



# Informatics

The Department of Informatics fosters a broad and interdisciplinary view of informatics, and uses this view to serve our constituencies in teaching, research, and civic engagement. In teaching, we strive to prepare our students to become life-long learners as well as highly skilled professionals with strong technical and analytical skills that can be applied to other disciplines, such as arts & humanities, business, health sciences, natural sciences, and social sciences.

Through research, the faculty endeavors to generate new knowledge and stay current in a constantly changing social and psychological dimension of information technology. The faculty introduces research results in the classroom and laboratory, and fosters the development of undergraduate research techniques thus promoting these necessary skills in our students.

In civic engagement, we thematically link community-based research, collaborative projects, service-learning, mentored internships, reflective experiential learning and study abroad opportunities for helping our students advance on this essential learning goal.

## Student Learning Goals

1. The graduate will be able to serve as a liaison between an organization's nontechnical personnel and its information technology personnel; thus providing the vital communication link between end users of technology and those who develop the technology for the end users.
2. The graduate will be able to recognize opportunities for the application of "off-the-shelf" technology to the day-to-day problems faced by the graduate's organization. Furthermore, the graduate, in many cases, will be able to apply this off-the-shelf technology directly to solving these problems.
3. The graduate will be able to recognize and propose the creation of new information technology solutions to the organization's long-term problems. The graduate will contribute to the development of these new solutions by representing the nontechnical end users in the development process.

## Student Leadership Opportunities while studying Informatics @ IUS

There is a wealth of opportunities for Informatics students at IUS. Informatics students can participate in

### Research Experience for undergraduates:

- **BiRG (housed in room LF 101):** The acronym BiRG stands for **Bio Informatics Research Group**. The group constitutes of Informatics students interested in exploring research fields in Informatics (like Social informatics, Astroinformatics, Social robotics, Psycho-informatics, Digital storytelling, Forensics, etc.). Though BiRG started primarily with a bioinformatics research agenda, today BiRG research includes a wide variety of interdisciplinary projects. The purpose of the BiRG environment is to increase the opportunities for our IUS undergraduates to participate in meaningful research developed and executed under the mentorship of engaged faculty members. The Primary Goals of the BiRG Lab include:
  - ✓ Explore informatics research potential in undergraduate students.
  - ✓ Facilitate a collaborative environment for students and faculty research alike.
  - ✓ Encourage problem solving and public speaking skills in students of the program.
  - ✓ Provide state-of-the-art Lab resources to be used for current & future Informatics projects.
  - ✓ Generate a feedback framework to be used to continuously improve the Informatics program.

*"Our BiRG students (BiRGers) can proudly cite research work on their resume and this makes them at par with students from top tier universities. This opens up more opportunities for the student when he/she is seeking employment and/or graduate admission for further study"*

Visit <http://homepages.ius.edu/SRIRAMAC/birg/index.htm> for more details on BiRG

- **iSci (housed in room LF 104 and LF 106):** The iSci is a dedicated research facility for Informatics students and it contains high performance computing (HPC) workstations, visualization (viz) hardware, and other specialized human computer interaction (HCI) hardware, such as Microsoft Kinect devices. It also houses 3 workstation clusters with high-end graphics used for HPC and viz, capable of driving 4 displays which can be arrayed in a variety of configurations. The iSci also houses highly-configurable information system for use in upper level informatics courses.

### Networking opportunities for undergraduates:

- **INFO Club:** The Informatics Club was founded in 2008 to set up an atmosphere of community and belonging between students with interests in technology. The INFO Club allows Informatics students a chance to network, gather skillsets, and learn from one another in order to increase the quality of their education and character before they leave this institution. The INFO Club arranges for industrial visits, visits to career fairs and also connecting with the Informatics Alumni for internships and job opportunities. The Students also meet and socialize to form a peer network.
- **INFO Honor Society:** The Informatics Honor Society recognizes academically outstanding junior and senior Informatics students. The society offers a collaborative atmosphere for scholars and professionals in the emerging field of informatics.

