BACHELOR SCIENCE IN INFORMATI

BACHELOR OF INFORMATICS







WE MAKE INFORMATION WORK

As an Informatics student, you'll learn how to study, design, and develop information technology for the good of people, organizations, and society.

These skills will prepare you for careers in data science, user experience design, database administration, software engineering, cybersecurity, product management, and product design, as well as graduate studies in a broad a range of fields spanning computing, information, and society. And you'll learn all of this in a vibrant, inclusive, diverse, and learner-centered community of creative and passionate students, alumni, faculty, and staff.

The major draws upon foundational ideas about what information is, how information shapes experiences and decisions, and how to design information technology to provide equitable access to information. Our faculty draw upon computer science, information science, data science, social science, learning science, ethics, and philosophy, offering a modern interdisciplinary perspective on modern problems.

INFORMATICS STUDENTS:

- · Share a passion for information and technology
- Value working with people
- Communicate effectively
- Enjoy leading and managing projects
- · Seek great careers in the technology industry or hope to one day start their own businesses
- · Aim to change society and improve the world through information and technology

IN INFORMATICS, YOU'LL LEARN TO:

- · Design interfaces that are effective and easy to use
- · Develop robust, scalable, secure information technology
- · Study information problems using both quantitative and qualitative methods

ON THE COVER:

Left to right: Joycie Yu ('18), Women in Informatics co-president, 2017-18; Ethan Anderson ('18), Informatics Undergraduate Association president, 2017-18; Tiffany Chen ('18), Women in Informatics co-president, 2017-18.

Chris Oh ('18):

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Charlestown

"The informatics program embraces cutting edge technology, such as machine learning and data science."

EARNING THE DEGREE

The Informatics curriculum helps you develop a broad awareness of topics essential to your future as an information and technology professional. At the iSchool, you will not only hone and expand your technical knowledge, but you will also learn to address the challenges that arise when people create, manipulate and share information.

To earn the Bachelor of Science in Informatics, you will be required to complete a set of core courses and electives. Core requirements span databases, software development, interaction design, research methods, ethics and policy, and organizational perspectives on information, culminating in a Capstone project that develops practical solutions to an information problem or advances research on information science. For electives, you may choose from a variety of courses to satisfy your degree requirements or focus on one of several concentrations:

DATA SCIENCE

Data Science is an emerging interdisciplinary field that works to extract knowledge or insight from data. Over the past decade, the amount of data collected has exploded from sources such as digital sensors, web logs, electronic transaction systems, social media, and mobile devices. Nearly every business or nonprofit organization wants to extract insight from this data to better respond to the needs of customers or improve the social condition. Career opportunities in data science are growing. Glassdoor.com listed Data Scientist as the No. 1 best job in America in 2017, with thousands of job openings.

HUMAN COMPUTER INTERACTION

The iSchool's work in HCI strives to make information and computing useful, usable, and accessible to all. The Informatics HCI option allows you to blend technical skills with an understanding of design, human behavior, and organizations to create innovative interactive technologies suited to human and organizational needs. Courses explore the design, construction, and evaluation of interactive technologies for use by individuals, groups, and organizations, and the social implications of these systems. This work encompasses user interfaces, accessibility concerns, new design techniques and methods for interactive systems and collaboration. Coursework also examines the values implicit in the design and development of technology.

INFORMATION ARCHITECTURE

IA is a crucial component in the development of successful websites, software, intranets, and online communities. Information Architects structure the underlying information and its presentation in a logical and intuitive way. As an Informatics major with an IA option, you will master the skills needed to organize and label information for improved navigation and search. You will build frameworks to effectively collect, store and deliver information. You will also learn to design the databases and XML storehouses that drive complex and interactive websites, including the navigation, content layout, personalization, and transactional features of the site.

