Informatics

FROM STUDY TO SKILLS

All academic programs offered at the UM help students develop valuable transferable skills. So why study informatics? In today’s data-driven society, informatics is everywhere. Examples include designing a secure system for medical records to be available to multiple health care providers, analyzing and visualizing massive data sets from a prescription drug trial, and designing and evaluating an online marketing campaign. Even a literary scholar studying attitudes towards the Enlightenment in 18th Century England may use informatics.

Informatics is an interdisciplinary program housed in LSA in an innovative partnership with College of Engineering and the School of Information. The field combines a solid grounding in computer programming, mathematics, and statistics with study of the ethical and social science aspects of complex information systems.

As an Informatics concentrator, you will study the ways information is used and its effects on people and social systems. You will become more aware of the relationship between information and individuals and the ethical issues inherent in today’s information systems, and will develop strong quantitative and problem solving skills.


SKILLS AND ABILITIES

Computational Skills
- Computer modeling
- Numerical simulation
- Analyzing statistics
- Program design
- Applying quantitative analysis
- Maintaining precision and accuracy

Quantitative Skills
- Programming
- Mathematical modeling and analysis
- Designing questionnaires
- Developing sample forms
- Operating computer simulations
- Applying statistical packages
- Interpreting data from tables/charts

Analytical/Problem-Solving Skills
- Applying methods to problems
- Projecting from data
- Reasoning critically
- Categorizing data
- Developing theories
- Designing systems for processing data
- Modeling complex systems
- Recognizing types of problems
- Perceiving patterns and structures
- Identifying relationships between problems/solutions

Presentation/Communication Skills
- Communicating abstract concepts
- Transitioning between written text and computations/formulas
- Describing processes in non-technical terms
- Explaining theories/ideas
- Summarizing findings
- Informing/instructing
- Contributing to teams

BUILDING YOUR SKILLS OUTSIDE THE CLASSROOM

Employers seek out individuals who can demonstrate excellent verbal and written communication skills, teamwork and interpersonal skills, initiative, and a strong work ethic. Student organizations, research with Informatics faculty members, and campus employment offer valuable opportunities to add to the skills you are developing in your classes. The Informatics Student Organization hosts events throughout the year. Other options include study abroad, off-campus employment or volunteering in the community. Finally, a summer internship may be the best way of all to test out a career field and develop marketable skills.
FROM SKILLS TO CAREER

Informatics concentrators develop both general and technical skills applicable to a wide range of careers in business, research, health care, government, and non-profit organizations. For example, strong quantitative skills may be equally useful whether working as a web analyst or an online community manager. In addition, informatics concentrators may choose to continue their education in graduate or professional school.

Our graduates are in high demand and often receive multiple job offers. The list below is a sample of careers undertaken by Informatics graduates.

### Computational Skills
- Application developer/ engineer
- Software architect/ developer/ engineer
- Systems engineer
- Database developer/ engineer
- Web analyst

### Quantitative Skills
- Algorithm engineer
- Data center engineer
- Data mining specialist
- Competitive intelligence analyst
- Marketing research analyst

### Analytical/ Problem-Solving Skills
- Business analytics consultant
- Systems analyst, health informatics
- Clinical informatics analyst
- Data analysis consultant
- Data/information analyst

### Presentation/ Communication Skills
- Product coordinator/ manager
- Management consultant
- Online community manager
- User experience analyst
- Usability specialist

For more career information, see O*Net at http://online.onetcenter.org/

CONCENTRATION REQUIREMENTS

The concentration requires four prerequisite courses (Math 115, EECS 182, Stats 250, and SI/SOC 110) and 4 core courses (EECS 203 and 282, Stats 403, and SI 410) along with 28 credits of track and elective courses. As an Informatics concentrator, you may choose between four tracks of study: Computational Informatics, Data Mining and Information Analysis, Life Science Informatics, and Social Computing. For more information about requirements and electives for each tracks, contact the Informatics Program Coordinator or visit the website below.

Next Steps/Resources

For more information about careers in Informatics, including graduate study, see: http://lsa.umich.edu/informatics/about/careersgraduatestudy

To begin connecting to professionals in fields that interest you, create your own LinkedIn account: www.careercenter.umich.edu/students/networking/linkedin_intro.html

To identify internships or job opportunities, visit Career Center Connector: www.careercenter.umich.edu/c3student/

Program in Informatics
439 West Hall
734-615-3789
http://lsa.umich.edu/informatics/

Newman Advising Center
1255 Angell Hall
734-764-0332
www.lsa.umich.edu/advising

The Career Center
3200 Student Activities Building
734-764-7460
www.careercenter.umich.edu
www.facebook.com/careercenter.umich
http://twitter.com/careercenter

For on-campus jobs (work-study and non work-study jobs) are listed at:
https://studentemployment.umich.edu/JobX_Home.aspx

Maize Pages list hundreds of organizations for students to get involved in: http://studentorgs.umich.edu/maize

Volunteer Connection lists volunteer opportunities in local organizations: http://volunteer-connection.umich.edu/