

The Bachelor of Science in Information Technology (BSIT) degree program is focused on the acquisition of theory and the application of technical competencies associated with the information technology profession. The courses prepare students with fundamental knowledge in core technologies, such as systems analysis and design; programming; database design; network architecture and administration; web technologies; and application development, implementation, and maintenance.

This undergraduate degree program includes 45 credits in the required course of study and 15 credits in the concentration. Some courses have prerequisites. In addition, students must satisfy general education and elective requirements to meet the 120-credit minimum, including a minimum of 48 upper-division credits required for completion of the degree. At the time of enrollment, students must choose a concentration.

The Advanced Networking concentration is designed to provide complete coverage of networking topics including the OSI model, network topologies, network protocols, network operating systems, network architecture, and network design and management. Comprehensive coverage of local area, wide area, and wireless networks, including performance and service levels, are addressed in this concentration. This concentration also provides students with hands-on exposure to network modeling and measuring network performance.

Note: The diploma awarded for this program will read as: Bachelor of Science in Information Technology and will not reflect the concentration. Concentrations are reflected on the transcript only.

Required Course of Study

GEN 195 Foundations of University Studies

The essential information, skills, tools, and techniques necessary for academic success and personal effectiveness at University of Phoenix are introduced in this course. The course develops and applies practical knowledge and skills immediately relevant to first-year university students. Course topics include goal setting and working with personal motivation, understanding and using university resources, developing efficient study habits, making the most of personal learning styles, and how best to manage time and reduce personal stress levels. (3 credits)

CIS 207 Information Systems Fundamentals

This course introduces the fundamentals of computer systems and the role of information processing in today's business environment. An overview is presented of information systems, systems development, operating systems and programming, database management, networking and telecommunications, and the Internet. (3 credits) Prerequisite: HUM 114

PRG 211 Algorithms and Logic for Computer Programming

This course provides students with a basic understanding of programming development practices. Concepts covered include the application of algorithms and logic to the design and development of computer programs to address the problem-solving requirements associated with business information systems. This course will cover procedural programming concepts including data types, controls structures, functional decomposition, arrays, and files. (3 credits) Prerequisite: HUM 114

The U.S. Department of Education requires the University to provide the following information about each of our programs that lead to gainful employment in a recognized profession.

83% of students who completed this program during the most recent federal award year did so within normal time.¹

Related occupations²

Network and Computer Systems Administrators #15-1142.00

Program costs ³		Median graduate debt ⁴	
Tuition and fees	\$33,800 to \$74,575	Federal	\$31,347
Includes cost per credit, application fee, and fees for resources (books/eResources) for students completing the program in normal time.		Private	\$0
		Institutional	\$0

¹ The on-time completion rate identifies the percentage of students completing this program during the most recent federal award year who completed it within "normal time." The term "normal time" means the length of time it would take a student to complete this program if the student is continuously enrolled, takes one course at a time, and successfully completes each attempted course. Students enrolled in this degree program are typically nontraditional students. Students may exceed "normal time" for a variety of reasons, including, but not limited to, internships, practicums, clinical rotations, student teaching or administrator experiences required for licensure.

² Graduates of this program will be educationally qualified to enter the occupations listed. Visit onetonline.org for job descriptions.

³ The range provided represents the sum of tuition and typical fees required to complete the program within normal time, based on the University's 2011/2012 tuition levels. The actual costs that will be incurred by a particular student to complete this program will depend upon factors specific to that student. Tuition rates for this program may vary due to factors such as: (i) geographic location of the student; (ii) modality of coursework; (iii) military service; and (iv) future changes in tuition rates. The number of credits required for a particular student to complete the program will be dependent upon various factors, including: (i) transfer credits available; (ii) repeated coursework; and (iii) completion of additional specializations within this program. Please contact an Enrollment Advisor for additional information.

⁴ The figure represents the median amount of debt incurred by students who completed the program during the relevant federal award year. The actual amount of debt a particular student will incur to complete this program is dependent on various factors specific to the student. Please contact an Enrollment Advisor for additional information.

Bachelor of Science in Information Technology with a Concentration in Advanced Networking

WEB 240 Web Design Fundamentals

This course introduces development tools and techniques used to publish web pages. Students use basic hypertext markup language, scripting, and presentational technologies to create websites with the aid of a software authoring application. Topics include XHTML, CSS, JavaScript®, server hosting, site publication, site maintenance, and Search Engine Optimization. (3 credits) Prerequisite: CIS 207

POS 355 Introduction to Operating Systems

This course provides an introduction to operating systems. Topics covered include operating system concepts, program execution, and operating system internals such as memory, processor, device, and file management. A variety of operating systems are compared and contrasted. (3 credits) Prerequisite: CIS 207

ENG 221 Technical Writing Fundamentals

Students explore the components and theories of interpersonal conflict and various conflict resolution models. Formal and informal third-party interventions including mediation and negotiation are examined as methods of effective conflict resolution practices. This course is designed to examine conflict issues present in human services work. Students will apply conflict resolution skills related to human service situations. (3 credits) Prerequisite: HUM 114

