

COMPUTER INFORMATION SYSTEMS (CIS)

All CIS courses numbered 100 and above may be applied to the major field and elective requirement for the Associate in Arts and Associate in Science degrees.

CIS 105 Python Programming I (3) 2,2

This course introduces the fundamentals of computer programming concepts and techniques, designed for students with no prior programming experience. Students will learn to design, write, and debug basic computer programs using Python. Key topics include data types, variables, conditional statements, loops, functions, lists, and basic file handling. The course emphasizes hands-on programming exercises to help students develop problem-solving and logical thinking skills. Python is the primary language used, and the focus will be on building a solid foundation in programming (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: (1) Grade of C or better in MTH 098 or MTH 099 or satisfaction of other placement criteria; or (2) consent of instructor

Semester(s) Offered: Fall, Spring and Summer

CIS 110 Computer Concepts & Business Appls (3) 3,0

This course introduces students to business application software and digital literacy computer concepts. Students will learn to use word processing, spreadsheet, database, presentation, internet including web design applications, and learn the role of information systems in the business environment. In addition, the course content includes fundamental concepts of hardware and software, file management, basic computer networking and security, and computer related ethical and legal issues. Intended for students seeking a business applications skillset and exploring various career options in information technology. (1.2) IAI Major: BUS 902 Proficiency Credit Available (3 T) Pass/No Credit Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None

Semester(s) Offered: Fall, Spring and Summer

CIS 120 Cyberlaw and Ethics (3) 3,0

This course provides students with advanced knowledge about the current laws and regulations of cyberspace. It covers basic laws and ethical behavior associated with e-commerce security, privacy, and network security. In addition, it highlights legal issues involved in technology. Students examine best practices in ethical aspects of cybersecurity. (1.2) Proficiency Credit: Available (2 S) Pass/No Credit: Available.

In-District Tuition/Fees: \$414 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Reading: Grade of C or better in RDG 091 or LTC 099, or satisfaction of other placement criteria.

Semester(s) Offered: Fall and Spring

CIS 121 Computer Science I (4) 4,0

This course is an introduction to computer programming, emphasizing a disciplined approach to problem-solving and algorithm development. Students will learn program design and structured programming techniques using selection, repetition, and sequence control structures. Topics will include storage and variables, procedural and data abstraction, parameter passing, arrays, records, data files, program-testing, documentation, and proper programming style. (1.1) IAI Major: CS 911 Proficiency Credit Available (3 TIC) Pass/No Credit Available.

In-District Tuition/Fees: \$572 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in MTH 098 or MTH 099, or satisfaction of other placement criteria or in two years high school algebra or consent of instructor.

Semester(s) Offered: Fall, Spring and Summer

CIS 123 Computer Science for Engineers (4) 4,0

This course is an introduction to computer programming with a strong emphasis on mathematical applications relevant to science and engineering. Students will learn a disciplined approach to problem-solving and algorithm development using selection, repetition, and sequence control structures. Programming topics will include an introduction to basic hardware and operating systems, storage and variables, procedural and data abstraction, parameter passing, arrays, strings, data files, error-handling, program-testing, documentation, and proper programming style. Mathematical topics will include matrices, linear interpolation, convergence, linear regression, roots of functions, solution of simultaneous linear equations, graphing, and numerical integration. This course will be taught using the C++ programming language. (1.1) IAI Major: CS 911 Proficiency Credit Not Available Pass/No Credit Available NOTE: This course is offered concurrently as MTH 123. The student must decide whether to earn credits in Computer and Information Sciences (CIS) or Mathematics (MTH) prior to enrolling.

In-District Tuition/Fees: \$577 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in MTH 190 or consent of instructor.

