COMPUTER SCIENCE MAJOR (B.S.)

Purpose

The Computer Science (CS) major is offered by the School of Business with the purpose of developing Christ-centered men and women with the values, knowledge, and skills essential to impact computing-related disciplines in tomorrow's world.

Students are exposed to the computer science core body of knowledge from a Christian worldview. Equipped with a firm foundation in algorithms and problem solving, they learn to analyze problems and design, implement, and test software solutions. Students also develop a strong background in mathematics to cultivate their reasoning abilities. Faculty help students prepare for a lifetime of service while encouraging undergraduate research and effective application of technology from a Christian worldview.

Program Learning Outcomes

The student will be able to:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Program Educational Objectives

Our goal is, within a few years of graduating, our Computer Science students will be able to:

1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

6. Apply computer science theory and software development fundamentals to produce computing-based solutions.
7. Conduct best practices in Computer Sciences while maintaining a Christian worldview.

Programs of Study
Delivery Format: Residential Only

- Computer Science (B.S.) - Cyber Security - Resident
- Computer Science (B.S.) - General - Resident
- Computer Science (B.S.) - Software Engineering - Resident
- Computer Science (B.S.) - Web & Mobile Programming - Resident

Career Opportunities

- Computer Engineers
- Computer Programmers
- Computer Scientists
- Database Administrators
- Operations Research
- Systems Analysts
- Teaching in Private Schools & Public Schools

Courses

CSIS 100 Introduction to Information Sciences and Systems 3 Credit Hour(s)
Prerequisite: MATH 108 or MATH 110 (may be taken concurrently) or MATH 115 (may be taken concurrently) or MATH 117 (may be taken concurrently) or MATH 121 (may be taken concurrently) or MATH 122 (may be taken concurrently) or MATH 126 (may be taken concurrently) or MATH 128 (may be taken concurrently) or MATH 131 (may be taken concurrently) or MATH 133 (may be taken concurrently) or MATH 200 (may be taken concurrently) or MATH 201 (may be taken concurrently) or BUSI 230 or MATH 217 (may be taken concurrently) or MATH 227 (may be taken concurrently) or MATH 250 (may be taken concurrently) or ACT Math with a score of 21 or (pre2016 post1995)SAT Math with a score of 530 or SAT Section Math with a score of 560 or Assessment - Mathematics II with a score of 15 or Placement Score-Math with a score of 070
This course examines the design, selection, implementation and management of enterprise Business solutions. The focus is on identifying critical business processes and envisioning how technology can be developed to provide solutions which generate competitive advantage. Students learn how applying frameworks and strategies around the Business Process and Organization Strategy provide a competitive advantage. The course also includes a component for Technical Writing for Information Systems. (Formerly BMIS 200)
Offered: Resident and Online

CSIS 110 Introduction to Computing Sciences 3 Credit Hour(s)
Prerequisite: MATH 121 (may be taken concurrently) or MATH 122 (may be taken concurrently) or MATH 125 (may be taken concurrently) or MATH 126 (may be taken concurrently) or MATH 128 (may be taken concurrently) or MATH 131 (may be taken concurrently) or MATH 132 (may be taken concurrently) or MATH 133 (may be taken concurrently) or MATH 200 (may be taken concurrently) or MATH 201 (may be taken concurrently) or BUSI 230 or MATH 217 (may be taken concurrently) or MATH 227 (may be taken concurrently) or MATH 250 (may be taken concurrently) or ACT Math with a score of 25 or (pre2016 post1995)SAT Math with a score of 570 or SAT Section Math with a score of 590 or Assessment - Mathematics II with a score of 15 or Placement Score-Math with a score of 075
A breadth-first introduction to the computing disciplines, with an emphasis on computer ethics and how computing technology impacts the world. Topics include: computing history; discrete mathematics; computer architecture and organization; algorithm design; languages; compilers; operating systems; applications; networks; databases; intellectual property; privacy; free speech; social consequences; computer crime; and codes of conduct. (Formerly CSCI 110)
Offered: Resident and Online

