

# COMPUTER SCIENCE INFORMATION SYSTEMS (CSIS)

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## CSIS 505 Software Development 3 Credit Hour(s)

**Prerequisite:** Bus Cmn Pro Cpnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Obj-Oriented Programming Req with a score of 3 and Adv Obj-Oriented Program Req with a score of 3 and Busi Data Comm Sys / Netwk Req with a score of 3

This course is an in-depth study of the general-purpose, secure, object-oriented, portable programming language Java. Students will learn to program in Java using advanced features in Java to create stand-alone applications and applications for the World Wide Web using Java. The Java language concepts learned will be data types, operators, flow control statements, objects, classes, methods, arrays, inheritance, polymorphism, strings, characters, regular expressions, generic collections, recursion, and custom generic data structures.

**Offered:** Resident and Online

## CSIS 525 Database Design and Development 3 Credit Hour(s)

**Prerequisite:** (CSIS 505 and Bus Cmn Pro Cpnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Obj-Oriented Programming Req with a score of 3 and Adv Obj-Oriented Program Req with a score of 3 and Busi Data Comm Sys / Netwk Req with a score of 3) or (INFO 505 and Bus Cmn Pro Cpnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Prin of Human Bio / Human AP with a score of 3)

Focused on the advanced design and development of databases, students will learn how to architect data storage solutions that are highly dynamic and scalable to meet the rapidly changing needs of business. Areas will include, but are not limited to, client-server processing, parallel processing, distributed, and multidimensional databases. Students will learn how to design database management systems that scale to meet the needs of rapidly changing and competitive business environments.

**Offered:** Resident and Online

## CSIS 535 Computer Networks 3 Credit Hour(s)

**Prerequisite:** Bus Cmn Pro Cpnt/27hr BUSI Req with a score of 3 and College Algebra Req with a score of 3 and Undergraduate Statistics Req with a score of 3 and Obj-Oriented Programming Req with a score of 3 and Adv Obj-Oriented Program Req with a score of 3 and Busi Data Comm Sys / Netwk Req with a score of 3

Concentrated on computer networks, students will learn the fundamentals of networking, network management, and network design. Areas will include, but are not limited to, the abstraction layers of network communication, wireless networks, mobile networks, network security, network architecture, basic network design, and network management. Students will learn how to analyze and build basic computer network designs that meet the needs of changing business environments.

**Offered:** Resident and Online

## CSIS 641 Software Development Management 3 Credit Hour(s)

**Prerequisite:** CSIS 505

This course will cover some of the challenges associated with software development management and is intended to serve as a guide to students maturing engineering discipline. Software succeeds when it meets the needs of the people who use it, performs flawlessly over a long period, is easy to modify, and changes things for the better. Therefore, students will explore software development from a managerial perspective by learning the software process models, modeling, quality management, and managing software projects. This course teaches students how to build better software based on discipline and modern methods, which is acquired through an engineering approach. Discussion of advanced topics such as software process improvement and future software engineering trends will be addressed.

**Offered:** Resident and Online

## CSIS 643 Software Design 3 Credit Hour(s)

**Prerequisite:** CSIS 505 and CSCI 611

In this course, the student will be introduced to the architectural design of complex software systems and explore how to successfully design complex software systems. Software system design requires an individual to be able to describe, evaluate, and create systems at an architectural level of abstraction. Therefore, this course considers commonly-used software system structures, techniques for designing and implementing these structures, models, and formal notations for characterizing and reasoning about architectures, tools for generating specific instances of an architecture, and case studies of actual system architectures. Students will learn the skills and background needed to properly evaluate the architectures of existing systems and to design new systems in principled ways using well-founded architectural paradigms.

**Offered:** Resident and Online

## CSIS 651 Network Architecture and Design 3 Credit Hour(s)

**Prerequisite:** BMIS 662 and CSCI 601

This course provides an in-depth analysis of network architecture models that are designed to support business strategies in a changing environment. It addresses optimization of network functionality including resilience, modularity, security, virtualization, management, and topology design.

**Offered:** Resident and Online

## CSIS 657 Statistical Analysis and Data Mining 3 Credit Hour(s)

**Prerequisite:** CSIS 505 and CSIS 525

This course provides an in-depth study of the field of statistical analysis and data mining as it relates to real-world applications. It explores the complexities of data mining algorithms, software tools, and techniques employed in modern analytics and massive data sets. The selection, application, and evaluation of statistical approaches are examined in the context of data mining.

**Offered:** Resident and Online

**CSIS 690 Integrated Capstone 3 Credit Hour(s)**

**Prerequisite:** (BMIS 520 and BMIS 530 and BMIS 570 and CSIS 525 and CSIS 535 and CSIS 641 and CSIS 643 and CSIS 657) or (BMIS 520 and BMIS 530 and BMIS 570 and BMIS 662 and CSIS 525 and CSIS 535 and CSIS 651 and CSIS 657)

**Online Prerequisite:** BMIS 520 and BMIS 530 and BMIS 570 and CSIS 525 and CSIS 535 and CSIS 641 and CSIS 643 and CSIS 657 or (BMIS 520 and BMIS 530 and BMIS 570 and BMIS 662 and CSIS 525 and CSIS 535 and CSIS 651 and CSIS 657)

The capstone is an opportunity for the students to demonstrate their analytical, design, research, and management skills to solve a specific problem outlines within current information technology literature. Students will validate their abilities to develop effective information technology solutions through a thesis project that addresses a complex issue within this field. If completed successfully, the capstone project signifies the completion of the information technology program.

**Offered:** Online