![IEEE TryComputing.org]

Information Technology

What can I do with a degree in Information Technology?

In today's information-driven world, organizations depend on Information Technology professionals to ensure they have the technology needed to achieve their goals and be successful. IT professionals are the "go-to people" when it comes to planning, installing, and maintaining an organization's technological backbone. These professionals may take on many roles within an organization from working on the front line assisting customers with technological problems, to managing an entire company's computer network. IT professionals may work in business, healthcare, education, or non-profit institutions.

Information Technology professionals ensure that the computer networks within an organization are in good working order, secure, and updated or replaced as needed. IT professionals may be responsible for developing and maintaining an organization's website, intranet, e-commerce applications, databases, phone systems, e-learning platforms, and multimedia assets. IT professionals may take on the role of trainers to teach employees how to use software, databases, applications or systems. IT managers may be responsible for planning and overseeing large scale technology projects and the teams of people that support them. They may be also be tasked with managing and planning an organization's technology budget and purchasing equipment, software, or technological products.

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

IT professionals need to have good people and oral/written communication skills to be able to effectively help fellow colleagues and clients. IT professionals are frequently tasked with solving problems so they need the creativity and perseverance to identify and implement effective solutions. IT professionals need to keep up with the ever changing world of technology by learning about the latest and greatest technology and software. They also need to be able to work in a faced paced environment and handle multiple tasks or projects simultaneously.

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

When enrolled in an undergraduate program in Information Technology students should expect to take a mix of courses that teach technological, business, mathematical, and interpersonal skills.

Sample undergraduate coursework in Information Technology may include topics such as:

- Technical support
- Networking
- Information systems
- Human-computer interaction
- Requirements analysis
- Digital media
- Security
- Programming
- Operating systems
- Data structures
- Business
- Database management
- IT infrastructure
- Quality management
- Mobile technologies
- Mathematics
- Interpersonal Communication
- Project management
- Team projects

How can I start preparing now for Information Technology studies?

There are a number of ways that pre-university students can begin preparing for undergraduate studies in information technology. 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)