CSIS 111 Introduction to Programming 3 Credit Hour(s)
Prerequisite: CSCI 110 or CSIS 110 (may be taken concurrently) or ENGR 110 (may be taken concurrently)
Introduction to structured programming and algorithms with an object-oriented language. Topics include input/ output, flow of control, functions, and an introduction to software engineering. Programming assignments are required. (Formerly CSCI 111)
Offered: Resident and Online

CSIS 112 Advanced Programming 3 Credit Hour(s)
Prerequisite: CSCI 111 or CSIS 111
Continuation of CSIS 111. Further development of discipline in program design, especially for larger programs. Introduction of pointers, simple data structures, recursion, internal sort/search methods. Programming assignments are required. (Formerly CSCI 112)
Offered: Resident and Online

CSIS 208 Application Programming 3 Credit Hour(s)
Prerequisite: (CSIS 100 or CSIS 110) and (MATH 121 (may be taken concurrently) or MATH 122 or MATH 123 or MATH 125 or MATH 126 or MATH 128 or MATH 130 or MATH 131 or MATH 132 or MATH 200 or MATH 201 or MATH 211 or MATH 217 or MATH 221 or MATH 227 or MATH 231 or MATH 250 or MATH 301 or MATH 302 or MATH 305 or MATH 307 or MATH 311 or MATH 321 or MATH 331 or MATH 332 or MATH 334 or MATH 350 or MATH 352 or MATH 400 or MATH 401 or MATH 411 or MATH 419 or MATH 420 or MATH 421 or MATH 422 or MATH 431 or MATH 450) or BUSI 230
Development of computer and programming skills, problem solving methods, and selected applications. This course provides a broad-based introduction to programming in Visual Basic. Students will learn how to build a program from the design phase all the way through to delivery. (Formerly BMIS 208)
Offered: Resident and Online

CSIS 209 C# Programming 3 Credit Hour(s)
Prerequisite: BMIS 208 or CSIS 208 or CSCI 111 or CSIS 111 or ISYS 211 or CMIS 211 or CSIS 212 or BMIS 212 or CMIS 212 or ISYS 212
Development of computer and programming skills using the C# language. Students will learn how to use C# to develop stand-alone applications in an IDE. Advanced concepts, such as database connectivity and web applications will also be examined. (Formerly BMIS 209)
Offered: Resident and Online

CSIS 212 Object-Oriented Programming 3 Credit Hour(s)
Prerequisite: CSIS 110 or CSIS 208 or MATH 121 or MATH 122 or MATH 123 or MATH 125 or MATH 126 or MATH 128 or MATH 130 or MATH 131 or MATH 132 or MATH 200 or MATH 201 or BUSI 230 or MATH 211 or MATH 217 or MATH 221 or MATH 227 or MATH 231 or MATH 250 or MATH 301 or MATH 302 or MATH 305 or MATH 307 or MATH 311 or MATH 321 or MATH 331 or MATH 332 or MATH 334 or MATH 350 or MATH 352 or MATH 400 or MATH 401 or MATH 411 or MATH 419 or MATH 420 or MATH 421 or MATH 422 or MATH 431 or MATH 450
A study of the general-purpose, secure, object-oriented, portable programs. This course prepares students to program stand-alone applications. It will cover features such as programming concepts, data types, operators, flow control statements, objects, classes, methods, arrays, and strings. The concept of object-oriented programming is emphasized. (Formerly BMIS 212)
Offered: Resident and Online

CSIS 215 Algorithms and Data Structures 3 Credit Hour(s)
Prerequisite: (CSCI 112 or CSIS 112) and MATH 250
Study of data structures such as linked lists, stacks, queues, trees, and graphs. Algorithms for manipulating such structures will be introduced and analyzed. Static and dynamic memory allocation. Access methods for sorting/searching, such as hashing and tree searching. (Formerly CSCI 215)
Offered: Resident and Online

CSIS 244 Assembly Language 3 Credit Hour(s)
Prerequisite: CSCI 111 or CSIS 111
A detailed development of the tools and techniques of assembly language on a particular computing system. Several programming assignments are required. (Formerly CSCI 244)
Offered: Resident

CSIS 299 Internship 0 Credit Hour(s)
Application procedures processed through the Career Center. Must apply semester prior to internship. (Previously BMIS/CSCI 299)
Registration Restrictions: Sophomore status, 2.00 GPA, two courses in major, declared major, not more than one CSER behind
Offered: Resident