# How does an Informatics coursework lead me to a career?

Informatics is an emerging discipline at the intersection of computing with the humanities, arts, and the natural, biological, health and social sciences. This interdisciplinary aspect of the course work gives the graduating student multiple footing into the job market (**for example:** *an Informatics student who graduates with a biology cognate is qualified for jobs that suite a biologist, a computer scientist, an IT personnel, a computer engineer, and an informatician ofcourse.*) In the next five years, it is predicted that there will be 3.2 million available positions for Informatics professionals. Informatics is a growing and changing field, and the study of informatics provides students with the skills to solve problems and be adaptable. While some of the future job titles for Informatics jobs don't even exist yet, some current career options include:

- Biology/chemistry informatician
- Database developer/ project manager
- Digital artist
- Digital library specialist
- E-commerce specialist
- Human-computer interface designer
- Information architect
- Business analyst
- IT consultant
- Game designer
- Multimedia specialist
- Network manager
- Software developer
- Stage and lighting designer
- System administrator
- Technical writer
- Webmaster
- Customer/Technical Support Specialist
- Database Analyst/Expert
- Design Team Manager
- Hardware Engineer
- Information Systems Manager
- Software Inspector
- Lab Monitor
- Librarian
- Logic Designer
- Media Specialist
- Network Support Analyst
- Operations Manager
- Product Manager
- Production Staff
- Professor
- Programmer
- Project Manager
- Quality Control Analyst
- Data Mapper
- Chemical Informaticist
- Database Designer
- Network Engineer
- Health Informaticist
- Information Security Architect
- Technical Writer
- System Administrator
- Usability Analyst
- Interaction Designer
- System Integrator
- Computer Systems Analyst
- Account Manager
- Applications Analyst
- Applications Programmer
- Circuit Designer
- Computer Operator
- Computer Support Service Representative
- Computer Systems Auditor
- Quality Control Analyst
- Sales Representative
- Software Developer
- Systems Programmer
- Systems Support Professional
- Technician
- Telecommunications Specialist
- Training Specialist
- Researcher
- Software Engineer
- Software Tester
- Support Service Provider
- Systems Analyst
- Systems Maintenance Specialist
- Web Designer
- Web Developer

## Salaries for new Informatics Graduates

Starting salaries for informatics graduates range from \$40,000 to \$80,000 in the Louisville Metroversity area (*based on job packages offered to IUS Informatics graduates in the last five years*).

## So, the question now is “Is Informatics a career for you?”

Informatics is the RIGHT career for you if you:

- ✓ Enjoy solving problems using all the tools and skills you have available.
- ✓ Can work not only with technical details but also with “big-picture” issues
- ✓ Have strong reading and writing skills and can think freely, creatively, and systematically.
- ✓ Are a team-player

**Note:** **Previous experience in computer programming is not required to start the Informatics minor.** Programming is just one aspect of Informatics and the minor introduces all the necessary skills at a manageable and comprehensible pace. Students who do already have some programming experience will also find new concepts, even in the very first course (I-101, I-110 & I-111).

# What you should know about the Informatics Minor at IUS?

## Curriculum

Students are required to take the following:

- Three courses from the Informatics core course list
- Two courses from the upper division Informatics courses.

**Yes, you only need five courses to get a minor in Informatics**

## Why Obtain a Minor in Informatics?

- Informatics and computing are affecting almost all human endeavors.
- Adding an Informatics Minor will complement and enhance a student's major area of study.
- The graduate will more effectively use technology in her/his vocations and avocations.

## Suggested Informatics Minor Tracts

### Design Track – Informatics Minor

- INFO-I 101 – begin Minor with I101
- INFO-I 210
- INFO-I 300
- INFO-I 303
- INFO-I 330

**Note: INFO-I 110 and INFO-I 111 are recommended for students with no prior exposure to software development.**

### Technical Track – Informatics Minor

- INFO-I 101 – begin Minor with I101
- INFO-I 210
- INFO-I 308
- INFO-I 320
- INFO-I 427

**Note: INFO-I 110 and INFO-I 111 are recommended for students with no prior exposure to software development.**

## What is a major advantage of studying Informatics at IU?

Indiana University Southeast (IUS) is part of Indiana University's eight campuses. This infrastructure allows for many of the Informatics courses to be transferrable between the Indiana University's eight campuses. This is a major advantage because students can continue their education unhampered even if a job/internship requires relocation. Moreover, a student can (with prior permission) take a certain informatics course not offered on our campus at another IU campus and get it counted towards their INFO BS at IUS. Thus, the student has a huge repository of specialized courses at their disposal. Finally, IUS has a Metroversity agreement with other Kentuckiana universities in the neighborhood that allows for course transfers and this further adds to the flexibility available to our students.

## Rest Assured.....

A minor in Informatics provides excellent preparation for work at the forefront of the modern technological industry. Our students work in many industrial settings, such as start-up companies, small software houses, consulting firms, hospitals and multi-national corporations.