

# School of Information

## Overview

The School of Information is UC Berkeley's newest professional school. Located in the center of campus, the I School is a graduate research and education community committed to expanding access to information and to improving its usability, reliability, and credibility while preserving security and privacy. This requires the insights of scholars from diverse fields — information and computer science, design, social sciences, management, law, and policy.

Based in UC Berkeley's historic South Hall, roughly 125 on-campus graduate students, 500+ online graduate students (<https://www.ischool.berkeley.edu/people?role=124>), and 26 faculty members (<http://www.ischool.berkeley.edu/people/faculty>) form a small, multi-disciplinary collective of scholars and practitioners.

The I School offers three professional master's degrees and an academic doctoral degree. The MIMS program (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-management-systems>) trains students for careers as information professionals and emphasizes small classes and project-based learning. The MIDS program (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-data-science>) trains data scientists to manage and analyze the coming onslaught of big data, in a unique high-touch online degree. The MICS program (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-cybersecurity>) trains students for careers in cybersecurity by providing them with skills and contextual knowledge to assume leadership positions in private sector technology companies as well as government and military organizations. The PhD program (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-management-systems>) equips scholars to develop solutions and shape policies that influence how people seek, use, and share information.

## History

The UC Berkeley School of Information was created in 1994 to address one of society's most compelling challenges: enabling people to create, find, manipulate, share, store, and use information in myriad forms.

Originally known as the School of Information Management and Systems (SIMS), this research-and-learning enterprise became the School of Information in 2006. The I School traces its roots to the 1920s, when UC Berkeley founded its School of Librarianship, ensuring universal access to information and educating "knowledge" professionals well before the age of the Internet. In 1976 the School of Librarianship became the School of Library and Information Studies.

The I School proudly carries forward its library school heritage through its alumni, and through an enduring commitment to making information accessible, useful, and relevant.

## Undergraduate Program

There is no undergraduate program offered by the School of Information.

## Graduate Programs

Information and Cybersecurity (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-cybersecurity>): MICS

Information and Data Science (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-data-science>): MIDS  
Information Management and Systems (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-management-systems>): MIMS

Information Management and Systems (<http://guide.berkeley.edu/archive/2019-20/graduate/degree-programs/information-management-systems-phd>): PhD

## Information

Expand all course descriptions [+] Collapse all course descriptions [-]

### INFO C8 Foundations of Data Science 4 Units

Terms offered: Fall 2020, Summer 2020 8 Week Session, Spring 2020, Fall 2019, Spring 2019

Foundations of data science from three perspectives: inferential thinking, computational thinking, and real-world relevance. Given data arising from some real-world phenomenon, how does one analyze that data so as to understand that phenomenon? The course teaches critical concepts and skills in computer programming and statistical inference, in conjunction with hands-on analysis of real-world datasets, including economic data, document collections, geographical data, and social networks. It delves into social and legal issues surrounding data analysis, including issues of privacy and data ownership.

Foundations of Data Science: Read More [+]

#### Rules & Requirements

**Prerequisites:** This course may be taken on its own, but students are encouraged to take it concurrently with a data science connector course (numbered 88 in a range of departments)

**Credit Restrictions:** Students will receive no credit for DATA C8\COMPSCI C8\INFO C8\STAT C8 after completing COMPSCI 8, or DATA 8. A deficient grade in DATA C8\COMPSCI C8\INFO C8\STAT C8 may be removed by taking COMPSCI 8, COMPSCI 8, or DATA 8.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 3-3 hours of lecture and 2-2 hours of laboratory per week

**Summer:** 8 weeks - 6 hours of lecture and 4 hours of laboratory per week

#### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Formerly known as:** Computer Science C8/Statistics C8/Information C8

**Also listed as:** COMPSCI C8/DATA C8/STAT C8

Foundations of Data Science: Read Less [-]

## INFO W18 Python Fundamentals for Data Science 4 Units

Terms offered: Summer 2020 10 Week Session, Summer 2019 10 Week Session, Summer 2018 10 Week Session

A fast-paced introduction to the Python programming language geared toward students of data science. The course introduces a range of Python objects and control structures, then builds on these with classes on object-oriented programming. The last section of the course is devoted to Python's system of packages for data analysis. Students will gain experience in different styles of programming, including scripting, object-oriented design, test-driven design, and functional programming. Aside from Python, the course also covers use of the command line, coding and presentation with Jupyter notebooks, and source control with Git and GitHub.

Python Fundamentals for Data Science: Read More [+]

### Rules & Requirements

**Prerequisites:** Previous experience in a general-purpose programming language is strongly recommended

### Hours & Format

**Summer:** 10 weeks - 6 hours of web-based lecture per week

**Online:** This is an online course.

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Laskowski

Python Fundamentals for Data Science: Read Less [-]

## INFO 88A Data and Ethics 2 Units

Terms offered: Spring 2017, Fall 2016, Spring 2016

This course provides an introduction to critical and ethical issues surrounding data and society. It blends social and historical perspectives on data with ethics, policy, and case examples to help students develop a workable understanding of current ethical issues in data science. Ethical and policy-related concepts addressed include: research ethics; privacy and surveillance; data and discrimination; and the "black box" of algorithms. Importantly, these issues will be addressed throughout the lifecycle of data--from collection to storage to analysis and application. Course assignments will emphasize researcher and practitioner reflexivity, allowing students to explore their own social and ethical commitments.

Data and Ethics: Read More [+]

### Objectives & Outcomes

**Student Learning Outcomes:** Upon completion of the course, students will be able to critically assess their own work and education in the area of data science.

Upon completion of the course, students will be able to identify and articulate basic ethical and policy-based frameworks.

