Recommended Courses: Spring 2016

Note: This list of Recommended Courses offered at UC Berkeley is based upon available information and is not intended to be comprehensive. To suggest changes or additions, please contact:

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Graduate courses:

NWMEDIA 200, 4 units
History and Theory of New Media
(Also TDPS 266)
A. De Kosnik

This graduate seminar is one of the core requirements for the Designated Emphasis in New Media, offered by the Berkeley Center for New Media. This course will provide participants with a foundation in new media studies (major works, authors, historical events, objects, and schools of thought), such that they will be able to compile reading lists for their qualifying exams, bibliographies for their dissertations, and syllabi for their courses on topics related to new media. It will develop participants' skills in analyzing new media texts and artifacts, articulating their insights in speech and writing, and developing individual new media research projects.

NWMEDIA C265, 2 units
(Also INFO C265)
Interface Aesthetics
Staff

This course will cover new interface metaphors beyond desktops (e.g., for mobile devices, computationally enhanced environments, tangible user interfaces) but will also cover visual design basics (e.g., color, layout, typography, iconography) so that we have systematic and critical understanding of aesthetically engaging interfaces. Students will get a hands-on learning experience on these topics through course projects, design

Critical Making will operationalize and critique the practice of “making” through both foundational literature and hands on studio culture. As hybrid practitioners, students will develop fluency in readily collaging and incorporating a variety of physical materials and protocols into their practice. With design research as a lens, students will envision and create future computational experiences that critically explore social and culturally relevant technological themes such as community, privacy, environment, education, economics, energy, food, biology, democracy, activism, healthcare, social justice, etc. While no previous technical knowledge is required to take this course, class projects will involve basic programing, electronic circuitry, and digital fabrication design. While tutorials and instruction will be provided, students will be expected to develop basic skills in each of these areas in order to complete the course projects. The class will alternate between lectures (BCNM Commons) and hands on studio (CITRIS Invention Lab) time. The course will result in a final public show of student work. Due to the hands-on nature of this course, we have a strict capacity limit. Please join the waitlist and come to the first class meeting.
critiques, and discussions, in addition to lectures and readings.

NWMEDIA 240-002, 4 units
Media Theory
N. Steimatsky

INFO 205-001, 3 units
Information Law and Policy
L. Harris

Law is one of a number of policies that mediates the tension between free flow and restrictions on the flow of information. This course introduces students to copyright and other forms of legal protection for databases, licensing of information, consumer protection, liability for insecure systems and defective information, privacy, and national and international information policy.

INFORMATION 216, 3 Units
Computer-Mediated Communication
C. Cheshire

This course covers the practical and theoretical issues associated with computer-mediated communication (CMC) systems (e.g., email, newsgroups, wikis, online games, etc.). We will focus on the analysis of CMC practices, the relationship between technology and behavior, and the design and implementation issues associated with constructing CMC systems. This course primarily takes a social scientific approach (including research from social psychology, economics, sociology, and communication).

INFO 218-001, 3 units
Concepts of Information
P. Duguid

As it's generally used, "information" is a collection of notions, rather than a single coherent concept. In this course, we'll examine conceptions of information based in information theory, philosophy, social science, economics, and history. Issues include: How compatible are these conceptions? can we talk about "information" in the abstract? What work do these various notions play in discussions of literacy, intellectual property, advertising, and the political process? And where does this leave "information studies" and "the information society)?

INFO 234, 3 Units
Information Technology Economics, Strategy, and Policy
Chuang, C.

Application of economic tools and principles, including game theory, industrial organization, information economics, and behavioral economics, to analyze business strategies and public policy issues surrounding information technologies and IT industries. Topics include: economics of information; economics of information goods, services, and platforms; strategic pricing; strategic complements and substitutes; competition models; network industry structure and telecommunications regulation; search and the "long tail"; network cascades and social epidemics; network formation and network structure; peer production and crowdsourcing; interdependent security and privacy.