INFORMATION ASSURANCE AND CYBERSECURITY

IAC is the practice of creating and managing safe and secure systems. In the IAC option, you will be equipped with the knowledge to create, deploy, use, and manage systems that preserve individual and organizational privacy and security. This tri-campus concentration leverages the strengths of the Information School, the Computing and Software Systems program at UW Bothell, and the Institute of Technology at UW Tacoma. After a course in the technical, policy, and management foundations of IAC, you may take electives at any campus to learn such specialties as information assurance policy, secure coding, usable security and privacy, or networking and systems administration.

VISIT ISCHOOL.UW.EDU/INFORMATICS FOR CURRENT SCHEDULE AND CLASSES.



INFORMATICS MINOR

You may wish to augment another major with an Informatics minor. This option will teach you how to apply data, information and technology to solve problems within your primary area of study. The 32-credit minor is open to all UW students.

The Informatics minor includes required components in data, design, policy and ethics, and software development, as well as the opportunity to take additional courses at the 300-level or above in Informatics, or within your own discipline related to technology.

TO FIND OUT MORE, VISIT ISCHOOL.UW.EDU/INFORMATICS/MINOR.



MARISSA HO, '15, UX DESIGNER, PITCHBOOK DATA

While studying Informatics, my classes exposed me to an array of human-centered design practices, taught me ways to make large quantities of data consumable for specific types of users, and most importantly, gave me several opportunities to work in a collaborative atmosphere. As a User Experience Designer, I've had the opportunity to educate stakeholders about design in interactive workshops and prototype with front-end technologies, as well as ship complete experiences to enterprise eCommerce users. I'm able to apply my design knowledge to improve the usability of various financial tech products, and create a seamless workflow for our users.



WHY STUDENTS CHOOSE THE iSCHOOL

A SMALL SCHOOL AT A BIG UNIVERSITY

As part of a world-leading information school, you will experience the intimacy of a small school and the advantages of being at the University of Washington — ranked by Newsweek among the world's top 25 universities. As an Informatics major, you refine your skills in leading-edge facilities, including technology labs specifically for iSchool students. Labs are equipped with the most recent versions of software students will use in their professional lives. Just as importantly, you'll work closely with a talented and focused group of peers. The Informatics major admits approximately 210 students each year and has two vibrant student groups, IUGA and WINFO, that offer hackathons, career panels, field trips, and other social events.

CAREER OPTIONS

Informatics' combination of theoretical knowledge and practical skills prepares you for a career, not just a job. The skills required to connect people, information and technology are vital to all organizations and you will be able to apply those skills wherever your interests lie. Typical starting salaries for Informatics graduates range from \$60,000 to \$90,000 per year, depending on prior work experience.

EXCELLENT FACULTY

Students at the iSchool develop personal relationships with faculty, who are dedicated to providing the highest levels of teaching, research and service. Our faculty are nationally and internationally renowned leaders of their fields of research and practice, bringing the latest evidence and best practices to their classrooms. Faculty regularly mentor undergraduates on research, helping many to pursue doctoral studies and academic careers.

WHAT OUR STUDENTS ARE SAYING

ADAM SEBETICH:

"The iSchool has given me the opportunity to explore my interests in the technical field and develop a stronger variety of skills."

CHELSEA LE:

"The iSchool has taught me that almost anything is possible if you just push yourself and work hard. With the resources and skills at the iSchool, I've learned that anyone can become a coder, problem solver or designer, and one day make a difference."

ANDREA CHEN:

"I am so grateful and beyond blessed for the amazing opportunities I have been able to experience because of the iSchool. From teaching foundational programming skills to empowering women in the tech industry, I have been able to do it all because of the support I have received from my peers and professors in the iSchool."

CHENGSU CHEN:

"I've honestly never met such a genuine and inclusive community of students before joining Informatics."

SOICHI TANABE:

"In Informatics, you'll run into many challenges, but what I like most about this major is the supportive atmosphere that helps you overcome those challenges."