Upon completion of the course, students will understand the relationship between data, ethics, and society

### Rules & Requirements

**Prerequisites:** This course is meant to be taken concurrently with Computer Science C8/Statistics C8/Information C8. Students may take more than one 88 (data science connector) course if they wish, ideally concurrent with or after having taken the C8 course

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

Data and Ethics: Read Less [-]

## INFO 98 Directed Group Study for Lower Division Undergraduates 1 - 4 Units

Terms offered: Fall 2019, Spring 2019, Fall 2018

Lectures and small group discussions focusing on topics of interest, varying from semester to semester.

Directed Group Study for Lower Division Undergraduates: [Read More](#) [+]

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of directed group study per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

Directed Group Study for Lower Division Undergraduates: [Read Less](#) [-]

## INFO 103 History of Information 4 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

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?

History of Information: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Upper level undergraduates

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructors:** Duguid, Nunberg

**Formerly known as:** Information C103/Cognitive Science C103/History C192/Media Studies C104C

History of Information: [Read Less](#) [-]

## INFO 114 User Experience Research 3 Units

Terms offered: Spring 2020, Spring 2019

Methods and concepts of creating design requirements and evaluating prototypes and existing systems. Emphasis on computer-based systems, including mobile system and ubiquitous computing, but may be suitable for students interested in other domains of design for end-users. Includes quantitative and qualitative methods as applied to design, usually for short-term term studies intended to provide guidance for designers.

User Experience Research: [Read More](#) [+]

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for 114 after taking 214.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

**Summer:** 6 weeks - 7.5 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

User Experience Research: [Read Less](#) [-]

## INFO 134 Information Technology Economics, Strategy, and Policy 3 Units

Terms offered: Spring 2019

This course covers the 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 (IT) 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. Information Technology Economics, Strategy, and Policy: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Senior standing

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Chuang

Information Technology Economics, Strategy, and Policy: [Read Less](#) [-]

## INFO 154 Data Mining and Analytics 3 Units

Terms offered: Spring 2019

This course introduces students to practical fundamentals of data mining and machine learning with just enough theory to aid intuition building. The course is project-oriented, with a project beginning in class every week and to be completed outside of class by the following week, or two weeks for longer assignments. The in-class portion of the project is meant to be collaborative, with the instructor working closely with groups to understand the learning objectives and help them work through any logistics that may be slowing them down. Weekly lectures introduce the concepts and algorithms which will be used in the upcoming project. Students leave the class with hands-on data mining and data engineering skills they can confidently apply.

Data Mining and Analytics: [Read More](#) [+]

### Objectives & Outcomes

**Student Learning Outcomes:** Conduct manual feature engineering (from domain knowledge) vs. machine induced featurization (representation learning). Develop intuition in various machine learning classification algorithms (e.g. decision trees, neural networks, recurrent neural networks, support vector machines), and clustering techniques (e.g. k-means, spectral, skip-gram). Foster critical thinking about real world actionability from analytics. Provide an overview of issues in research and practice that will shape the complexion of data science across a variety of domains.

### Rules & Requirements

**Prerequisites:** Knowledge of basic Python programming

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Pardos

Data Mining and Analytics: [Read Less](#) [-]

## INFO 159 Natural Language Processing 4 Units

Terms offered: Spring 2020, Fall 2018, Fall 2017

This course introduces students to natural language processing and exposes them to the variety of methods available for reasoning about text in computational systems. NLP is deeply interdisciplinary, drawing on both linguistics and computer science, and helps drive much contemporary work in text analysis (as used in computational social science, the digital humanities, and computational journalism). We will focus on major algorithms used in NLP for various applications (part-of-speech tagging, parsing, coreference resolution, machine translation) and on the linguistic phenomena those algorithms attempt to model. Students will implement algorithms and create linguistically annotated data on which those algorithms depend.

Natural Language Processing: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Computer Science 61B; Computer Science 70, Computer Science C100, Math 55, Statistics C100, Statistics 134 or Statistics 140; strong programming skills

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Bamman

Natural Language Processing: [Read Less](#) [-]

## INFO C167 Virtual Communities/Social Media 4 Units

Terms offered: Spring 2019, Fall 2018, Spring 2018

With the advent of virtual communities and online social networks, old questions about the meaning of human social behavior have taken on renewed significance. Using a variety of online social media simultaneously, and drawing upon theoretical literature in a variety of disciplines, this course delves into discourse about community across disciplines. This course will enable students to establish both theoretical and experiential foundations for making decisions and judgments regarding the relations between mediated communication and human community.

Virtual Communities/Social Media: [Read More](#) [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam not required.

**Also listed as:** SOCIOL C167

Virtual Communities/Social Media: [Read Less](#) [-]

## INFO 188 Behind the Data: Humans and Values 3 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

This course blends social and historical perspectives on data with ethics, law, policy, and case examples to help students understand current ethical and legal issues in data science and machine learning. Legal, ethical, and policy-related concepts addressed include: research ethics; privacy and surveillance; bias and discrimination; and oversight and accountability. These issues will be addressed throughout the lifecycle of data--from collection to storage to analysis and application. The course emphasizes strategies, processes, and tools for attending to ethical and legal issues in data science work. Course assignments emphasize researcher and practitioner reflexivity, allowing students to explore their own social and ethical commitments.

Behind the Data: Humans and Values: Read More [\[+\]](#)

### Objectives & Outcomes

**Student Learning Outcomes:** Critically assess one's own work and education in data science

Identify and articulate basic ethical and policy frameworks

Understand the relationship between one's own work and ethical frameworks and legal obligations

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Mulligan

Behind the Data: Humans and Values: Read Less [\[-\]](#)

## INFO 190 Special Topics in Information 1 - 3 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

A seminar focusing on topics of current interest. Topics will vary. A seminar paper will be required. Open to students from other departments.

