

UALR INFORMATION SCIENCE

(<http://ualr.edu/informationscience/>)

What does Information Science do for an organization?

In Information Science, we solve information problems. Here are some examples.

- **Better Systems for Collecting, Processing, Storing, and Disseminating Information:** As an information science major, you will learn the concepts and techniques for analyzing, designing, and implementing the systems that will deliver the necessary information to your customers.
- **Better Information Design:** As an information science major, you will learn the concepts and techniques for how to present and interact with information so that it maximizes the ability of people to make use of this information for decision making.
- **Better Information Quality Assurance:** As an information science major, you will learn the concepts and techniques for protecting information and improving its fitness of use wherever it is needed.
- **Better Ways to Work with Information:** As an information science major, you will learn about how information is used by a variety of disciplines (engineering, bioinformatics/medicine, sciences, technology, mathematics, business, etc.) as well as being exposed to exciting technologies for working with information in new and innovative ways (Virtual Reality, Semantic Web and Social Media, Data Mining and Visualization, Artificial Intelligence/Robotics, etc.).

What types of jobs are available to someone with a BS in Information Science degree?

System Developers: As an information systems developer, you will utilize business insight as well as technical and data processing knowledge to produce the systems that your clients will use to obtain, store, share, manage, and use the information they need for decision making. This job includes developing, designing, customizing, enhancing, analyzing, improving, and maintaining solutions for clients in a team environment.

Application Developers: Application development involves the process, life cycle and creation of the programs aimed at helping users complete a computer task. Developers work closely with computer analysts and engineers in using tools such as Java, .Net or Javascript to develop and implement the necessary specifications for software. Developers also test, debug, and improve applications for clients. The choice of technologies for developing applications depends on the environment (mainframe, distributed computing, desktop, mobile, and getting more and more popular, web-based).

Helpdesk/Technical Consultants: As a helpdesk/technical consultant, you will work directly with customers to solve their information and technology problems (web access, workstations, printers, etc.). This includes diagnosing user problems, generating and implementing solutions to user problems and documenting problem resolution. In addition, you may participate in the development and testing of new or enhanced information systems or technologies.

Network/Hardware Specialists: As a network specialist, you will work on the networks (hardware and systems software) that comprise the information highway needed to support your organization and its customers. Your responsibilities will include researching products and vendors to match site needs, making recommendations about hardware configurations, installing new network hardware and software, conducting research on new technologies, and overseeing the installation of peripherals and wiring. You will also work closely with end users to document and prepare user procedures, as well as train end users in the use of network equipment.

Database Administrators: As a database administrator, you will assist in the implementation and maintenance of relational databases and their associated dictionaries and in monitoring database-related standards and procedures. Your responsibilities will include installing and configuring operating system software, RDBMS software and middleware, and client/application software. You will perform database analysis, create new databases, perform backups and restores, and manage disk storage allocations. As a DBA you will manage security through the creation of user accounts and provide consulting on performance tuning, relational database design, and coding standards.

Data Analysts: A data analyst's job is to take data and use it to help companies make better business decisions. This could mean figuring out how to price new materials for the market, how to reduce transportation costs, solve issues that cost the company money, or determine how many people should be working on Saturdays. There are many different types of data analysts in the field, including operations analysts, marketing analysts, financial analysts, social media analysts, etc.

Web Administrators: As a web administrator, you will be responsible for managing user accounts, maintaining website security, and overseeing the web servers (including software, log analysis, web content). Other duties could include creating web pages/web applications, working on content, design, and social media strategies, as well as interacting with site users. This position is very important to ensuring that an organization's websites are kept up and running.

IS/IT Managers: Organizations need people who have both good technical and organizational skills. Management jobs start with the project and team leaders, and then go through first, second, and third line managers, all the way up to the chief information officer who may manage hundreds of people.

What skills do you need to become an Information Science professional?

Information Science majors are trained in three main knowledge areas.

1. **General Studies:** You need to prepare for more than just a technical career; you need to prepare for whatever life has in store for you. To help you broaden your educational horizons, you will take a variety of liberal study courses (Rhetoric/Speech, Mathematics, Humanities/History, Fine Arts, Science, etc.)
2. **IFSC Curriculum:** You need to have a fundamental set of technical skills so that you can design and build the organizational systems that collect, store, and retrieve the information that people need to make decisions and to successfully work. Our IFSC courses teach students about the different roles, knowledge, and skills involved in planning, building, and supporting web-based information systems. Our curriculum includes basic courses in application development starting with programming (IFSC 1202, IFSC 2300), webpage design (IFSC 1310), client-server (IFSC 3300) and human computer interactions (IFSC 2340). In addition, students learn about a variety of information technology topics such as computer hardware support (IFSC 2305), working with operating systems (IFSC 2315), and networks (IFSC 3315); database design and usage (IFSC 3320 and 3330), as well as how to analyze and design a system (IFSC 3360). Other topics include professional ethics (IFSC 2200) and project management (BINS 4331, IFSC 4396 and IFSC 4398). Electives in database and network security, data mining, web server applications, e-commerce, information visualization, and other areas will further aid the student in knowing how to create the information systems that people rely on to access and use data efficiently and effectively.
3. **Business Environment:** You need to have a core set of business skills. As an Information Science professional, you need to know how to create and manage budgets for your projects. Your accounting and economic courses will help you to know how to read a balance sheet, monitor costs, and evaluate the economic impact of the systems you are creating and managing. Information systems are complex and involve a lot of different people. Your management classes will help you to know how to manage the people who work on information systems and to do project planning. People are often skeptical about trying new information systems. Marketing can help you to know how to convince people to try new information products as well as help you to find better ways to serve your customers. Good communications skills are a must, along with team work and a good knowledge of how an organization operates and what data it needs to thrive in today's global, competitive environment.