INFO 247, 3 units
Information Visualization and Presentation
M. A. Hearst

Information visualization is widely used in media, business, and engineering disciplines to help people analyze and understand the information at hand. The industry has grown exponentially over the last few years. As a result there are more visualization tools available, which have in turn lowered the barrier of entry for creating visualizations.

This course provides an overview of the field of Information Visualization. It follows a hands-on approach. Readings and lectures will cover basic visualization principles and tools. Labs will focus on practical introductions to tools and frameworks. We will discuss existing visualizations and critique their effectiveness in conveying information. Finally, guest speakers from the industry will give an insight into how information visualization is used in practice.
INFO 296A-001, 3 units
Information Access
M. K. Buckland

The seminar explores selected advanced topics relating to 'digital libraries' with special emphasis on: Access to networked resources, use of two or more resources in conjunction, combined use of two or more retrieval systems (e.g. use of pre- or post-processing to enhance the capabilities), and the redesign of library services. It is expected that these issues will require attention to a number of questions about the nature of information retrieval processes, the feasibility of not-yet-conventional techniques, techniques of making different systems work together, social impact, and the reconsideration of past practices. More generally, the seminar is intended to provide a forum for advanced students in the School. Anyone interested in these topics is welcome to join in -- and to talk about their own work. This is a continuation of the previous Lynch/Buckland seminars.

INFO 296A-003, 3 units
Digital Activism
Q. Xiao

RHETORIC 230-002, 4 units
Artificial Intelligence and the Nature of the Human
D. Bates

This seminar will look closely at how the human has been reconfigured in the wake of computing and other technologies in the 20th and 21st centuries. We will engage with Artificial Intelligence from a number of perspectives, philosophical, technical, and historical, and we will use the term broadly, to include the discipline itself but also other ways that minds, brains, and machines have been linked in intelligent systems. The course will begin with two historical sessions on the origin of the problem of artificial thinking in Descartes, the Enlightenment, and the age of Charles Babbage. We will then focus on conceptualizing human and machine intelligence in the age of cybernetics and the computer. The seminar will emphasize primary source readings, alongside selected secondary sources and relevant theoretical texts. The core reading list will include these authors: R. Descartes, A. Turing, N. Weiner, J. von Neumann, W. McCulloch, G. Canguilhem, G. Simondon, D. Engelbart, G. Deleuze, R. Brooks, B. Stiegler, H. Dreyfus, D. Hofstadter, B. Latour.

Undergraduate courses:

NWMEDIA 190-001, 3 units
Electronic Literature
A. Saum-Pascual

Trying to bridge the gap between artists and critics, this exciting course engages in the critical making of digital literature together with the writing of scholarly essays on related topics. “Electronic Literature: A Critical Writing & Making Course” is a hybrid class that combines humanities literary analysis with the teaching of digital tools and resources through practical, hands-on work. Throughout the semester you will learn how to talk and write about E-Lit (e.g. hypertext narratives, kinetic poetry, automatic generators, social media fictions, chatterbots... and many, many more!), learning specific terminology and theoretical frameworks for its analysis. Further, you will also gain the skills to hack, remix, and build your own digital poems and stories in a collaborative workshop setting. Apart from working in the classroom and labs, final projects will be showcased in the electronic literature exhibit: No Legacy || Literatura Electrónica (Doe Library) from March to August 2016. Show the world what you can do!!

[No prior technical knowledge is necessary to take this class, but knowledge of Spanish is required. Non-Spanish majors/minors can opt to be evaluated in English, but instruction will be delivered in Spanish. Spanish majors and minors will complete their assignments in Spanish]

ART W23AC, 4 units
Data Arts
G. Niemeyer

Can we measure everything? What is the role of privacy? Can we count beauty? Is data always fair? This course explores participation as the
foundation of online citizenship. Participation is based on data literacy and community awareness. Through online assignments, peer reviews and video chats, students form communities of explorers and innovators who challenge data culture through creative interventions including surveys, visualization, animation, video, interaction design, music and other forms of digital expression. Assignments are based on readings about media theory, abstraction, interactivity, design theory, archives, performance, identity, privacy, automation, aggregation, networking, diffusion, diffraction and subversion.