Semester(s) Offered: Fall and Spring

CIS 127 Discrete Structures (3) 3,0

This course is an introduction to analysis of finite collections and the mathematical foundations of computing. It is intended for students intending to major in Computer Science. Topics include computer system design, data structures, algorithms, sets, logic, arrays and vectors, number systems, counting, recursion, graph theory, trees, and Boolean algebra. Students will explore these topics by writing computer programs to apply and test the concepts they learn. (1.1) IAI Major: CIS 915 Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$429 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in MTH 112 and CIS 121 or CIS 123 or consent of instructor

Semester(s) Offered: Fall

CIS 149 User Interface Design Principles (1) 1,0

This course is an overview of basic principles of user interface design and graphic design as they apply to programmers. Emphasis will be on user interface design for programs written for Microsoft Windows and other GUI (Graphical User Interface) environments, and also how these design principles apply to interactive web sites on the Internet. Basic graphic design principles will also be applied to GUI applications and Internet page design. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$143 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: CIS 148 or concurrent enrollment in CIS 148
Semester(s) Offered: Varies

CIS 170 Introduction to Digital Forensics (3) 2,2

This course provides students with an overview of digital forensics techniques and investigation process. It focuses on the use of the most popular forensics tools and provides specific guidance on the investigation process of matters relating to the law and technology. Topics include the representation of data, preserving data, recovering data from multiple sources, and legal issues unique to digital forensics investigations process. The course also assists students in establishing the basis for preparing for a certification in digital forensics. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$454 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None Recommended: CIS 110
Semester(s) Offered: Fall and Spring

CIS 171 Introduction to Cyber Crimes (2) 2,0

This course will acquaint the student with the various types of computer-related crimes and the legal issues involved in investigation. (1.2) Proficiency Credit Available (2 TI) Pass/No Credit Not Available.

In-District Tuition/Fees: \$276 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None

Semester(s) Offered: Varies

CIS 205 Visual Programming (4) 4,0

This course teaches how to program with a "visual" programming languages, such as Visual Basic. You will learn to write software using the various controls available in a graphical user interface, and learn how to best design programs using those controls. An important emphasis will be data access, manipulation, and queries with the available data controls. This course is repeatable 3 times. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$572 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 105 or CIS 121 or consent of instructor Recommended: CIS 110 or familiarity with Microsoft Windows

Semester(s) Offered: Varies

CIS 207 Python Programming II (3) 2,2

This advanced course builds upon the foundational knowledge of Python programming by introducing students to advanced topics such as recursion, graphical user interfaces (GUIs), object-oriented design with classes, and data analysis with visualization. Students will also explore multithreading, network programming, and algorithm complexity analysis. Through practical exercises, students will apply higher-order functions, image processing techniques, and class structures to real-world problems. This course is designed for students who have completed an introductory Python coursework. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 105 or consent of instructor

Semester(s) Offered: Fall and Spring

CIS 210 Intro to Database Design/Management (3) 3,0

This course covers the introduction to relational database management systems. It uses fundamental concepts in database design, database modeling techniques, and Structured Query Language (SQL) programming techniques while providing hands-on exercises in which students apply these concepts and techniques. Design and manipulation of relational databases will be emphasized. Students will implement a relational database from initial requirements and conceptual design (ER Diagram) to the physical database in a modern enterprise relational database management system (RDMS). (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$429 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 110 and CIS 105 or CIS 121 or consent of instructor.

Semester(s) Offered: Fall

CIS 215 Multimedia Technologies (2) 2,0

This course is an introduction to software and hardware used for graphics, sound, and motion video. Students will learn to use basic presentation software, and they will learn the basics of multimedia types and delivery on the Internet. Topics will include image formats, scanners, image editing software, audio and video formats, software recording and playback, and multimedia streaming on the web. This course is repeatable 1 time. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$286 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 110 or consent of instructor

Semester(s) Offered: Spring

CIS 222 Linux Operating Systems (3) 3,0

In this introduction to using the Linux operating system, students will learn the basics of using the command line for navigation and file management and learn the use of basic Linux utilities. Students will learn to use text editors and basic scripting and scheduling for processes. Other topics include Linux installation, software updates, graphical user interfaces, and open source Linux applications. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 110 or CIS 105 or CIS 121 or consent of instructor

Semester(s) Offered: Fall and Spring

CIS 223 Computer Science II (4) 4,0

This second course in computer science introduces more advanced topics in programming, with emphasis on data structures and file manipulation. Topics will include design and implementation of large-scale problems, program verification, dynamic memory allocation, data structures, file processing, and an introduction to object-oriented programming. This course will be taught using the C++ programming language. (1.1) IAI Major: CS 912 Proficiency Credit Available (3 C) Pass/No Credit Available.