Special Topics in Information: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit when topic changes.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-3 hours of seminar per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

Special Topics in Information: Read Less [\[-\]](#)

## INFO 198 Directed Group Study for Advanced Undergraduates 1 - 4 Units

Terms offered: Spring 2015, Fall 2014, Spring 2014

Directed Group Study for Advanced Undergraduates: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of directed group study per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

Directed Group Study for Advanced Undergraduates: Read Less [\[-\]](#)

## INFO 199 Individual Study 1 - 4 Units

Terms offered: Spring 2016, Fall 2015, Spring 2015

Individual study of topics in information management and systems under faculty supervision.

Individual Study: Read More [\[+\]](#)

### Rules & Requirements

**Credit Restrictions:** Enrollment is restricted; see the Introduction to Courses and Curricula section of this catalog.

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of independent study per week

### Additional Details

**Subject/Course Level:** Information/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

Individual Study: Read Less [\[-\]](#)

## INFO 201 Research Design and Applications for Data and Analysis 3 Units

Terms offered: Fall 2020, Spring 2020

Introduces the data sciences landscape, with a particular focus on learning data science techniques to uncover and answer the questions students will encounter in industry. Lectures, readings, discussions, and assignments will teach how to apply disciplined, creative methods to ask better questions, gather data, interpret results, and convey findings to various audiences. The emphasis throughout is on making practical contributions to real decisions that organizations will and should make. Course must be taken for a letter grade to fulfill degree requirements. Research Design and Applications for Data and Analysis: Read More [\[+\]](#)

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of lecture and 1.5 hours of web-based lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Research Design and Applications for Data and Analysis: Read Less [\[-\]](#)

## INFO 202 Information Organization and Retrieval 2 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

This course introduces the intellectual foundations of information organization and retrieval: conceptual modeling, semantic representation, vocabulary and metadata design, classification, and standardization, as well as information retrieval practices, technology, and applications, including computational processes for analyzing information in both textual and non-textual formats.

Information Organization and Retrieval: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Students should have a working knowledge of the Python programming language

### Hours & Format

**Fall and/or spring:** 8 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Bamman

Information Organization and Retrieval: Read Less [\[-\]](#)

## INFO 203 Social Issues of Information 2 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

This course is designed to be an introduction to the topics and issues associated with information and information technology and its role in society. Throughout the semester we will consider both the consequence and impact of technologies on social groups and on social interaction and how society defines and shapes the technologies that are produced. Students will be exposed to a broad range of applied and practical problems, theoretical issues, as well as methods used in social scientific analysis. The four sections of the course are: 1) theories of technology in society, 2) information technology in workplaces 3) automation vs. humans, and 4) networked sociability.

Social Issues of Information: Read More [\[+\]](#)

### Hours & Format

**Fall and/or spring:** 8 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Burrell

Social Issues of Information: Read Less [\[-\]](#)

## INFO 205 Information Law and Policy 2 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

This course uses examples from various commercial domains—retail, health, credit, entertainment, social media, and biosensing/quantified self—to explore legal and ethical issues including freedom of expression, privacy, research ethics, consumer protection, information and cybersecurity, and copyright. The class emphasizes how existing legal and policy frameworks constrain, inform, and enable the architecture, interfaces, data practices, and consumer facing policies and documentation of such offerings; and, fosters reflection on the ethical impact of information and communication technologies and the role of information professionals in legal and ethical work.

Information Law and Policy: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Consent of instructor required for nonmajors

### Hours & Format

**Fall and/or spring:** 7 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Mulligan

Information Law and Policy: Read Less [\[-\]](#)

## INFO 206A Introduction to Programming and Computation 2 Units

Terms offered: Fall 2020, Fall 2019

This course introduces the basics of computer programming that are essential for those interested in computer science, data science, and information management. Students will write their own interactive programs (in Python) to analyze data, process text, draw graphics, manipulate images, and simulate physical systems. Problem decomposition, program efficiency, and good programming style are emphasized throughout the course.

Introduction to Programming and Computation: Read More [a+]

### Hours & Format

**Fall and/or spring:** 7.5 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Farid

Introduction to Programming and Computation: Read Less [-]

## INFO 206B Introduction to Data Structures and Analytics 2 Units

Terms offered: Fall 2020, Fall 2019

The ability to represent, manipulate, and analyze structured data sets is foundational to the modern practice of data science. This course introduces students to the fundamentals of data structures and data analysis (in Python). Best practices for writing code are emphasized throughout the course. This course forms the second half of a sequence that begins with INFO 106. It may also be taken as a stand-alone course by any student that has sufficient Python experience.

Introduction to Data Structures and Analytics: Read More [a+]

### Rules & Requirements

**Prerequisites:** INFO 206A or equivalent, or permission of instructor

**Credit Restrictions:** Course must be completed for a letter grade to fulfill degree requirements.

### Hours & Format

**Fall and/or spring:** 7.5 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Farid

**Formerly known as:** Information 206

Introduction to Data Structures and Analytics: Read Less [-]

## INFO 213 User Interface Design and Development 4 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

User interface design and human-computer interaction. Examination of alternative design. Tools and methods for design and development. Human computer interaction. Methods for measuring and evaluating interface quality.

User Interface Design and Development: Read More [a+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

User Interface Design and Development: Read Less [-]

## INFO 214 User Experience Research 3 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

This course addresses concepts and methods of user experience research, from understanding and identifying needs, to evaluating concepts and designs, to assessing the usability of products and solutions. We emphasize methods of collecting and interpreting qualitative data about user activities, working both individually and in teams, and translating them into design decisions. Students gain hands-on practice with observation, interview, survey, focus groups, and expert review. Team activities and group work are required during class and for most assignments. Additional topics include research in enterprise, consulting, and startup organizations, lean/agile techniques, mobile research approaches, and strategies for communicating findings.