CSIS 310 Web Architecture and Development 3 Credit Hour(s)
Prerequisite: CSIS 111 or CSIS 208 or CSIS 212
Provides students with thorough knowledge of the foundations of web architecture, current technologies utilized in the development of a web site, and criteria for assessing the usability of web sites. (Formerly CSCI 310) (Crosslisted with BMIS 310)
Offered: Resident and Online

CSIS 312 Advanced Object- Oriented Programming 3 Credit Hour(s)
Prerequisite: CMIS 212 or CSIS 212 or ISYS 212 or BMIS 212
In-depth study of the advanced features of Java, with an emphasis on the 'why' as well as the 'how to'of programming in the Java language. This course also prepares students for the Sun Certified Java Programmer exam. (Formerly BMIS 312)
Offered: Resident and Online

CSIS 315 Client-Side Programming 3 Credit Hour(s)
Prerequisite: (CSIS 212 or BMIS 212) or (CSIS 112 or CSCI 112)
This course provides an introduction to the various languages and tools used in client-side programming. The fundamentals of client-side programming will be emphasized. Due to the particularly dynamic nature of Internet technologies, course content will change as appropriate. (Formerly CSCI 315)
Offered: Resident and Online

CSIS 316 Server-Side Programming 3 Credit Hour(s)
Resident Prerequisite: CSIS 112 or CSIS 212
Online Prerequisite: BMIS 310 or CSCI 310 or CSIS 310 or CSCI 215 or CSIS 215
This course provides and introduction to the various languages and tools used in server-side programming. The fundamentals of server-side programming will be emphasized. Due to the particularly dynamic nature of Internet technologies, course content will change as appropriate. (Formerly CSCI 316)
Offered: Resident and Online

CSIS 320 IS Hardware and Software 3 Credit Hour(s)
Prerequisite: CSCI 110 (may be taken concurrently) or CSIS 110 (may be taken concurrently) or BMIS 200 (may be taken concurrently) or CSIS 100 (may be taken concurrently)
Emphasis is placed on the role of the computer in information processing, including the design of computer hardware and operating systems, application programming, data storage, network and client/server concepts, and systems development life cycle. (Formerly BMIS 320)
Offered: Resident and Online

CSIS 325 Database Management Systems 3 Credit Hour(s)
Resident Prerequisite: (MATH 201 (may be taken concurrently) or BUSI 230) and (BMIS 212 or CSIS 212 or BMIS 208 or CSIS 208)
Online Prerequisite: (MATH 201 or BUSI 230 or MATH 211) and (CSIS 211 or CSIS 208 or CSIS 212)
The study of relational database architecture, design, access, administration and implementation in the context of various organizational environments. The course includes issues of data normalization, standard queries, and the use of popular relational and object technologies for building business-oriented applications. Assigned projects will provide hands-on experience with industry leading SQL and RDBMS tools and ER CASE tools currently popular in business and government settings. (Formerly BMIS 325)
Offered: Resident and Online

CSIS 326 Database System Concepts 3 Credit Hour(s)
Prerequisite: (CSIS 215 or CSCI 215) and (MATH 211 (may be taken concurrently) or ENGR 210 (may be taken concurrently))
The study of database management systems, database architecture, design, queries, applications, administration and implementation. The course will focus on data normalization, SQL (queries), and the use of relational technology for building database applications. Projects will be assigned to provide hands-on experience with the SQL language and relational database management software packages. (Formerly CSCI 325).
Offered: Resident

CSIS 327 Introduction to Oracle 3 Credit Hour(s)
Online Prerequisite: BMIS 325 or CSIS 325 or ISYS 325 or CMIS 450
This course introduces the fundamentals of database design using an Oracle platform. Database administration will be introduced as well as the basic concepts of data manipulation in an Oracle environment. (Formerly BMIS 326)
Offered: Online

CSIS 328 Advanced Oracle 3 Credit Hour(s)
Online Prerequisite: BMIS 326 or CSIS 327
This course introduces the advanced topics of database administration in Oracle. Multi-dimensional databases for Business Intelligence applications will be examined as well. (Formerly BMIS 327)
Offered: Online