BSA 310 Business Systems

This course reviews common business systems and their interrelationships. Business systems covered include finance, accounting, sales, marketing, human resources, legal and operations. Emphasis is placed upon the inputs and outputs of information systems, the potential for integration of the systems, and information systems security. (3 credits) Prerequisite: HUM 114

BSA 375 Fundamentals of Business Systems Development

This course introduces the fundamental, logical, and design considerations addressed during system and application software development. It provides a solid background in information systems analysis and design techniques through a combination of theory and application. The Systems Development Life Cycle will be fundamental to the course. (3 credits) Prerequisite: CIS 207

CMGT 410 Project Planning & Implementation

This course provides the foundation for understanding the broad concepts of successful planning, organization, and implementation within the realm of information technology. This course uses real-world examples and identifies common mistakes and pitfalls in project management. Topics covered include project scoping, estimating, budgeting, scheduling, tracking and controlling. (3 credits) Prerequisite: HUM 114

DBM 380 Database Concepts

This course covers database concepts. Topics include data analysis, the principal data models with emphasis on the relational model, entity-relationship diagrams, database design, normalization, and database administration. (3 credits) Prerequisite: PRG 211

CMGT 400 Intro to Information Assurance & Security

This course is an introduction to information assurance and security in computing technology. Topics include risk management; protecting information in the enterprise; business continuity and disaster recovery planning; threats and remediation; legal, ethical, and professional issues; and considerations within systems development processes. (3 credits) Prerequisite: POS 355

NTC 362 Fundamentals of Networking

This course provides a foundation in the basic Networking and Telecommunications technologies fundamental to the industry and to the broad field of telecommunications. Analog, digital, and radio frequency technologies are covered. Also covered in this course is an introduction to the OSI protocol model, network-switching systems, basics of wireless communications and network security. (3 credits) Prerequisite: CIS 207

PRG 420 Java® Programming I

This course introduces object-oriented programming in the context of business applications development. The basics of the Java programming language are covered. (3 credits) Prerequisite: PRG 211

MTH 221 Discrete Math for IT

Discrete (as opposed to continuous) mathematics is of direct importance to the fields of Computer Science and Information Technology. This branch of mathematics includes studying areas such as set theory, logic, relations, graph theory, and analysis of algorithms. This course is intended to provide students with an understanding of these areas and their use in the field of Information Technology. (3 credits) Prerequisites: MTH 220, HUM 114

CMGT 445 Applications Implementation

This course will cover the processes and issues associated with the implementation of a computer application information system. Topics will include the processes associated sponsor and stakeholder approvals, end user training, technical staff training, conversion from existing application(s) and integration into the information system production environment. This course will also examine the use of development and testing environments and the testing procedures related to the implementation of a computer application information system. (3 credits) Prerequisites: WEB 240, ENG 221, BSA 310, BSA 375, CMGT 410, DBM 380, CMGT 400, NTC 362, PRG 420, MTH 221

Bachelor of Science in Information Technology with a Concentration in Advanced Networking

Advanced Networking Concentration

NTC 405 Telecommunications and Networking I

This course is designed to provide the learner with the fundamentals of DC and AC circuits, analog circuits and concepts such as amplifiers, filters, and modulation/demodulation concepts and applications. The basics of digital circuits and digital logic concepts and circuits are analyzed. Complex digital equipment such as multiplexers are introduced. The course is completed with an analysis and application of various network topologies and network operating systems. (3 credits) Prerequisites: NTC 362, MTH 221, ENG 221

NTC 406 Telecommunications and Networking II

This course provides analysis of the seven levels of the OSI model as the basis for analysis and discussion of network protocols. Each level of the OSI model is analyzed in detail with the related theory being applied to specific applications in the industry. (3 credits) Prerequisite: NTC 405

NTC 409 Global Network Architecture and Design

This course addresses the fundamentals of network design and analysis with an emphasis on network traffic. The network design techniques necessary for LAN and WAN implementations are covered. The concept of service levels, the provisioning of and importance of service levels are analyzed. (3 credits) Prerequisite: NTC 406

NTC 411 Global Network Management, Support and Security

This course broadens network design and analysis to include global considerations for an enterprise network configuration. This course introduces the topic of overall end-to-end network management, the concepts and the available tools to the network designer. The development and management of the relationships between the enterprise and the WAN providers is discussed. Network security, Disaster Recovery, and Business Continuity planner is also address in this course. (3 credits) Prerequisite: NTC 409

NTC 415 Network Integration Project

The focus of this course is the application of network design and performance concepts. The design considerations for a global network, including LANs and WANs with both wired and wireless functionality, are applied. End-to-end performance criteria and service levels guarantees are examined as a part of network design project. Network capabilities to handle varying types of traffic from low speed data to large image files and streaming video and digital voice are explored. (3 credits) Prerequisite: NTC 411