

# INFORMATION TECHNOLOGY

## Bachelor of Applied Science

The B.A.S. Information Technology degree prepares students to gain long-term career positions in the fields of information technology or technology management. Students have the opportunities to gain knowledge of advanced concepts of technology in the areas of computer networking, Linux operating systems, computer programming, network security, database administration, web development, and hardware maintenance, as well as the managerial experience to oversee projects in each area. Courses within the B.A.S. degree also prepare students to gain advanced certifications in managerial and technological subjects, giving students improved opportunities to gain beneficial employment assignments or land promotions within their current professions.

### Program Course Requirements

Click here to view Core IMPACTS General Education Curriculum requirements (<http://catalog.daltonstate.edu/programs/coreimpacts/>).

#### Program Advice (can share with CORE curriculum):

ECON 2105	Principles of Macroeconomics (Recommended for Social Science elective; should be taken if student plans to take MNGT course in the Major Electives.)	3
MATH 1111	College Algebra (Required)	3
MATH 1401	Elementary Statistics (Required)	3

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#### Core IMPACTS General Education Curriculum requirements 42

NOTE: Core IMPACTS courses can also satisfy requirements in your Program of Study. Please review the requirements for your major to prevent taking extra courses. The USG Core IMPACTS curriculum is designed to ensure that students acquire essential knowledge in foundational academic areas and develop career-ready competencies. There are seven Core IMPACTS areas. Students at all USG institutions must meet the Core IMPACTS requirements in all specified areas.

#### Field of Study: Major Related

#### Associate of Applied Science or Applied Technology Credits

Technology/Academic Electives (must be approved by department chair) \*

#### Required Courses (Grade of C or higher required)

BUSA 2201	Fundamentals of Computer Appli	3
CAPS 1140	Microcomputer Operating System	3
CAPS 1145	Introduction to Networks	3
CAPS 1152	Linux	3
CAPS 1270	Switch, Route, Wireless Ess	3
CAPS 1276	Ent Net, Security, Automation	3

#### Information Technology Core

ITEC 3251	Linux II	3
ITEC 3390	Management of IS Security	3
MGIS 3351	Principles Mgmt Info Systems	3
MGIS 3352	Management Application Prog I	3

MGIS 3353	Management Applications Programming II	3
MGIS 3356	Database Management Systems	3
MGIS 4360	Databases: Big Data & Analyt	3
MGIS 4701	Systems Analysis & Design	3

#### Major Electives

Choose 5 of the following courses. 15

COMM 3301	Communication for Prof Setting
ITEC 3400	IoT: Security
ITEC 3500	Cybersecurity Operations
ITEC 3510	Ethical Hacking
ITEC 4700	Python Programming
ITEC 4800	Special Topics in ITEC
ITEC 4900	Internships in ITEC
ITEC 4960	Research in ITEC
MGIS 4700	Independent Study MGIS
MNGT 3051	Principles of Management

**Total Hours 120**

## Courses

### CAPS 1101. Introduction to Computers. 2-2-3 Units.

A survey of computer-related topics; including the basic elements of a computer system, ways in which computers can be used, and their organizational and social impact. Hands-on experience with microcomputers using Microsoft Windows, data-management, and electronic-spreadsheet programs. This course satisfies the computer literacy requirement. (Career Course)(F,S,M)

### CAPS 1140. Microcomputer Operating System. 2-2-3 Units.

An overview of operating system essentials for microcomputers, with emphasis on a current version of MS-Windows. This course satisfies the computer literacy requirement. (Career Course)(F,S)

### CAPS 1145. Introduction to Networks. 3-0-3 Units.

Introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.(F,S)

### CAPS 1152. Linux. 3-0-3 Units.

Study of the Linux operating system, to include basic system operation and access, system installation and configuration, file system organization, file management and manipulation, shell usage, and system maintenance and security. This course satisfies the computer literacy requirement.(F)

Prerequisites: CAPS 1140.

### CAPS 1211. Intro to RPG Programming. 3-2-4 Units.

Students design, code, and test programs using the Report Program Generator (RPG) language. Programs written include report editing, mathematical operations, use of subroutines to support structured programming, IFs and case structures, and external and logical files.(As needed for Industry)

### CAPS 1212. Advanced RPG Programming. 3-2-4 Units.

A continuation of CAPS 1211. Programs written include file processing, interactive applications, tables and arrays, and subfiles. Review of RPG logic cycle.(As needed for Industry)

**CAPS 1213. Control Lang Prog iSeries 400. 2-2-3 Units.**

Introduces concept, purpose, uses, and implementation of Control Language (CL) programming. Emphasis is on CL syntax and interactive and batch programs in the iSeries environment. (As needed for Industry)

**CAPS 1216. Database/Interactive Applicati. 3-2-4 Units.**

This course involves Database design; queries; application development in a database environment. Students receive hands-on experience with a relational database package. (As needed for Industry)

**CAPS 1240. Advanced Topics in CAPS. 3-0-3 Units.**

Selected topics in the use of the computer based on current needs and trends; for example, an in-depth exploration of an operating system or an introduction to a programming language not currently taught. This course satisfies the computer literacy requirement. (F)

Prerequisites: CAPS 1270.

**CAPS 1270. Switch, Route, Wireless Ess. 3-0-3 Units.**

Describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. (F,S)

Prerequisites: CAPS 1145.

**CAPS 1275. Comp Syst/Networking Security. 3-0-3 Units.**

An introduction to communication security in computer systems and networks. Both information flow and information integrity policies will be considered. Topics include: authentication, protection, security models, cryptography, application, hacker tools and public policy, along with case studies. (Offered as needed)

Prerequisites: CAPS 1140.

**CAPS 1276. Ent Net, Security, Automation. 3-0-3 Units.**

Describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. (F,S)

Prerequisites: CAPS 1270.

**CAPS 1277. Connecting Networks. 3-0-3 Units.**

Discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. (F,S)

Prerequisites: CAPS 1276.

**CAPS 2278. CCNA Security. 3-0-3 Units.**

This course provides an introduction to the core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and devices. This course is a hands-on, career-oriented e-learning solution with an emphasis on practical experience to help students develop specialized security skills, along with critical thinking and complex problem solving skills. (S)

Prerequisites: CAPS 1270.