"Information science is not the poor man's computer science, it's the future. Where computer science is about inventing technology, information science is about wielding those technologies to solve important problems, and then feeding that back to improve the development of future technology."

— iSchool Dean Anind Dey, quoted in GeekWire



CAPSTONE

Capstone, the final degree project for Informatics majors, is the culmination of your iSchool experience.

You'll synthesize the knowledge and skills you've acquired to tackle a real-world information problem or to work with a faculty member on advancing knowledge in information science. Working in teams, students identify and investigate the problem, develop a solution, and present their findings in both oral and written forms.

Capstone project collaborators include organizations from the public, private and nonprofit sectors, and each project represents a concrete example of what it means to design and build novel applications of technology that meet the needs of people. With projects that encompass building social networking applications, improving services for homeless youth and supporting more efficient mass transit, the Capstone experience reflects the ways students at the iSchool make information work.

RECENT CAPSTONE PROJECTS

SPSINTERACTIVE: SEEING SCHOOLS DIFFERENTLY

We make most of our decisions by comparing all of the options side by side. When it comes to public schools, though, this is virtually impossible. SPSInteractive, sponsored by Microsoft's Civic Technology and Engagement department, aims to fill this void by providing a suite of interactive visualizations that make it easy to compare all of the schools in Seattle. It includes test score information, graduation rates, demographics, and many other metrics. Not only will it help parents decide which school is the best fit for their child, but it will also help policy makers form a better picture of the Seattle Public School System, and make the best possible decisions for the next generation of students.

AWEAR

There are currently no effective methods of monitoring the health of your loved ones in a real-time, automated, and efficient way. aWear provides a solution in the form of a companion application to a user's wearable technology (such as Microsoft Band 2) that allows family members to monitor and receive alerts of their loved one's health information when they cannot be by their side. The app increases connections between elders and their loved ones, expands the usage of wearable technology to a new demographic, and helps raise awareness for heart-related diseases. Ultimately, it could help save lives by making everyone more aware.

FLYMATE

When traveling by airplane, it is a known rule that you should get to the airport at least two hours before your flight because you don't know what conditions await you. Unpredictable baggage and security lines can cause travelers to miss their flights, lose money, and waste time. FlyMate aims to solve this information problem by creating a streamlined, user-friendly application that informs users of airport conditions before their arrival at the airport. FlyMate provides travelers with the information needed to get to the airport on time, know how long it will take to get through baggage and security lines, and find the quickest route to their gate. This results in travelers being able to navigate more easily and efficiently within an airport, as well as reducing the stress of travel.

FOOD IN MOTION

Operation Sack Lunch is one of the largest food rescue organizations in Seattle. It rescues food throughout the greater Seattle area with refrigerated trucks, seven days a week. However, this process involves lots of tedious paperwork. Every food donation is categorized and documented, which becomes a huge time cost for the organization and donors. With the Food in Motion application, donations are entered electronically and pickups are tracked in real time. The app makes the process of collecting donated food more streamlined and efficient, so the organization has more time to collect donations.



INTERNSHIPS

Internships provide hands-on learning within a professional environment. Every internship has an academic learning component and can be paid or unpaid. During the 2016-17 academic year, 87 percent of Informatics students recorded at least one internship, and 44 percent did at least two.

Most internships are 1-2 quarters in length and require 3-15 hours of work per week. More information about internships is available from advisers in our Student Services Office.



STUDY ABROAD

iSchool study abroad programs are designed to allow you to better understand information challenges from an international perspective. The iSchool partners with UW's Study Abroad Office to offer optional Exploration Seminars — short-term study abroad programs (3-4 weeks) led by UW faculty that usually occur during the gap period between summer quarter and autumn quarter. iSchool students have studied in the Netherlands, Denmark, South Korea, Ghana, Beijing, and Tahiti.

