INFORMATICS PROGRAMS

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Informatics Programs at the University of Illinois offers a Ph.D. in Informatics, and manages the campus-wide Masters of Science in Bioinformatics. Both are interdisciplinary programs with many participating departments. Students can earn the Master of Science in Bioinformatics with a concentration in one of the following departments: Animal Sciences, Crop Sciences, Information Science, or Computer Science. The program is overseen by Informatics Programs, but students are members of the department of their concentration. Students can earn the Ph.D. in Informatics with specializations in Bioinformatics; Health and Medical Informatics; Spatial Informatics; Art and Cultural Informatics; Design, Technology, and Society; Data Analytics and Information Visualization; Cognitive Science and Language Processing.

Facilities

University research centers in this area include the Center for Biophysics and Computational Biology (http://www.life.uiuc.edu/biophysics/) and an NIH Resource for Macromolecular Modeling and Bioinformatics (http://www.ks.uiuc.edu/). The campus also offers state-of-the-art experimental bioinformatics facilities, including those in the Keck Center for Comparative and Functional Genomics (http://www.biotech.uiuc.edu/) and the Institute for Genomic Biology (http://www.igb.illinois.edu/). The National Center for Supercomputing Applications (http://www.ncsa.uiuc.edu/) (NCSA), located at the University, offers opportunities for accessing, developing, and experimenting with state-of-the-art computational facilities for bioinformatics.

Graduate Programs:

major: Bioinformatics, MS (http://catalog.illinois.edu/graduate/provost/ms_bioinfo/)
major: Informatics, PhD (http://catalog.illinois.edu/graduate/provost/phd_informatics/)

INFO Class Schedule (https://courses.illinois.edu/schedule/DEFAULT/DEFAULT/INFO/)

Courses

INFO 102 Little Bits to Big Ideas credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/INFO/102/)
Broad introduction to the nature, capabilities, and limitations of computing. Topics range from the way data is represented and stored, to the way today’s computers work, to the general ideas of algorithms and computational efficiency, to the future of computing. Covers “Great Ideas” across various areas of the field, including, for example, cryptography and internet security, problem solving, modeling and simulation, and artificial intelligence. Same as CS 102.

INFO 199 Undergraduate Open Seminar credit: 1 to 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/199/)
May be repeated in separate terms to a maximum of 6 hours.
Prerequisite: Consent of instructor.

INFO 202 Social Aspects Info Tech credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/202/)
Same as IS 202 and MACS 202. See IS 202.
This course satisfies the General Education Criteria for: Social Beh Sci - Soc Sci

INFO 303 Writing Across Media credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/303/)
The ability to communicate effectively in multiple types of media is a crucial part of literacy in our society. In this course, students will explore the intersections of various media: print, film, images, sound, etc. Students will consider the ways in which writing—as an object and as a practice—is shaped by multimodal interactions. Also integrates practical activities with broader theoretical issues in order to provide effective strategies for designing multimedia presentations, projects, and texts that integrate photography, video, and sound. Same as WRIT 303.
This course satisfies the General Education Criteria for: Advanced Composition

INFO 310 Computing in the Humanities credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/310/)
Same as IS 310. See IS 310.

INFO 325 Social Media and Global Change credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/325/)
Same as AFST 325, ASST 325, EPOL 325, EPS 325, EURO 325, LAST 325, REES 325, and SAME 325. See EPOL 325.

INFO 326 New Media, Culture & Society credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/326/)
Same as MACS 326. See MACS 326.

INFO 345 Digital & Gender Cultures credit: 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/345/)
Same as GWS 345, MACS 345, and SOC 345. See GWS 345.

INFO 390 Special Topics credit: 1 to 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/390/)
Explores a variety of informatics topics. Topics and prerequisites vary by section; see current Class Schedule for details. May be repeated up to 6 hours if topics vary.