In-District Tuition/Fees: \$572 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 121 or CIS 123 or MTH 123 or consent of instructor

Semester(s) Offered: Fall and Spring

CIS 226 Computer Science III (4) 4,0

This course concentrates on algorithms, algorithm analysis, and advanced data structures. Algorithm approaches such as divide-and-conquer, dynamic, greedy, and back-tracking are considered. Complexity analysis is used to compare algorithm efficiency. Students will learn further use of object-oriented programming to implement ADTs such as graphs, sets, heaps, and hash tables. (1.1) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$572 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: CIS 223 or consent of instructor

Semester(s) Offered: Spring

CIS 227 Computer Organization (3) 3,0

This is a course in basic computer architecture. The function of the CPU, memory systems and organization, input/output devices, busses and interrupts will all be included. Students will learn basic digital logic, instruction sets, microprogramming, and assembly language. (1.1) Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$414 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 127 or concurrent enrollment in CIS 127 or consent of instructor

Semester(s) Offered: Varies

CIS 229 Computer Science Independent Study (2-6) 4

(0, 4-12) This course permits the student to do research in a particular area of his/her interest in computer science with minimal assistance from the instructor. (1.2) Proficiency Credit Available (2 IC) Pass/No Credit Available.

In-District Tuition/Fees: \$843 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Demonstrated ability to excel in an area of interest with consent of instructor

Semester(s) Offered: Varies

CIS 230 Computer Hardware & Troubleshooting (3) 2,2

This class is an introduction to the installation, configuration, upgrading, diagnosing/troubleshooting, and preventive maintenance of computer hardware. The class covers the basic hardware components, assembling the components into a working system. The course will also cover hardware peripherals such as printers, scanners, and displays as well as basic networking. Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer hardware. This course maps fully to CompTIA's latest A+ Exam objectives. (1.2) Proficiency Credit Available 2 Z Pass/No Credit Available.

In-District Tuition/Fees: \$414 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 110 or CIS 105 or consent of the instructor.

Semester(s) Offered: Fall and Spring

CIS 231 Intro to Windows OS (3) 2,2

This hands-on course offers an in-depth study of the functions and features of installing, configuring, troubleshooting and maintaining current Microsoft Windows desktop operating systems. Topics include performing attended and unattended installations, monitoring and managing files. Students will gain a complete, step-by-step approach for learning the fundamentals of supporting and troubleshooting computer software. This course maps fully to CompTIA's A+ Exam objectives. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$414 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None.

Semester(s) Offered: Fall and Spring

CIS 236 Special Topics in Computer Science (.5-3) 3,6

(.5-3, 1-6) Designed to satisfy specific needs or interests of students and the community. The following guidelines are to be used in selecting topics: 1) adequate and available material on special topic; 2) comprehensive outlines for each topic; and, 3) course should be designed to increase skill and knowledge in field of data processing. This course is repeatable 3 times. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$84 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None

Semester(s) Offered: Varies

CIS 241 Word Processing Applications (2) 2,0

This course covers beginning through advanced word processing topics that prepare you to achieve the Microsoft Word Certification. These topics include creating and managing letters, tables, research papers, Web content; merging documents; creating forms; embedding and linking objects; using Macros; and troubleshooting. Students in this course will complete the official Microsoft Word Certification exam as the course final. See the schedule for specific software packages used. This course is repeatable 3 times. (1.2) Proficiency Credit Available (3 S) Pass/No Credit Available.