ALLISON AMARAL, '16 PRODUCT MANAGER, AZUQUA

"Informatics was the perfect major to prepare me for the variety of roles a product manager at a startup needs to be able to fulfill. The UW Informatics program encourages students to dive into subjects ranging from design to programming. Being in a startup environment, it's essential that I use these skills to effectively lead my team, and make decisions that improve our end user experience. The passion and involvement of faculty in this department is unique, allowing students to always find the resources and support they need to succeed."



WHERE CAN INFORMATICS TAKE ME?

Beyond the required courses, you can choose to explore electives within your personal areas of interest or concentrate in specific areas of study.

Areas of strength in the Information School include:

- Human-Computer Interaction
- Data Science
- Information Architecture
- Information Assurance and Cybersecurity

As an Informatics student, you will develop the skills and expertise that enable you to secure jobs and thrive in the information field after graduation.

Typical starting professional roles for Informatics graduates include:

- Program managers
- Product planners
- Database developers/managers
- Data Scientists
- User experience designers
- Usability engineers
- Business/System analysts and consultants
- Information architects
- Information assurance managers
- Security analysts
- Web developers
- Web designers

The program also provides strong preparation for graduate studies. Students who elect to continue their education have moved on to prestigious graduate schools in a wide variety of programs.

CAREER PREPARATION

As an Informatics major, you will have opportunities to build skills you'll use in professional settings. More than being ready for a first job, you are prepared for a career as a leader and innovator in the information and technology field. In addition to the skills and knowledge you develop through classes and class projects, you'll have opportunities to expand your expertise through internships and a Capstone project.

CAREER ADVISING

The iSchool's Career Services team designs targeted programming to assist students in achieving their career goals. These workshops and events include guidance on internships or Capstone project topics to enhance job search strategies, facilitating connections with iSchool industry partners or alumni and linking you to other UW resources.

The iSchool hosts an annual Career Fair as well as company information sessions that link you with employers for career opportunities and job openings. Industry-specific employer panels hosted throughout the year will help you understand what a prospective employer is looking for in a given information profession.

In addition to iSchool resources, the Career Center at the UW offers services such as resume review, networking skills, job search advice and interviewing tips.



SHRINIVAS RAMANATH, '16, APPLICATION DEVELOPER, AT&T

"Informatics taught me how write quality code and create beautiful user experiences. With an emphasis on group projects, this program nurtures soft skills such as working well with diverse groups and researching and creating effective solutions to solve users' problems, along with building a strong technical foundation. Informatics has helped me develop a broad perspective, allowing me to influence business decisions and collaboratively drive change to better meet the users' needs. The iSchool provided me with the experience to jumpstart my career as a developer and make a real impact inside and outside my job."



AUSTIN WOEHRLE, '16, SECURITY ENGINEER, STARBUCKS

"The Informatics program prepared me with the skills required to become a professional in today's technologically driven world. As a security engineer at the Starbucks Coffee Company, I have faced many complex and unique challenges. In my current role, it is my responsibility to implement and maintain multiple enterprise-level security controls such as irewalls and intrusion detection systems, as well as work with various business units to translate their requirements into technical specifications. The foundation that my iSchool professors and peers provided has allowed me to tackle anything that has come my way and develop effective solutions with great confidence."

FACULTY SPOTLIGHT

Meet some of the 60 faculty who teach at the iSchool.



AMY KO Associate Professor and Program Chair Ph.D. Carnegie Mellon University

I teach our Informatics students to solve problems. Whether it's a technological problem requiring the meticulous diagnosis of a complex information technology, or a human one, requiring a careful analysis of an ecosystem of social and cognitive needs and constraints, Informatics is all about understanding problems in the world and then doing something about them. This means that instead of lectures, I spend a lot of time one-on-one with our students, probing into their understanding of a problem and teaching them to quickly and creatively identify solutions to these problems. Students work hard in my classes and often feel stuck, but in the end, they gain a resourcefulness and independence that's invaluable in the working world. In my research I use the same approach, but tackle much bigger problems. Every year I advise one or two Informatics students on problems ranging from fundamentally new ways to learn to computer programming and next generation forms of software help, to fundamental questions about the effect of software problems on everyday life and human civilization.





