Recommended Courses: Spring 2017

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: pages 1-2
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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 203, 4 units
Critical Making: Materials, Protocols, and Culture
E. Paulos

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 programming, 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.

NWMEDIA C265, 2 units
(Also INFO C265)
Interface Aesthetics
K. Ryokai

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 critiques, and discussions, in addition to lectures and readings.
INFO 205-001, 3 units
Information Law and Policy
Staff

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, 3 units
Concepts of Information
P. Duguid & G. Nunberg

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, J.

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-003, 3 units
Digital Activism
Q. Xiao
Undergraduate courses:

**NWMEDIA 190-004, 4 units**  
Advanced Digital Animation  
D. D. Garcia

This year-long course is targeted at students with backgrounds in art, film, or computer science who intend to work in the visual effects, animation, and entertainment industries. It will build upon students' knowledge from related courses to guide them through the digital animation production process in an environment similar to industry production houses. We will survey many advanced topics and allow students to focus on a subset they find interesting while collaborating with their team to develop a 30-second animation piece. The course will be enhanced with industry guest lectures. In the spring, topics will include visual art design, sound and foley design, visual effects, shading, lighting, rendering, optimization, and advanced image composition.

**ART 100-001, 4 units**  
Collaborative Innovation  
Staff

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.

**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  
Staff

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  
A. Dragan

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 unit**  
Social Implications of Computer Technology  
Staff

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  
J. Canny

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.

**ENV DES 1-001, 3 units**  
People and Environmental Design  
A. Stein

Environmental design involves the study of built, natural, global, and virtual environments. Various forms of practice include architecture, planning, urban design, and social and environmental activism. This course is a survey of relationships between people and environments, designed and non-designed, with an introduction to the literature and professional practices. Open to all undergraduate students in the College of Environmental Design as well as other colleges and majors.

**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 C103, 4 Units**  
History of Information  
G. Nunberg, P. Duguid

This course explores the history of information and associated technologies, uncovering why we think of ours as "the information age." We will select moments in the evolution of production, recording, and storage from the earliest writing systems to the world of Short Message Service (SMS) and blogs. In every instance, we'll be concerned with both what and when and how and why, and we will keep returning to the question of technological determinism: how do technological developments affect society and vice versa?

**INFO C167, 4 Units**  
Virtual Communities/Social Media  
Staff

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  
Staff
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.

**MUSIC 158B, 4 units**
**Situated Instrument Design for Musical Expression**
**R. Gottfried**

The practice and theory of contextual instrument design for use in musical expression is explored. Students create new instruments and performance environments using a variety of physical interaction paradigms, programming practices, and musical processes emerging from the UC Berkeley Center for New Music and Audio Technologies (CNMAT). Building on the methodologies established in Music 158A, the course develops aesthetic, analytic and technical skills through discussion, empirical study, and collaborative engagement. With a balance of artistic and technical concerns, participants deepen understanding of the creative process, demonstrating the results through class installation and public performance.

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

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**
**BCNM Program Officer**