**ART 100-001, 4 units**
Collaborative Innovation
S. Syjuco

In this hands-on, project-based class, students will experience group creativity and team-based design by using techniques from across the disciplines of business, theatre, design, and art practice. They will leverage problem framing and solving techniques derived from critical thinking, systems thinking, and creative problem solving (popularly known today as design thinking). The course is grounded in a brief weekly lecture that sets out the theoretical, historical, and cultural contexts for particular innovation practices, but the majority of the class involves hands-on studio-based learning guided by an interdisciplinary team of teachers leading small group collaborative projects.

**ART 178-001, 4 units**
Game Design Methods
G. Niemeyer

This course offers an introduction to game design and game studies. Game studies has five core elements: the study of games as transmitters of culture, the study of play and interactivity, the study of games as symbolic systems; the study of games as artifacts; and methods for creating games. We will study these core elements through play, play tests, play analysis, and comparative studies. Our reading list includes classic game studies theory and texts which support game design methods. After weekly writing and design exercises, our coursework will culminate in the design and evaluation of an original code-based game with a tangible interface.

**COMPSCI 10-001, 4 units**
The Beauty and Joy of Computing
Staff

This course is an introduction to the beauty and joy of computing, including the history, social implications, great principles, and future of computing. Beautiful applications that have changed the way we look at the world, how computing empowers discovery and progress in other fields, and the relevance of computing to the student and society will be emphasized. Students will learn the joy of programming a computer using a friendly, graphical language, and will complete a substantial team programming project related to their interests.

**COMPSCI 160, 4 units**
User Interface Design and Development
E. Paulos

This course looks at the design, implementation, and evaluation of user interfaces. It focuses on user-centered design and task analytics, conceptual models and interface metaphors, usability inspection and evaluation methods. We will also perform analysis of user study data, input methods (keyboard, pointing, touch, tangible) and input models. The course will investigate visual design principles, interface prototyping and implementation methodologies and tools. Students will develop a user interface for a specific task and target user group in teams.

**COMPSCI 184-001, 4 units**
Foundations of Computer Graphics
Y. Ng

This course is an introduction to the foundations of 3-dimensional computer graphics. Topics covered include 2D and 3D transformations, interactive 3D graphics programming with OpenGL, shading and lighting models, geometric modeling using Bézier and B-Spline curves, computer graphics rendering including ray tracing and global illumination, signal processing for anti-aliasing and texture mapping, and animation and inverse kinematics. There will be an emphasis on both the mathematical and geometric aspects of graphics, as well as the ability to write complete 3D graphics programs.
**COMPSCI 188-001, 4 units**  
*Introduction to Artificial Intelligence*  
P. Abbeel

Basic ideas and techniques underlying the design of intelligent computer systems. Topics include heuristic search, problem solving, game playing, knowledge representation, logical inference, planning, reasoning under uncertainty, expert systems, learning, perception, language understanding.

**COMPSCI 195 1, 1 unit**  
*Social Implications of Computer Technology*  
J. Denero

Topics include electronic community; the changing nature of work; technological risks; the information economy; intellectual property; privacy; artificial intelligence and the sense of self; pornography and censorship; professional ethics. Students will lead discussions on additional topics.

**COMPSCI 260A, 4 units**  
*User Interface Design and Development*  
E. Paulos

The design, implementation, and evaluation of user interfaces. User-centered design and task analysis. Conceptual models and interface metaphors. Usability inspection and evaluation methods. Analysis of user study data. Input methods (keyboard, pointing, touch, tangible) and input models. Visual design principles. Interface prototyping and implementation methodologies and tools. Students will develop a user interface for a specific task and target user group in teams.

