Information Systems

What can I do with a degree in Information Systems?

Information systems (IS) professionals blend business and technology by transforming data into knowledge to keep their organizations on the cutting edge. IS professionals are responsible for defining, designing, implementing and maintaining an organization's information systems, which may include a combination of information, processes, people, software and technology. These professionals may work in a wide range of industries from the government, to the military, to the private sector.

Additional responsibilities of the IS professional may include developing new business and multimedia solutions; configuring and integrating, e-learning, e-business, and database products; and managing the organization's web presence. IS professionals may also have responsibility in modeling, designing, and configuring an organization's databases. IS professionals may train others on topics such as how to use word processing software, databases spreadsheets, and information systems. At the management level, IS professionals may be engaged in resource management including resource planning, budgeting, and selecting database products or network components.

What additional skills will I need as an Information Systems professional?

IS professionals need to be able to see the big picture of an organization's information systems, but also need to have the detail orientation to ensure that all of the individual components of those systems work together effectively. IS professionals also need to have solid communication and interpersonal skills so they can disseminate information plans throughout the organization. They need to be able to handle significant decision-making responsibilities regarding an organization's information systems and solve problems as they arise. IS professionals also need to be forward-looking in terms of making sure that all information systems within an organization are current.

What can I expect during my undergraduate studies in Information Systems?

Many information systems programs are located within the business schools of universities. Some IS degree programs may have more of a technology emphasis, while others may focus more heavily on the organizational side of things. When enrolled in an undergraduate program in information systems, students should expect to take a mix of courses that impart technological, business, organizational theory, and interpersonal skills.

- Information systems
- Information management
- System analysis and design
- Information systems
- Organizational behavior/management
- Software
- IT Architecture
- Business
- Decision theory
- Programming
- Operating systems
- Networking
- Human-computer interaction
- Law/ethics
- Security
- Interpersonal communication
- Team projects

How can I start preparing now for studies in Information Systems?

There are a number of ways that pre-university students can begin preparing for undergraduate studies in information systems. In terms of coursework, it is extremely helpful to have at least four years of mathematics courses, including Calculus, and two years of science courses. Courses in programming, business, communication, engineering, accounting, and foreign language can also be very useful.

Pre-university students should also consider involvement in out-of-school time activities to further explore their interest in computing. Students' own schools may offer computing activities as a part of afterschool courses or clubs. There are numerous local, national or global competitions, projects, and fairs available which enable students to gain valuable skills and experience in computing. Many local universities have summer or weekend programs designed to provide students with hands-on experience in computing. Some universities even allow pre-university students to take courses that will earn them credit before even entering university. There are also a number of online tools or even courses that allow students to practice computing skills such as programming. More and more pre-university students are also getting involved with internships, volunteer work, or research projects at local universities, non-profits, or businesses to gain experience and connect with other students and mentors.

Additional resources

- ACM Careers Brochure

References: [ACM 2005] ACM/IEEE-CS Joint Task Force on Computing Curricula, Computing Curricula 2005: The Overview Report, April 2005. [(http://www.acm.org/education/curricula.html)](http://www.acm.org/education/curricula.html)