CSIS 330 Business Data Communication Systems 3 Credit Hour(s)
Business Data Communications. The study of the movement of information (data) from one device to another by means of electrical, optical, radio or satellite transmission systems. This course will introduce the architecture, concepts, terminology, design, and management issues related to the modern environment of networking and data communications. Various types of networks and communication systems, protocols, regulatory issues and policies will be explored. (Formerly BMIS 330)
Offered: Resident and Online

CSIS 331 Networks 3 Credit Hour(s)
Prerequisite: CSIS 330
Building on the foundational knowledge of the 330 course, this is a study in corporate data networking. This course primarily focuses on switched networks (wired and wireless) with hands on work on setting up and operating a switched network. Routed networks fundamentals and concepts will be introduced to prepare students for careers in networks operations and the follow-on advanced networks class. (Formerly BMIS 331)
Offered: Resident and Online

CSIS 335 Network Security 3 Credit Hour(s)
Prerequisite: BMIS 330 or CSIS 330 or ISYS 330 or CMIS 330
A study of the control of unwanted intrusions into, use of, or damage to a business' computer network. This course will cover elements that prevent unwanted activities in an efficient and cost effective manner. This study will start with a focus on the business challenges and threats network professionals face in their day to day operations. It explores the nature and intent of hackers and defines preventative measures such as Intrusion Detection Systems, firewalls, and virtual private networks. (Formerly BMIS 335)
Offered: Resident and Online

CSIS 340 Studies in Information Security 3 Credit Hour(s)
This course introduces the basic issues and principles of information system security such as security policies, their mechanisms of implementation, means attackers use to circumvent these protections, and defenses against these attackers. (Formerly CSCI 340) (Crosslisted with BMIS 340 and BUSI 417)
Offered: Resident and Online

CSIS 341 Information Security Planning 3 Credit Hour(s)
Prerequisite: CSCI 340 or BMIS 340 or CSIS 340
This course will deal with the proper planning for and initial implementation of an Information Security program. The topics included would be: security planning and policies, risk analysis, program accreditation, systems lifecycle management, contingency planning, physical security measures, personal security practices and procedures, software security, network security, administrative controls, crypto security. (Formerly CSCI 351) (Crosslisted with BMIS 341)
Offered: Resident and Online

CSIS 342 Computer Architecture and Organization 3 Credit Hour(s)
Prerequisite: CSIS 215 or CSCI 215
Introduction to architecture and organization of computer systems. Data and instruction representations. Arithmetic and logical operations. Processor and memory implementations. (Formerly CSCI 342)
Offered: Resident and Online

CSIS 343 Cybersecurity 3 Credit Hour(s)
Prerequisite: CSCI 340 or BMIS 340 or CSIS 340 or BUSI 417
A comprehensive overview of the essential concepts students must know as they pursue careers in information systems security. Topics include a discussion of the new risks, threats, and vulnerabilities associated with the transformation to a digital world, including a look at how business, government, and individuals operate today. Additionally, information is included from the Official (ISC) 2 SSCP Certified Body of Knowledge and presents a high-level overview of each of the seven domains within the System Security Certified Practitioner certification. (Formerly BMIS 342)
Offered: Resident and Online

CSIS 344 Information Security Operations 3 Credit Hour(s)
Prerequisite: CSCI 340 or BMIS 340 or CSIS 340
This course will cover the issues and tasks involved in the day to day operation of an Information Security System. The topics included in this course would be: risk management, auditing and monitoring, regulations and compliance, disaster recovery, incidence response, key management, information systems hardware and software operation, networks and transmission security, operational security, and cryptography. (Formerly CSCI 352)
Offered: Resident and Online

CSIS 345 Introduction to Linux 3 Credit Hour(s)
Prerequisite: CSCI 112 or CSIS 112 or ISYS 212 or BMIS 212 or CSIS 212
This course introduces students to the usage and administration of the UNIX Operating System. The course will emphasize end-user tools and commands for basic file manipulation, editing, compilation and debugging, as well as special features of the UNIX shell environment. Basic system administration will also be covered. Students will learn through a combination of traditional lectures, hands-on laboratory sessions, and individual assignments. (Formerly CSCI 345)
Offered: Resident and Online