User Experience Research: Read More [a+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

User Experience Research: Read Less [-]

## INFO 217A Human-Computer Interaction (HCI) Research 3 Units

Terms offered: Fall 2020

This course is a graduate-level introduction to HCI research. Students will learn to conduct original HCI research by reading and discussing research papers while collaborating on a semester-long research project. Each week the class will focus on a theme of HCI research and review foundational and cutting-edge research relevant to that theme. The class will focus on the following areas of HCI research: ubiquitous computing, social computing, critical theory, and human-AI interaction. In addition to these research topics the class will introduce common qualitative and quantitative methodologies in HCI research. Human-Computer Interaction (HCI) Research: Read More [\[+\]](#)

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Salehi

Human-Computer Interaction (HCI) Research: Read Less [\[-\]](#)

## INFO 218 Concepts of Information 3 Units

Terms offered: Spring 2020, Spring 2018, Spring 2016

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"?

Concepts of Information: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Graduate standing

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructors:** Duguid, Nunberg

Concepts of Information: Read Less [\[-\]](#)

## INFO 225 Managing in Information-Intensive Companies 3 Units

Terms offered: Fall 2020, Fall 2018, Fall 2017

This course focuses on managing people in information-intensive firms and industries, such as information technology industries. Topics include managing knowledge workers; managing teams (including virtual ones); collaborating across disparate units, giving and receiving feedback; managing the innovation process (including in eco-systems); managing through networks; and managing when using communication tools (e.g., tele-presence). The course relies heavily on cases as a pedagogical form.

Managing in Information-Intensive Companies: Read More [\[+\]](#)

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Hansen

Managing in Information-Intensive Companies: Read Less [\[-\]](#)

## INFO 232 Applied Behavioral Economics for Information Systems 3 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

"Behavioral Economics" is one important perspective on how information impacts human behavior. The goal of this class is to deploy a few important theories about the relationship between information and behavior, into practical settings — emphasizing the design of experiments that can now be incorporated into many 'applications' in day-to-day life. Truly 'smart systems' will have built into them precise, testable propositions about how human behavior can be modified by what the systems tell us and do for us. So let's design these experiments into our systems from the ground up! This class develops a theoretically informed, practical point of view on how to do that more effectively and with greater impact.

Applied Behavioral Economics for Information Systems: Read More [\[+\]](#)

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for Information 232 after completing Information 290 sect 6 (Fall 13).

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Weber

Applied Behavioral Economics for Information Systems: Read Less [\[-\]](#)

## INFO 233 Social Psychology and Information Technology 3 Units

Terms offered: Spring 2020, Spring 2019

Discusses application of social psychological theory and research to information technologies and systems; we focus on sociological social psychology, which largely focuses on group processes, networks, and interpersonal relationships. Information technologies considered include software systems used on the internet such as social networks, email, and social games, as well as specific hardware technologies such as mobile devices, computers, wearables, and virtual/augmented reality devices. We examine human communication practices, through the lens of different social psychology theories, including: symbolic interaction, identity theories, social exchange theory, status construction theory, and social networks and social structure theory.

Social Psychology and Information Technology: [Read More](#) [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Cheshire

Social Psychology and Information Technology: [Read Less](#) [-]

## INFO 234 Information Technology Economics, Strategy, and Policy 3 Units

Terms offered: Spring 2019, Spring 2018, Spring 2017

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.

Information Technology Economics, Strategy, and Policy: [Read More](#) [+]

### Objectives & Outcomes

#### Course Objectives:

INFO234 is a graduate level course in the school's topical area of Information Economics and Policy, and can be taken by the masters and doctoral students to satisfy their respective degree requirements.

#### Student Learning Outcomes:

Students will learn to identify, describe, and analyze business strategies and public policy issues of particular relevance to the information industry. Students will learn and apply economic tools and principles to analyze phenomena such as platform competition, social epidemics, and peer production, and current policy issues such as network neutrality and information privacy. Through integrated assignments and project work, the students will apply the theoretical concepts and analytic tools learned in lectures and readings to develop and evaluate a business model, product, or service of their choosing, e.g., a start-up idea they are pursuing.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Chuang

Information Technology Economics, Strategy, and Policy: [Read Less](#) [-]

## INFO 236 Privacy Law for Technologists 3 Units

Terms offered: Spring 2019

Information privacy law profoundly shapes how internet-enabled services work. This course translates regulatory demands flowing from the growing field of privacy and security law to those who are creating interesting and transformative internet-enabled services. We focus both on formal requirements of the law and on how technology might accommodate regulatory demands and goals. Topics include: Computer Fraud and Abuse Act, unfair/deceptive trade practices, Electronic Communications Privacy Act, children's privacy, big data and discrimination, Digital Millennium Copyright Act, intermediary liability issues, ediscovery and data retention, anti-marketing laws, and technical requirements of the European Union-United States Privacy Shield.

Privacy Law for Technologists: [Read More](#) [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Hoofnagle

Privacy Law for Technologists: [Read Less](#) [-]

## INFO 239 Technology and Delegation 3 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

The introduction of technology increasingly delegates responsibility to technical actors, often reducing traditional forms of transparency and challenging traditional methods for accountability. This course explores the interaction between technical design and values including: privacy, accessibility, fairness, and freedom of expression. We will draw on literature from design, science and technology studies, computer science, law, and ethics, as well as primary sources in policy, standards and source code. We will investigate approaches to identifying the value implications of technical designs and use methods and tools for intentionally building in values at the outset.

