

## **INFORMATION TECHNOLOGY SPECIALIST**

**Job Description:** The availability of customized, reliable, and secure computer-based information technology systems is extremely important to nearly all businesses, including North Dakota's energy industries. Skilled staff is needed to ensure that these information technology systems operate as intended and are updated regularly to meet the ever-changing needs of these businesses. Depending on the size and complexity of the business, the number and expertise of information technology staff varies. A large utility company or oil exploration and extraction company may have significant numbers of employees in their information technology departments, while smaller operations might have one or two individuals or may even contract out for these services. There are many careers in the field of information technology, including:



Applications Software Developers, Computer and Information Systems Manager, Computer Programmers, Computer System Engineers, and more. An Information Technology Specialist will analyze engineering, business or other data processing problems to implement and improve computer systems. They will also review user requirements, procedures and problems to improve existing systems, and will address computer system capabilities, workflow, and scheduling limitations. Major tasks might include:

- Expanding or modifying IT system to serve new purposes or improve work flow
- Testing, maintaining, and monitoring computer programs and systems, including coordinating the installation of computer programs and systems
- Providing staff and users with assistance solving computer related problems
- Ensuring the security of computer systems and protecting sensitive and proprietary business information

**Needed Skills and Education:** Information technology specialists spend much of their time interacting with computers, making decisions and solving problems, and processing information. Important skills include critical thinking, reading comprehension, systems analysis, and attention to detail. Depending on the level of responsibility, an information technology specialist needs at least an Associate's Degree from a community college or technical institute, along with continuing education and on-the-job training. For more technically complex IT careers, four-year and graduate degrees are preferred.

**Wages:** Compensation varies according to the IT career achieved. In North Dakota, a Computer Support Specialist has an average annual wage of \$40,760; a Computer System Engineer/Architect has an average annual wage of \$63,120; and an executive level Chief Information Officer may well exceed \$100,000 annually. At most IT levels, the national average wage exceeds that of North Dakota.

**Other Information:** At the University of Wisconsin, the Chief Information Officer oversees a staff of 800 information technology workers. This is a constantly evolving field that should see stable to moderate growth.

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