I'm passionate about using data science responsibly to make an impact on people's lives. My research aims to make the techniques and technologies of data science dramatically more accessible, particularly at scale. My group's methods are rooted in database models and languages, though we sometimes work in machine learning, visualization, HCI, and high-performance computing. We are an applied, systemsoriented group, frequently collaborating with the physical, life, and social sciences. In addition to my appointment at the iSchool, I am an Adjunct Associate Professor in Computer Science & Engineering, and Associate Director of the UW eScience Institute. I am a co-founder of Urban@UW, and with support from the MacArthur Foundation and Microsoft, I lead UW's participation in the MetroLab Network.





As a digital youth scholar, I'm interested in how tweens and teens use technology to do the things that they've always done: express themselves, communicate with friends and learn about the world around them. My research investigates how new media technologies may be reshaping age-old processes of development like identity formation, peer and parent relationships and cognitive development. I enjoy bringing these questions into my teaching, because I find that Informatics students bring a valuable perspective on the intersection between technology and humanity. This intersection is always at the forefront of both my teaching and my research. In my course on research methods, students learn about the different types of research currently being done in the field of informatics. We explore how to use research to solve information problems, whether in the form of designing a new interactive technology, identifying security threats to an existing system, or building an effective framework for organizing information.



JEVIN WEST Associate Professor Ph.D. University of Washington

It is a good time to be an informatics student. Jobs are plentiful, the work has high societal impact and the pace of technology keeps things exciting and fresh. Data science is one area in particular where opportunity abounds. It has been labeled one of the fastest growing job sectors, and the coming years will be no different. Data science is my area of expertise. I teach 'Introduction to Data Science' for Informatics students. In this class, we introduce the tool set of data science and apply these tools to real world data problems. As to be expected, Informatics students shine. Recent class projects included music recommendation, health data access, class finders and identifying crime hotspots in Seattle. The projects don't stop at the classroom. Many of them move to production and continue development outside the classroom.



JESSICA HULLMAN

Ph.D. University of Michigan

As an information visualization researcher, I'm interested in how to design visual representations of data that people can easily gain insight from. Inspired by the increasing appearance of visualization in online environments, I've looked at how visualizations are used to communicate news and other public information to large numbers of citizens, and created automated systems for making visualizations communicate more effectively in various online contexts. I pay close attention as a researcher to how perceptual, cognitive and social influences impact how people understand data visualizations. Students in my visualization course learn what types of visual representations are most perceptually effective and what interactive features best support thinking with data. However, visualization is also a rapidly evolving field of study, and so in addition to core principles, my course introduces students to exciting areas of new research in visualization, such as collaboration and storytelling.



DAVE STEARNS

Ph.D. University of Edinburgh

I help my students learn how to build large, complex, and dependable information systems. Today these systems are typically built using Web-based techniques, so I help my students master those mechanics, but those are always a means to an end. The real goal is to build systems that truly serve the needs of those who use them; systems that people not only trust and rely upon, but also love to use. I studied how to build information systems in my undergraduate degree, and I've been building them professionally since 1991, so I bring to the ischool not only the theories, but also the hard-won lessons about what works and what doesn't in practice. I help my students learn not only the mechanics of web programming, but also the timeless architectural patterns that make systems reliable, scalable, secure, and evolvable.



EVERYONE IS WELCOME

At the iSchool, we celebrate inclusion and connectedness as essential components of academic excellence. Students' educational, intellectual and social engagements are far richer and more meaningful when connecting with people with different points of view and life experiences. We have a strong focus on gender, race and ethnicity, yet we define diversity broadly, to include class, sexual orientation, religion and many other dimensions of the diversity among us.

The iSchool Office of Diversity can provide resources and support if you are ...