Technology and Delegation: [Read More](#) [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Mulligan

Technology and Delegation: [Read Less](#) [-]

## INFO 247 Information Visualization and Presentation 4 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

The design and presentation of digital information. Use of graphics, animation, sound, visualization software, and hypermedia in presenting information to the user. Methods of presenting complex information to enhance comprehension and analysis. Incorporation of visualization techniques into human-computer interfaces. Course must be completed for a letter grade to fulfill degree requirements.

Information Visualization and Presentation: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Information 206, Computer Science 160, or knowledge of programming and data structures with consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of laboratory per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Hearst

Information Visualization and Presentation: [Read Less](#) [-]

## INFO 251 Applied Machine Learning 4 Units

Terms offered: Spring 2020, Fall 2018, Fall 2017

Provides a theoretical and practical introduction to modern techniques in applied machine learning. Covers key concepts in supervised and unsupervised machine learning, including the design of machine learning experiments, algorithms for prediction and inference, optimization, and evaluation. Students will learn functional, procedural, and statistical programming techniques for working with real-world data.

Applied Machine Learning: [Read More](#) [+]

### Objectives & Outcomes

#### Student Learning Outcomes: •

Effectively design, execute, and critique experimental and non-experimental methods from statistics, machine learning, and econometrics.

- Implement basic algorithms on structured and unstructured data, and evaluate the performance of these algorithms on a variety of real-world datasets.
- Understand the difference between causal and non-causal relationships, and which situations and methods are appropriate for both forms of analysis.
- Understand the principles, advantages, and disadvantages of different algorithms for supervised and unsupervised machine learning.

### Rules & Requirements

**Prerequisites:** Info 206, or equivalent course in Python programming; Info 271B, or equivalent graduate-level course in statistics or econometrics; or permission of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Blumenstock

Applied Machine Learning: [Read Less](#) [-]

## INFO 253A Front-End Web Architecture 3 Units

Terms offered: Fall 2020

This course is a survey of technologies that power the user interfaces of web applications on a variety of devices today, including desktop, mobile, and tablet devices. This course will delve into some of the core Front-End languages and frameworks (HTML/CSS/JS/React/Redux), as well as the underlying technologies enable web applications (HTTP, URI, JSON).

The goal of this course is to provide an overview of the technical issues surrounding user interfaces powered by the web today, and to provide a solid and comprehensive perspective of the Web's constantly evolving landscape.

Front-End Web Architecture: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Introductory programming

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Formerly known as:** Information 253

Front-End Web Architecture: [Read Less](#) [-]

## INFO 253B Back-End Web Architecture 3 Units

Terms offered: Spring 2020

This course is a survey of web technologies that are used to build back-end systems that enable rich web applications. Utilizing technologies such as Python, Flask, Docker, RDBMS/NoSQL databases, and Spark, this class aims to cover the foundational concepts that drive the web today. This class focuses on building APIs using micro-services that power everything from content management systems to data engineering pipelines that provide insights by processing large amounts of data.

The goal of this course is to provide an overview of the technical issues surrounding back-end systems today, and to provide a solid and comprehensive perspective of the web's constantly evolving landscape.

Back-End Web Architecture: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Introductory programming

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of lecture and 1.5 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Back-End Web Architecture: [Read Less](#) [-]

## INFO 254 Data Mining and Analytics 3 Units

Terms offered: Fall 2020, Fall 2019, Spring 2019

This course introduces students to practical fundamentals of data mining and machine learning with just enough theory to aid intuition building. The course is project-oriented, with a project beginning in class every week and to be completed outside of class by the following week, or two weeks for longer assignments. The in-class portion of the project is meant to be collaborative, with the instructor working closely with groups to understand the learning objectives and help them work through any logistics that may be slowing them down. Weekly lectures introduce the concepts and algorithms which will be used in the upcoming project. Students leave the class with hands-on data mining and data engineering skills they can confidently apply.

Data Mining and Analytics: [Read More](#) [+]

### Objectives & Outcomes

**Course Objectives:** Conduct manual feature engineering (from domain knowledge) vs. machine induced featurization (representation learning). Develop intuition in various machine learning classification algorithms (e.g. decision trees, neural networks, recurrent neural networks, support vector machines), and clustering techniques (e.g. k-means, spectral, skip-gram). Foster critical thinking about real world actionability from analytics. Provide an overview of issues in research and practice that will shape the complexion of data science across a variety of domains.

### Rules & Requirements

**Prerequisites:** Knowledge of basic Python programming. Students must take COMPSCI C200A/STAT C200C or equivalent course prior to or concurrently with INFO 254

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Pardos

Data Mining and Analytics: [Read Less](#) [-]

## INFO 256 Applied Natural Language Processing 3 Units

Terms offered: Spring 2019, Fall 2016, Fall 2015

This course examines the state-of-the-art in applied Natural Language Processing (also known as content analysis and language engineering), with an emphasis on how well existing algorithms perform and how they can be used (or not) in applications. Topics include part-of-speech tagging, shallow parsing, text classification, information extraction, incorporation of lexicons and ontologies into text analysis, and question answering. Students will apply and extend existing software tools to text-processing problems.

Applied Natural Language Processing: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Proficient programming in python (programs of at least 200 lines of code), proficient with basic statistics and probabilities

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Hearst

Applied Natural Language Processing: [Read Less](#) [-]

## INFO 257 Database Management 3 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

Introduction to relational, hierarchical, network, and object-oriented database management systems. Database design concepts, query languages for database applications (such as SQL), concurrency control, recovery techniques, database security. Issues in the management of databases. Use of report writers, application generators, high-level interface generators.