**ETH STD 103E, 4 units**  
*Racialization, Gender, and Popular Culture*  
Staff

This course addresses a key concern of our digital age, the human/machine analytic, through the lens of race, gender, and sexuality. We will investigate discourses of mechanization and racialization, focusing on how technology and racialization intertwine. Specifically, we will examine the representational processes of making and unmaking human, machine, and animal demarcations within the context of empire. Additionally, our syllabus includes creative works by writers and artists of color who remap the boundaries of the human, robot, and the inhuman.

**IEOR 170-001, 3 units**  
*Industrial Design and Human Factors*  
K. Y. Goldberg

This course surveys topics related to the design of products and interfaces ranging from alarm clocks, cell phones, and dashboards to logos, presentations, and web sites. Design of such systems requires familiarity with human factors and ergonomics, including the physics and perception of color, sound, and touch, as well as familiarity with case studies and contemporary practices in interface design and usability testing. Students will solve a series of design problems individually and in teams.

**INFO C167, 4 Units**  
*Virtual Communities/Social Media*  
S. Goulet

This course covers the practical and theoretical issues associated with computer-mediated communication (CMC) systems (e.g., email, newsgroups, wikis, online games, etc.). We will focus on the analysis of CMC practices, the relationship between technology and behavior, and the design and implementation issues associated with constructing CMC systems. This course primarily takes a social scientific approach (including research from social psychology, economics, sociology, and communication)

**L&S 25, 3 units**  
*Thinking Through Art and Design @Berkeley*  
S. Jackson

This course introduces students to key vocabularies, forms, and histories from the many arts and design disciplines represented at UC Berkeley. It is conceived each year around a central theme that responds to significant works and events on the campus, providing an introduction to the many art and design resources available to students on campus. Students will compare practices from across the fields of visual art, film,
dance, theater, music, architecture, graphic design, new media, and creative writing, and explore how different artists respond formally to the central themes of the course, considering how similar questions and arguments are differently addressed in visual, material, embodied, sonic, spatial, and linguistic forms.

**MUSIC 29, 4 units**  
**Music Now**  
**Staff**

This course explores the basic materials and models that set the boundaries for various present-day musical experiences. Students are exposed to terminology and modes of engagement with the aim of inspiring new paradigms of listening (e.g., listening to silence, noise, space, and timbre). Composers and musicians of today continue to explore new ways of defining and organizing sounds into music. The course focuses on the most adventurous music of our time, but the concepts learned can be applied to any style of music. The course is designed to enrich and deepen the students' musical abilities through direct involvement with musical materials. Direct engagement through listening and participatory learning is accomplished in part with software created at the Center for New Music and Audio Technologies. The course does not require students to be able to read music nor to own a personal computer.

**SOCIOL 166, 4 units**  
**Society and Technology**  
**E. Kalelostuvali**

This course studies the interaction between society and technologies in a comparative and multicultural perspective. Some topics covered include the relationship between technology and human society; technology, culture and values; technology in the new global economy; development and inequality; electronic democracy; how technology has transformed work and employment; and the challenges of technological progress and the role that society plays in addressing these challenges.

**THEATER 177, 4 units**  
**Sound Design and Media Theater**  
**A. De Kosnik**

In this course, students will learn foundational concepts and skills for designing sound for stage productions and video works. Using industry standard software, students will construct sound cues and soundtracks in a variety of genres (sound-only, sound-to-video, and sound-for-performance). Students will be exposed to the writings and works of prominent professional sound designers and sound theorists, and will practice receiving and offering critiques on their own and their peers’ work. A theater supervisor will speak to the class to discuss the role of sound and the sound designer in the process of producing live theatrical performance.

**FOR MORE INFORMATION or to suggest changes or additions, please contact**  
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