INFO 399 Individual Study credit: 0 to 3 Hours. (https://courses.illinois.edu/schedule/terms/INFO/399/)
Individual study in a subject related to informatics not covered in normal course offerings. Approved for Letter and S/U grading. May be repeated in separate terms to a maximum of 6 hours. Prerequisite: Consent of instructor.

Information listed in this catalog is current as of 07/2021
**INFO 403** An Introduction to Top Down Video Game Design  
credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/403/](https://courses.illinois.edu/schedule/terms/INFO/403/))
The emphasis of this course is on developing an understanding of top down video game design using the various design methodologies and tools introduced in class. Students will form small groups (4-6) and work on their own design within a selected genre (to be determined at the beginning of the semester). Areas of focus include high level design vision, audience evaluation, User Interface and its impact on the design, iteration of a series of design documents (high, medium and low level) and the team dynamics of communication, critique and integration. The goal of the class is to have the small teams use the concepts and the tools taught in class to create a complete design document that will be cataloged for later use. 3 undergraduate hours. 3 graduate hours.

**INFO 405** Introduction to the Video Game Development Process  
credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/405/](https://courses.illinois.edu/schedule/terms/INFO/405/))
The emphasis of this course is understanding the video game development process as seen in current Game Studios. The course will focus on key elements of the process including the development timeline, scheduling, prototyping, iteration, QA, game builds and player research. The goal will be to take a design document from a catalog of designs that have already been created and implement one or more of them using the game development process. Same as GSD 405. 3 undergraduate hours. 3 graduate hours. Credit is not given for INFO 405 and INFO 490 DC "The Video Game Dev Process" sections.

**INFO 407** Introduction to Programming Python for Data Science  
credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/407/](https://courses.illinois.edu/schedule/terms/INFO/407/))
For students who want to learn about solving problems common in data sciences but have little or no programming experience. The class is asynchronous (students can access material on-line but within specified timeframes) and taught online. Data Science lies at the intersection of statistics and computer science and focuses on extracting information from data. This class will immerse students on topics of software construction, design, programming paradigms and the semantic and syntax of the Python language and then focus on some of the necessary workflows to move raw data into information. The class will explore common Python modules (libraries) used in data science, natural language processing, statistics, mathematics, data management (acquiring, cleaning, reshaping, organizing, persisting) and visualizations. 3 undergraduate hours. 3 graduate hours. Credit is not given for INFO 407 and INFO 490 MH "Intro to Prog for the Data Science" sections.

**INFO 409** Design & Programming of Narrative Games & Simulations  
credit: 3 or 4 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/409/](https://courses.illinois.edu/schedule/terms/INFO/409/))
In this course, you will be introduced to the narrative design process for the authoring of text-based digital games and simulations. You will become proficient in Inform 7, a programming language and design system for parser-based interactive fiction (IF). By the end of the semester you will have developed a game or literary work of IF and made a substantive contribution to a collaborative project. No prior programming knowledge is required for students to be successful in the course. Students will be expected to bring a laptop to class. Please note that this course teaches design and programming techniques for "parser-based" interactive fiction, and does not cover Twine, or other hyper-text based interactive narrative systems. Same as GSD 409. 3 undergraduate hours. 4 graduate hours. Credit is not given for INFO 409 and INFO 490 JP, JPU or JPG "Design & Prog Text Based Games" sections.

**INFO 427** Data, Machines and the Python  
credit: 3 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/427/](https://courses.illinois.edu/schedule/terms/INFO/427/))
A continuation to the introductory course on Data Science (INFO 407). This advanced course on Data Science is completely taught online and scheduled asynchronously (you decide where it best fits in your week). The course consists of several tracks including Machine learning and advanced Python skills. There will be lessons that guide you to learn advanced techniques in data science and you will also be introduced to machine learning algorithms. In addition, there will be a few lessons that help you advance your Python knowledge and software development skills. This course can mainly be considered as an applied course where you will learn by doing. In many cases, you will first write a reduced implementation before using an established library. The second half of the course will be focused on data driven individual projects along with weekly lessons. 3 undergraduate hours. 3 graduate hours. Credit is not given for INFO 427 and INFO 490 MH2 "Data, Machines and the Python" sections. Prerequisite: Students should have either taken INFO 407; OR Have at least 1 year of programming experience using Python; OR Be comfortable with NumPy, Pandas, Matplotlib, NLTK; OR Have a strong ability and passion for learning. Junior, Senior or Graduate standing.