Database Management: [Read More](#) [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Larson

Database Management: [Read Less](#) [-]

## INFO 259 Natural Language Processing 4 Units

Terms offered: Spring 2020, Fall 2018, Fall 2017

This course introduces students to natural language processing and exposes them to the variety of methods available for reasoning about text in computational systems. NLP is deeply interdisciplinary, drawing on both linguistics and computer science, and helps drive much contemporary work in text analysis (as used in computational social science, the digital humanities, and computational journalism). We will focus on major algorithms used in NLP for various applications (part-of-speech tagging, parsing, coreference resolution, machine translation) and on the linguistic phenomena those algorithms attempt to model. Students will implement algorithms and create linguistically annotated data on which those algorithms depend.

Natural Language Processing: Read More [+]

### Rules & Requirements

**Prerequisites:** Familiarity with data structures, algorithms, linear algebra, and probability

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Bamman

Natural Language Processing: Read Less [-]

## INFO C260F Machine Learning in Education 3 Units

Terms offered: Spring 2020, Fall 2018, Fall 2017

This course covers computational approaches to the task of modeling learning and improving outcomes in Intelligent Tutoring Systems (ITS) and Massive Open Online Courses (MOOCs). We will cover theories and methodologies underpinning current approaches to knowledge discovery and data mining in education and survey the latest developments in the broad field of human learning research. The course is project based; teams will be introduced to online learning platforms and their datasets with the objective of pairing data analysis with theory or implementation. Literature review will add context and grounding to projects.

Machine Learning in Education: Read More [+]

### Rules & Requirements

**Prerequisites:** Suggested background includes one programming course and familiarity with one statistical/computational software package

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Pardos

**Also listed as:** EDUC C260F

Machine Learning in Education: Read Less [-]

## INFO C262 Theory and Practice of Tangible User Interfaces 4 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

This course explores the theory and practice of Tangible User Interfaces, a new approach to Human Computer Interaction that focuses on the physical interaction with computational media. The topics covered in the course include theoretical framework, design examples, enabling technologies, and evaluation of Tangible User Interfaces. Students will design and develop experimental Tangible User Interfaces using physical computing prototyping tools and write a final project report.

Theory and Practice of Tangible User Interfaces: Read More [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of laboratory per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Ryokai

**Also listed as:** NWMEDIA C262

Theory and Practice of Tangible User Interfaces: Read Less [-]

## INFO C263 Technologies for Creativity and Learning 3 Units

Terms offered: Fall 2020, Spring 2015, Spring 2014

How does the design of new educational technology change the way people learn and think? How do we design systems that reflect our understanding of how we learn? This course explores issues on designing and evaluating technologies that support creativity and learning. The class will cover theories of creativity and learning, implications for design, as well as a survey of new educational technologies such as works in computer supported collaborative learning, digital manipulatives, and immersive learning environments.

Technologies for Creativity and Learning: [Read More](#) [+]

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for INFO C263 after completing NW MEDIA 290, or INFO 290.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of seminar per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Ryokai

**Also listed as:** NW MEDIA C263

Technologies for Creativity and Learning: [Read Less](#) [-]

## INFO C265 Interface Aesthetics 3 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

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.

Interface Aesthetics: [Read More](#) [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Ryokai

**Also listed as:** NW MEDIA C265

Interface Aesthetics: [Read Less](#) [-]

## INFO 271B Quantitative Research Methods for Information Systems and Management 3 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

Introduction to many different types of quantitative research methods, with an emphasis on linking quantitative statistical techniques to real-world research methods. Introductory and intermediate topics include: defining research problems, theory testing, casual inference, probability, and univariate statistics. Research design and methodology topics include: primary/secondary survey data analysis, experimental designs, and coding qualitative data for quantitative analysis.

Quantitative Research Methods for Information Systems and Management: [Read More](#) [+]

### Rules & Requirements

**Prerequisites:** Introductory statistics recommended

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Cheshire

Quantitative Research Methods for Information Systems and Management: [Read Less](#) [-]

## INFO 272 Qualitative Research Methods for Information Systems and Management 3 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

Theory and practice of naturalistic inquiry. Grounded theory. Ethnographic methods including interviews, focus groups, naturalistic observation. Case studies. Analysis of qualitative data. Issues of validity and generalizability in qualitative research.

Qualitative Research Methods for Information Systems and Management: [Read More](#) [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Burrell

Qualitative Research Methods for Information Systems and Management: [Read Less](#) [-]

## INFO 281 Designing Against Hate: An Exploration of Speech and Affordances on Social Media 2 Units

Terms offered: Spring 2020

Civil society and governments across the world continue to push social media platforms for increased responsiveness to concerns about the abuse of technology. Recent nationally representative surveys reveal a widening trust deficit between the public and private technology companies. This has led to a growing job market for technology policy professionals that can help companies navigate complex issues related to online hate and harassment, and for engineers who understand user-needs for vulnerable communities. This course will provide an opportunity for UC Berkeley graduate students to engage in lectures and guided design exercises aimed at improving the affordances of social media platforms with regard to civil and respectful discourse.

Designing Against Hate: An Exploration of Speech and Affordances on Social Media: Read More [+]

### Objectives & Outcomes

**Student Learning Outcomes:** Explore relevant laws, policies, and community guidelines that govern speech and conduct on the internet. Gain a theoretical and practical understanding of the need for employing design principles to prevent social media platforms from being abused by users.

Test relevant design principles on existing case studies and potentially on their own software UX and UI designs.

Understand the different ways that social media platforms can and have been abused by bad actors, with a focus on the various forms of hate and harassment.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Designing Against Hate: An Exploration of Speech and Affordances on Social Media: Read Less [-]

## INFO 283 Information and Communications Technology for Development 3 Units

Terms offered: Spring 2019, Spring 2017

This seminar reviews current literature and debates regarding Information and Communication Technologies and Development (ICTD). This is an interdisciplinary and practice-oriented field that draws on insights from economics, sociology, engineering, computer science, management, public health, etc.