CSIS 351 System Analysis and Design 3 Credit Hour(s)
Prerequisite: CSIS 325 (may be taken concurrently)
This practical course in information systems development will cover the concepts, skills, methodologies (RAD as well as SDLC), and tools essential for systems analysts to successfully develop information systems. The course will also introduce the student to the Oracle Designer CASE tools, which will be used to assist in the documentation of the analysis and design phases. The course will include a significant amount of team-based activities, therefore issues associated with team interactions and processes will be discussed. (Formerly BMIS 351)
Offered: Resident and Online

CSIS 352 System Administration 3 Credit Hour(s)
Prerequisite: (BMIS 320 or CSIS 320) or CSIS 345
Principles of system administration activities, applications, operating systems, and domains; analysis of computing applications, infrastructures, architectures, firmware, hardware, disaster recovery, security, and enterprise deployment.
Offered: Resident and Online

CSIS 354 Integrative Programming and Technologies 3 Credit Hour(s)
Prerequisite: BMIS 320 or CSIS 320
Examines the integration of systems and applications across global businesses; explores programming interfaces, data mapping and exchange, scripting, and programming languages to support the configuration, maintenance, integration, and security of systems.
Offered: Resident and Online

CSIS 355 Network Architecture and Protocols 3 Credit Hour(s)
Resident Prerequisite: (CSCI 215 or CSIS 215) and (RSCH 201 or Inquiry Research with a score of 80 or Research with a score of 80 or Research (prior to 2017-2018) with a score of 80)
Online Prerequisite: CSCI 215 or CSIS 215
A study of how computer networks and internets operate. Investigates networking from the level of data transmission and wiring through the level of application software that provides networking functionality. Topics include: data and packet transmission, LANs and WANs, and internet concepts, including architecture, protocol layering, and application software. (Formerly CSCI 355)
Offered: Resident and Online

CSIS 375 Introduction to Human-Computer Interaction 3 Credit Hour(s)
Prerequisite: BMIS 208 or BMIS 212 or CSIS 208 or CSIS 212 or CSIS 111
This course provides a study and application of the concepts, theory, and practice of effective user interactive computer software, including user-centered design principles, guidelines and evaluation for designing a software product. Cognitive and social aspects of human interaction will be examined in conjunction with elements of technological devices. Human interaction with mobile applications, internet applications, social networking technology, cloud computing, and stand-alone applications will be explored. (Formerly CSCI 375) (Crosslisted with BMIS 375)
Offered: Resident and Online

CSIS 405 Business and Economic Forecasting 3 Credit Hour(s)
Prerequisite: (MATH 201 (may be taken concurrently) or BUSI 230) and (ECNC 214 or ECON 214)
Factors producing and study of cyclic movements, analysis of their causes and methods of forecasting as well as study of seasonal, erratic and other movements. (Formerly BMIS 405) (Crosslisted with BUSI 405)
Offered: Resident and Online

CSIS 408 Web and Mobile Programming 3 Credit Hour(s)
Prerequisite: CSCI 315 or CSCI 316 or CSIS 315 or CSIS 316
This course provides an in-depth look at current enterprise level technologies used for standardized business-to-business communication among client-server applications using Internet Services technologies. It covers modern technologies used as well as new and rising technologies. Due to the particularly dynamic nature of Internet technologies, course content will change as appropriate. (Formerly CSCI 405)
Offered: Resident and Online

CSIS 410 Web Enterprise Technologies 3 Credit Hour(s)
Online Prerequisite: (BMIS 310 or CSIS 310) and (BMIS 325 or CSIS 325 or CSCI 325 or CSIS 326 or ISYS 325 or CMIS 450)
Provides students with thorough knowledge of current technologies and best practices for developing database driven dynamic websites including database and client side programming. (Formerly BMIS 410)
Offered: Online

CSIS 416 AITE Capstone 3 Credit Hour(s)
Prerequisite: CSCI 405 or CSIS 408
This is the capstone course. The student will learn to work in teams in the programming of their capstone project. The teams will give both written and oral presentations to their clients. (Formerly CSCI 416)
Offered: Resident and Online