**INFO 490** Special Topics  
credit: 1 to 4 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/490/](https://courses.illinois.edu/schedule/terms/INFO/490/))
Topics of current interest. 1 to 4 undergraduate hours. 1 to 4 graduate hours. May be repeated if topics vary. Prerequisite: Consent of instructor. Other prerequisites as specified for each topic offering. See Class Schedule.

**INFO 491** Ugrad Bioinformatics Seminar  
credit: 0 to 2 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/491/](https://courses.illinois.edu/schedule/terms/INFO/491/))
Introduces the field of bioinformatics and computational biology. Same as CPSC 491. 0 to 2 undergraduate hours. No graduate credit. Approved for Letter and S/U grading only. May be repeated in separate terms to a maximum of 2 undergraduate hours. Prerequisite: Consent of instructor.

**INFO 500** Orientation Seminar  
credit: 0 or 1 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/500/](https://courses.illinois.edu/schedule/terms/INFO/500/))
A broad introduction to faculty research in each Informatics Area. Consists of weekly presentations by Informatics faculty highlighting their recent research, practice, and related concepts. Approved for S/U grading only. May be repeated in separate terms to a maximum of 2 hours. Prerequisite: Graduate standing in any field.

**INFO 510** Research Practicum  
credit: 4 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/510/](https://courses.illinois.edu/schedule/terms/INFO/510/))
A one semester directed research project supervised by a member of the informatics faculty in the student's area of specialization or closely related area. These are intended to be practical research, not just literature surveys, and must have a definite output such as a paper or demonstration project. The research should be relevant to the thesis work or preparatory work to support the thesis. Informatics students must take two semesters, usually each semester should be under a different Informatics faculty member, but with the concurrence of their advising committee both may be taken under a single faculty member. Approved for S/U grading only. May be repeated in separate terms to a maximum of 8 hours. Prerequisite: Graduate standing in any Informatics.

**INFO 555** Advanced Educational Technologies for Engagement and Interactive Learning  
credit: 4 Hours. ([https://courses.illinois.edu/schedule/terms/INFO/555/](https://courses.illinois.edu/schedule/terms/INFO/555/))
Same as CI 555 and EPSY 555. See EPSY 555.
INFO 590  Advanced Special Topics  credit: 1 to 4 Hours. (https://courses.illinois.edu/schedule/terms/INFO/590/)
Subject offerings of new and developing areas of knowledge in Informatics, intended to augment existing curriculum. See Class Schedule for specific topics and prerequisites. 1 to 4 graduate hours. No professional credit. May be repeated if topics vary. Prerequisite: Graduate Student Standing.

INFO 591  Grad Bioinformatics Seminar  credit: 0 to 2 Hours. (https://courses.illinois.edu/schedule/terms/INFO/591/)
This seminar series focuses on research in the field of bioinformatics and computational biology. Same as ANSC 591 and CPSC 591. 0 to 2 graduate hours. No professional credit. Approved for Letter and S/U grading. May be repeated in separate terms to a maximum of 4 hours. Prerequisite: Consent of instructor.

INFO 597  Individual Study  credit: 2 to 4 Hours. (https://courses.illinois.edu/schedule/terms/INFO/597/)
Individual study in a subject related to informatics not covered in normal course offerings. May be repeated in same term for a maximum of 8 hours or separate terms for a maximum of 16 hours if topics vary. Prerequisite: Consent of instructor.

INFO 599  Thesis Research  credit: 0 to 16 Hours. (https://courses.illinois.edu/schedule/terms/INFO/599/)
Research for Ph.D. thesis. May be repeated in separate terms. Prerequisite: Instructor approval required.