Information and Communications Technology for Development: Read More [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of seminar per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Saxenian

**Formerly known as:** Information C283

Information and Communications Technology for Development: Read Less [-]

## INFO 287 Entrepreneurship: New Venture Discovery 3 Units

Terms offered: Spring 2015, Fall 2012, Fall 2011

New Venture Discovery introduces students to the process of launching an information-intensive venture--a social enterprise, business startup, or venture inside an established organization. It is motivated by the recognition that new enterprises fail more often from lack of customers than flaws in technology or product development. The course takes an iterative, design-oriented and feedback-driven approach to the search process: identifying a problem or need to address, developing a prototype, discovering customers, refining the concept, testing and validating demand, and developing a sustainable business model.

Entrepreneurship: New Venture Discovery: Read More [+]

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Saxenian

Entrepreneurship: New Venture Discovery: Read Less [-]

## INFO 288 Big Data and Development 3 Units

Terms offered: Spring 2019

As new sources of digital data proliferate in developing economies, there is the exciting possibility that such data could be used to benefit the world's poor. Through a careful reading of recent research and through hands-on analysis of large-scale datasets, this course introduces students to the opportunities and challenges for data-intensive approaches to international development. Students should be prepared to dissect, discuss, and replicate academic publications from several fields including development economics, machine learning, information science, and computational social science. Students will also conduct original statistical and computational analysis of real-world data.

Big Data and Development: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Students are expected to have prior graduate training in machine learning, econometrics, or a related field

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Blumenstock

Big Data and Development: Read Less [\[-\]](#)

## INFO 289 Public Interest Cybersecurity: The Citizen Clinic Practicum 4 Units

Terms offered: Spring 2020, Fall 2019

This course provides students with real-world experience assisting politically vulnerable organizations and persons around the world to develop and implement sound cybersecurity practices. In the classroom, students study basic theories and practices of digital security, intricacies of protecting largely under-resourced organizations, and tools needed to manage risk in complex political, sociological, legal, and ethical contexts. In the clinic, students work in teams supervised by Clinic staff to provide direct cybersecurity assistance to civil society organizations. We emphasize pragmatic, workable solutions that take into account the unique needs of each partner organization.

Public Interest Cybersecurity: The Citizen Clinic Practicum: Read More [\[+\]](#)

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 6 hours of clinic and 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Weber

Public Interest Cybersecurity: The Citizen Clinic Practicum: Read Less [\[-\]](#)

## INFO 289B Advanced Citizen Clinic Practicum 2 Units

Terms offered: Fall 2020

This course provides students with real-world experience assisting politically vulnerable organizations and persons around the world to develop and implement sound cybersecurity practices. Students will spend the majority of their credit hours engaging directly with clients under the supervision of Clinic staff. Emphasis will be on research to develop innovative security mitigations in response to threats of political adversaries.

Advanced Citizen Clinic Practicum: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** INFO 289 must be taken prior to INFO 289B

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of clinic per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Trush

Advanced Citizen Clinic Practicum: Read Less [\[-\]](#)

## INFO 290 Special Topics in Information 1 - 4 Units

Terms offered: Fall 2020, Spring 2020, Fall 2019

Specific topics, hours, and credit may vary from section to section, year to year.

Special Topics in Information: Read More [\[+\]](#)

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit when topic changes. Students may enroll in multiple sections of this course within the same semester.

### Hours & Format

**Fall and/or spring:**

7.5 weeks - 2-6 hours of lecture per week

15 weeks - 1-4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Special Topics in Information: Read Less [\[-\]](#)

## INFO 290A Special Topics in Information 1 or 2 Units

Terms offered: Fall 2016, Fall 2015, Fall 2014

Special Topics in Information: Read More [ + ]

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

#### Fall and/or spring:

5 weeks - 3 hours of lecture per week

6 weeks - 2 hours of lecture per week

8 weeks - 1.5-2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Formerly known as:** Information Systems and Management 290A

Special Topics in Information: Read Less [ - ]

## INFO 290M Special Topics in Management 1 - 4 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

Specific topics, hours, and credit may vary from section to section and year to year.

Special Topics in Management: Read More [ + ]

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit when topic changes.

### Hours & Format

#### Fall and/or spring:

8 weeks - 2-6 hours of lecture per week

15 weeks - 1-4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Special Topics in Management: Read Less [ - ]

## INFO 290T Special Topics in Technology 1 - 4 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

Specific topics, hours, and credit may vary from section to section and year to year.

Special Topics in Technology: Read More [ + ]

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit when topic changes.

### Hours & Format

#### Fall and/or spring:

8 weeks - 2-7.5 hours of lecture per week

15 weeks - 1-4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Special Topics in Technology: Read Less [ - ]

## INFO 290TA Information Organization Laboratory 3 Units

Terms offered: Fall 2016, Spring 2016, Fall 2015

Students will build tools to explore and apply theories of information organization and retrieval. Students will implement various concepts covered in the concurrent 202 course through small projects on topics like controlled vocabularies, the semantic web, and corpus analysis. We will also experiment with topics suggested by students during the course. Students will develop skills in rapid prototyping of web-based projects using Python, XML, and jQuery.

Information Organization Laboratory: Read More [ + ]

### Rules & Requirements

**Prerequisites:** It is recommended that students take 202 concurrently, or have taken it in the past

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Information Organization Laboratory: Read Less [ - ]

## INFO 291 Special Topics in Information 1 - 4 Units

Terms offered: Prior to 2007

Specific topics, hours, and credit may vary from section to section, year to year.

