial and racial difference, and marginal sexualities in colonial and postcolonial spaces, including West Asia, South Asia, and Sub-Saharan Africa. The course will cover many forms of sexuality including interracial relationships between colonizer populations and the colonized, questions of sexual violence, queer and same-sex desires, sexual outcasts like prostitutes, and the politics of gender difference and trans individuals.