CSIS 430 Advanced Networking and Communication Systems 3 Credit Hour(s)
Prerequisite: BMIS 331 or CSIS 331 or CSCI 355 or CSIS 355
This course focuses on routed data networks and the implementation of previously learned business data communications and switched networks concepts, principles and strategies to build a complete data communications network. This course is an in-depth study of technologies and equipment in modern communication networks. The TCP/IP stack and Cisco (or comparable) networking equipment are used to explore methodologies for designing, configuring, and maintaining communication networks. (Formerly BMIS 430)
Offered: Resident and Online

CSIS 434 Theory of Programming Languages 3 Credit Hour(s)
Prerequisite: CSCI 215 or CSIS 215
A theoretical study of programming languages. Introduction to grammars and parsers. Language design issues and practical applications. (Formerly CSCI 434)
Offered: Resident and Online

CSIS 440 Digital Forensics 3 Credit Hour(s)
Online Prerequisite: CSIS 341
Students are introduced to the concept of computer crimes and the need for forensics specialists (people who know how to find and follow the evidence). System Forensics, Investigation, and Response begins by examining the fundamentals of system forensics, the role of computer forensics specialists, computer forensic evidence, and application of forensic analysis skills. It also gives an overview of computer crimes, forensic methods, and laboratories. It then addresses the tools, techniques, and methods used to perform computer forensics and investigation. Finally, it explores emerging technologies as well as future directions of this interesting and cutting-edge field. (Formerly BMIS 440)
Offered: Online

CSIS 443 Operating Systems 3 Credit Hour(s)
Prerequisite: CSCI 342 or CSIS 342
Resource management for processes, files, devices, and memory. Deadlock and recovery procedures. Security issues. (Formerly CSCI 443)
Offered: Resident and Online

CSIS 461 Technical Aspects of Computer Security 3 Credit Hour(s)
Prerequisite: CSCI 355 or CSIS 355
This course introduces the following issues and principles of information system security: security policies and their mechanisms of implementation, methods used by attackers attempting to circumvent these protections, and specific defenses against these attackers.
Offered: Resident and Online

CSIS 463 Modern Cryptography 3 Credit Hour(s)
Prerequisite: MATH 350 and (CSCI 215 or CSIS 215)
Study of modern cryptographic techniques. Covers basic cryptographic concepts, including symmetric key, public key, hash functions, digital signatures, and message authentication codes.
Offered: Resident and Online

CSIS 465 Enterprise Systems and Integration 3 Credit Hour(s)
Online Prerequisite: CSIS 352 and CSIS 354
Information technology capstone course converses by focusing on a sequence of projects that designs and builds systems and integrates them into a global business; emphasizes IT project management, enterprise architecture, business requirement analysis, system modeling, acquisition, testing, deployment, and quality assurance.
Offered: Online

CSIS 466 Modern Cryptography 3 Credit Hour(s)
Prerequisite: (CSCI 215 or CSIS 215) and MATH 350 (may be taken concurrently)
Offered: Resident

CSIS 470 Executive Perspectives on E-Commerce Technology 3 Credit Hour(s)
Online Prerequisite: (BMIS 310 or CMIS 310 or ISYS 310 or CSIS 310) and (BMIS 351 or CMIS 351 or ISYS 351 or CSIS 351)
The capstone course for the Web Technology and Design degree. The course synthesizes material presented in previous courses highlighting the challenge of communication electronic commerce technology issues to non-technically oriented executives. Specific topics will include: models of web business strategy; and non-business web applications in government and education. (Formerly BMIS 470)
Offered: Online

CSIS 471 Software Engineering 3 Credit Hour(s)
Prerequisite: CSCI 215 or CSIS 215
Study of the software development process. Topics include: phases of a software project; life-cycle models; metrics; tools; and ethical and professional issues. Participation on team projects is integral. (Formerly CSCI 481)
Registration Restrictions: Senior Status
Offered: Resident and Online