Special Topics in Information: [Read More](#) [+]

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit when topic changes.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Hoofnagle

Special Topics in Information: [Read Less](#) [-]

## INFO 293 Information Management Practicum 0.5 Units

Terms offered: Fall 2016, Summer 2016 10 Week Session, Spring 2016

This course is designed to help School of Information graduate students maximize their internship, practicum, or independent research experiences.

Information Management Practicum: [Read More](#) [+]

### Objectives & Outcomes

**Course Objectives:** Experience the practical application of your academic knowledge to real-world professional contexts;

Gain insight into an organization and how one might make a valuable contribution;

Reflect on the information the experience has provided, to see if it fits within one's personal value set and work/life manifestos.

Try out various professional activities to see when you are in 'flow';

**Student Learning Outcomes:** Assess the organizational culture of a company, governmental body, or non-governmental organization  
Connect academic knowledge about information management to real-world professional contexts

Evaluate the effectiveness of a variety of information science techniques when deployed in organizational situations

Integrate the student's own individual professional goals with the organization's needs relevant to the internship or practicum

Reflect critically on the internship or practicum experience

### Rules & Requirements

**Prerequisites:** Consent of a Head Graduate Adviser for the School of Information

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of internship per week

**Summer:** 10 weeks - 1.5 hours of internship per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

Information Management Practicum: [Read Less](#) [-]

## INFO 294 Doctoral Research and Theory Workshop 2 Units

Terms offered: Spring 2020, Spring 2019, Fall 2017

An intensive weekly discussion of current and ongoing research by Ph.D. students with a research interest in issues of information (social, legal, technical, theoretical, etc.). Our goal is to focus on critiquing research problems, theories, and methodologies from multiple perspectives so that we can produce high-quality, publishable work in the interdisciplinary area of information research. Circulated material may include dissertation chapters, qualifying papers, article drafts, and/or new project ideas. We want to have critical and productive discussion, but above all else we want to make our work better: more interesting, more accessible, more rigorous, more theoretically grounded, and more like the stuff we enjoy reading.

Doctoral Research and Theory Workshop: Read More [+]

### Rules & Requirements

**Prerequisites:** PhD students only

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of workshop per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

**Instructor:** Cheshire

Doctoral Research and Theory Workshop: Read Less [-]

## INFO 295 Doctoral Colloquium 1 Unit

Terms offered: Fall 2020, Spring 2020, Fall 2019

Colloquia, discussion and readings designed to introduce students to the range of interests of the school.

Doctoral Colloquium: Read More [+]

### Rules & Requirements

**Prerequisites:** Ph.D. standing in the School of Information

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of colloquium per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

Doctoral Colloquium: Read Less [-]

## INFO 296A Seminar 2 - 4 Units

Terms offered: Fall 2020, Spring 2020, Fall 2019

Topics in information management and systems and related fields.

Specific topics vary from year to year.

Seminar: Read More [+]

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit when topic changes.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2-4 hours of seminar per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Seminar: Read Less [-]

## INFO 298 Directed Group Study 1 - 4 Units

Terms offered: Fall 2019, Spring 2016, Fall 2015

Group projects on special topics in information management and systems.

Directed Group Study: Read More [+]

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Credit Restrictions:** Students will receive no credit for INFO 298 after completing INFOSYS 298.

**Repeat rules:** Course may be repeated for credit when topic changes. Students may enroll in multiple sections of this course within the same semester.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of directed group study per week

**Summer:** 8 weeks - 1.5-7.5 hours of directed group study per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Directed Group Study: Read Less [-]

## INFO 298A Directed Group Work on Final Project 1 - 4 Units

Terms offered: Spring 2016, Spring 2015, Spring 2014

The final project is designed to integrate the skills and concepts learned during the Information School Master's program and helps prepare students to compete in the job market. It provides experience in formulating and carrying out a sustained, coherent, and significant course of work resulting in a tangible work product; in project management, in presenting work in both written and oral form; and, when appropriate, in working in a multidisciplinary team. Projects may take the form of research papers or professionally-oriented applied work.

Directed Group Work on Final Project: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Consent of instructor. Course must be taken for a letter grade to fulfill degree requirements

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of directed group study per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Directed Group Work on Final Project: Read Less [\[-\]](#)

## INFO 299 Individual Study 1 - 12 Units

Terms offered: Summer 2016 8 Week Session, Spring 2016, Fall 2015  
Individual study of topics in information management and systems under faculty supervision.

Individual Study: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit when topic changes. Students may enroll in multiple sections of this course within the same semester.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-12 hours of independent study per week

**Summer:** 8 weeks - 2-22.5 hours of independent study per week

### Additional Details

**Subject/Course Level:** Information/Graduate

**Grading:** Letter grade.

Individual Study: Read Less [\[-\]](#)

## INFO 375 Teaching Assistance Practicum 2 Units

Terms offered: Fall 2020, Fall 2019, Fall 2018

Discussion, reading, preparation, and practical experience under faculty supervision in the teaching of specific topics within information management and systems. Does not count toward a degree.

Teaching Assistance Practicum: Read More [\[+\]](#)

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Information/Professional course for teachers or prospective teachers

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Duguid

Teaching Assistance Practicum: Read Less [\[-\]](#)

## INFO 602 Individual Study for Doctoral Students 1 - 5 Units

Terms offered: Spring 2016, Fall 2015, Spring 2015

Individual study in consultation with the major field adviser, intended to provide an opportunity for qualified students to prepare themselves for the various examinations required of candidates for the Ph.D. degree.

Individual Study for Doctoral Students: Read More [\[+\]](#)

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-5 hours of independent study per week

### Additional Details

**Subject/Course Level:** Information/Graduate examination preparation

**Grading:** Offered for satisfactory/unsatisfactory grade only.

Individual Study for Doctoral Students: Read Less [\[-\]](#)