- American Indian/Native Alaskan/Indigenous
- Black/African American
- Asian/Pacific Islander American
- Latino/Hispanic
- LGBTQ

- A first-generation college or graduate school scholar in your family, or are from a low socio-economic background.
- A veteran of the U.S. Armed Forces
- Any other underrepresented minority in higher education

As a student, there are many ways to get involved with diversity in the iSchool and throughout the UW. You can join a student group, serve on the iSchool Diversity Committee, or become an iDiversity Ambassador and help make the iSchool a welcoming place for people of all kinds.

STUDENT GROUPS

Becoming a part of a community and building your professional network are important aspects of your experience at the UW. As an iSchool student, you'll have the opportunity to engage in social and professional activities through several active student groups including:

- IUGA, the Informatics Undergraduate Association, serves the needs and interests of undergraduate students. It was founded and is operated by Informatics students, for Informatics students.
- Winfo, Women in Informatics, supports ways to empower

women to thrive as producers of technology. Its members network, share ideas and organize events, including a popular annual Hackathon.

- ISACA, Information Systems, Audit and Control Association, is the iSchool's student chapter of the professional organization focusing on Information assurance and security.
- iQueeries supports lesbian, gay, bisexual, transgender, asexual and queer students and supportive allies.
- iEquality provides a safe space for students of all identities to engage in dialogue and action to erase inequality. It organizes events, open to all students, that focus on putting people on an equal footing at the iSchool and in the information field.

HOW TO APPLY

Application period: Mid-February to early April (go to ischool.uw.edu/informatics for details)

PROGRAM ADMISSIONS

Once per year for fall term. In addition to completing prerequisite course requirements, applicants will submit an application that addresses why they want to be in the program.

PREREQUISITE COURSEWORK

- INFO 200: Intellectual Foundations of Informatics
- Computer programming (multiple courses accepted)
- Statistics (multiple courses accepted)
- English Composition (multiple courses accepted)
- Social Science or Individuals & Society course (multiple courses accepted)

Prerequisite coursework can be in progress at the time of application but should be complete by the end of winter quarter in the year that you're applying. Please check our website for current requirements and to find out which courses are accepted to meet them.

A minimum grade of 2.0 is required in each course. Departmentally approved transfer equivalents or AP/IB credits may be used to fulfill prerequisite requirements.

TRANSFERRING INTO THE INFORMATICS MAJOR

Transfer students are encouraged to apply to the Informatics program. Most community colleges will have equivalent coursework. Students should refer to the UW Equivalency Guide http://admit.washington.edu/apply/transfer/tools/equivalencyguide/ to ensure the courses they plan to take will transfer to the UW and fulfill the prerequisite requirements for Informatics. INFO 200 is required of applicants who are currently UW students, but since most other schools do not have equivalent classes, we do not require it of applicants transferring into UW. If admitted to the Informatics program, you will be required to take INFO 200 during your first quarter in the program.

Transfer students must submit a separate application to the University of Washington for Autumn term. Acceptance into the Informatics major is contingent upon being admitted to the UW.

FRESHMAN DIRECT ADMISSION

Students applying to the University of Washington as freshmen can list Informatics as their top-choice major on their application for a chance to be admitted directly to the program without having to go through the standard admissions process.



"Informatics students are entrepreneurial and multi-talented. They know the importance of critical thinking, which allows them to pursue a wide range of careers in technology, research, and policy."

— Amy Ko, Associate Professor and Informatics Program Chair

CONTACT US

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We Make Information Work

The University of Washington reaffirms its policy of equal opportunity regardless of race, color, creed, religion, national origin, sex, sexual orientation, age, marital status, disability, or status as a disabled veteran or Vietnam era veteran in accordance with University policy and applicable federal and state statutes and regulations.

The University of Washington is committed to providing access and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation in the application process contact the Disability Services Office at least ten days in advance at: 206.543.6450/V, 206.543.6452/TTY, 206.685.7264 (fax), or e-mail at dso@uw.edu.

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