CSIS 473 IS Project Management 3 Credit Hour(s)
Resident Prerequisite: (CMIS 351 or BMIS 351 or ISYS 351 or CSIS 351) and (ECNC 214 or ECON 214 or ENGI 220) and (RSCH 201 or Inquiry Research with a score of 80 or Research with a score of 80 or Research (prior to 2017-2018) with a score of 80)
Online Prerequisite: (CMIS 351 or BMIS 351 or ISYS 351 or CSIS 351) and (ECNC 214 or ECON 214 or ENGI 220)
Capstone course for MIS majors. Develops skills in managing the project development cycle in an organization. Topics include systems engineering, cost analysis, risk management, and managing the socio-technological elements of a project. (Formerly BMIS 460)
Offered: Resident and Online

CSIS 474 Enterprise Systems and Integration 3 Credit Hour(s)
Resident Prerequisite: CSIS 352 and CSIS 354 and (RSCH 201 or Inquiry Research with a score of 80 or Research with a score of 80 or Research (prior to 2017-2018) with a score of 80)
Online Prerequisite: CSIS 352 and CSIS 354
Information technology capstone course converses by focusing on a sequence of projects that designs and builds systems and integrates them into a global business; emphasizes IT project management, enterprise architecture, business requirement analysis, system modeling, acquisition, testing, deployment, and quality assurance. (Formerly CSIS 465)
Offered: Resident and Online

CSIS 481 CS Capstone I 3 Credit Hour(s)
Prerequisite: (CSIS 471 or CSCI 481) and CSIS 326
A hands-on experience that requires students to apply the skills and knowledge gained throughout the Computer Science program. A team solution of a real-world project is required. (Formerly CSCI 482)
Offered: Resident

CSIS 482 CS Capstone II 3 Credit Hour(s)
Prerequisite: CSIS 481
The activities in this course provide a hands-on experience that will allow the students to apply the various skills and knowledge they have gained throughout their Computer Science program. Teams of three to four persons will be formed at the beginning of the course. Software is nearly always developed by teams so this kind of experience is crucial for career preparation. A real-world project submitted by a ministry, some component of the university, or an associated business organization will be identified for each team. These projects will be selected to emphasize the software development process, as well as result in a viable product.
Offered: Resident

CSIS 483 Information Systems Capstone 3 Credit Hour(s)
Prerequisite: (CSIS 351 or BMIS 351) and (CSIS 473 or BMIS 460)
A hands-on experience that requires students to apply the skills and knowledge gained throughout the Information Systems program. A team solution of a real-world project is required.
Offered: Resident and Online

CSIS 484 Information Technology Capstone 3 Credit Hour(s)
Prerequisite: (CSIS 465 or CSIS 474)
A hands-on experience that requires students to apply the skills and knowledge gained throughout the Information Technology program. A team solution of a real-world project is required.
Offered: Resident and Online

CSIS 485 Cybersecurity Capstone I 3 Credit Hour(s)
Prerequisite: CSIS 100 and CSIS 110 and CSIS 111 and CSIS 112 and CSIS 215 and CSIS 471
This course is a comprehensive review of the computer science cybersecurity program and integrates all concepts of software cybersecurity, from a secure software development lifecycle (SDLC) point of view.
Offered: Resident and Online

CSIS 486 Cybersecurity Capstone II 3 Credit Hour(s)
Prerequisite: CSIS 100 and CSIS 110 and CSIS 111 and CSIS 112 and CSIS 215 and CSIS 471 and CSIS 485
This course is a continuation of the Cybersecurity Capstone I course and serves as the culmination of the computer science cybersecurity program which integrates all concepts of enterprise cybersecurity, from an offensive and defensive point of view.
Offered: Resident and Online

CSIS 495 Directed Research 1-3 Credit Hour(s)
Prerequisite: CSCI 215 or CSIS 215
Study of advanced topics in computer science on an individual basis. Periodic meetings with instructor.
Registration Restrictions: Permission of instructor
Offered: Resident

CSIS 497 Special Topics in Technology 3 Credit Hour(s)
Selected topics in various areas of computer science. May be repeated for credit when topic varies. (Formerly CSCI 497)
Registration Restrictions: Permission of instructor
Offered: Resident

CSIS 499 Internship 1-6 Credit Hour(s)
Applications are processed through the department Faculty Intern Advisor. Applicants must apply the semester prior to starting the internship. (Formerly CSCI 499)
Registration Restrictions: Junior Status, required GPA permission of Faculty Intern Advisor
Offered: Resident and Online