In-District Tuition/Fees: \$291 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None Recommended: Working Knowledge of Microsoft Windows

Semester(s) Offered: Fall, Spring and Summer

CIS 242 Spreadsheet Applications (2) 2,0

This course covers beginning through advanced spreadsheet topics that prepare you to achieve the Microsoft Excel Certification. These topics include creating and managing worksheets and workbooks; managing data cells and ranges; creating tables; performing operations with formulas and functions; creating charts and objects; and troubleshooting. Students in this course will complete the official Microsoft Excel Certification exam as the course final. See the schedule for specific software packages used. This course is repeatable 3 times. (1.2) Proficiency Credit Available (3 S) Pass/No Credit Not Available.

In-District Tuition/Fees: \$291 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None Recommended: Working Knowledge of Microsoft Windows

Semester(s) Offered: Fall, Spring and Summer

CIS 243 Presentation Applications (2) 2,0

Recommended: Working Knowledge of Microsoft Windows This course covers beginning through advanced presentation topics that prepare you to achieve the Microsoft PowerPoint Certification. These topics include creating and managing presentations; inserting and formatting text, shapes, and images, tables, charts, SmartArt, and media; applying transitions and animations; managing multiple presentations; and troubleshooting. Students in this course will complete the official Microsoft PowerPoint Certification exam as the course final. See the schedule for specific software packages used. This course is repeatable 3 times. (1.2) Proficiency Credit Available (3 S) Pass/No Credit Not Available.

In-District Tuition/Fees: \$291 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None

Semester(s) Offered: Fall, Spring and Summer

CIS 244 Database Applications (2) 2,0

Recommended: Working Knowledge of Microsoft Windows This course covers beginning through advanced database topics that prepare you to achieve the Microsoft Access Certification. These topics include creating and managing a database; building tables; creating queries, forms, reports; and troubleshooting. Students in this course will complete the official Microsoft Access Certification exam as the course final. See the schedule for specific software packages used. This course is repeatable 3 times. (1.2) Proficiency Credit Available (3 S) Pass/No Credit Not Available.

In-District Tuition/Fees: \$291 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None

Semester(s) Offered: Fall, Spring and Summer

CIS 246 Programming Dynamic Web Pages (3) 2,2

This course will teach how to do client-side Internet programming with Javascript. Topics will include creating slide shows and active images, customizing web page content with Javascript programs, using data from querystrings and forms, creating calculators with forms, using new windows and redirection, validating form contents, and using cookies to maintain data. This course is repeatable 2 times. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$424 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: CIS 105 or CIS 121 and CIS 148 or consent of instructor. CIS 148 may be taken concurrently

Semester(s) Offered: Varies

CIS 247 Internet Programming (3) 2,2

This course will teach various ways to write programs that can be used over the Internet. The actual topics may change from semester to semester as the Internet itself continues to evolve. Students will learn client-side and server-side scripting using one or more common Internet programming languages, how to gather form data into a database, and how to deliver database information over the web. This course is repeatable 3 times. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$429 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 105 or CIS 121 or consent of instructor Recommended: CIS 148

Semester(s) Offered: Varies

CIS 248 Internet Programming with PHP (3) 2,2

This course will teach how to do server-side Internet scripting with the language PHP. Topics will include gathering data from forms and querystrings, saving form information to data files on the server, reading and searching data files to create custom web pages on request, carrying information forward through multiple pages to create an interactive website, and various ways to use PHP to customize web pages and web sites from the server side. This course is repeatable 2 times. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$429 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: CIS 105 or CIS 121 or consent of instructor
Recommended: CIS 148

Semester(s) Offered: Varies

CIS 252 Network Fundamentals (3) 2,2

This course is designed to provide a comprehensive introduction to networking concepts. Throughout the course, students will explore networking infrastructure, protocols, security practices, risk management, and wireless technologies. By the end of the course, students will gain practical knowledge and hands-on skills to successfully manage, troubleshoot, and secure network environments. The course emphasizes industry-standard networking techniques and concepts, preparing students with the foundational knowledge required to pursue careers in network administration or support. This course maps directly to the CompTIA Network+ Exam Certification. (1.2) Proficiency Credit Available (2 TI) Pass/No Credit Not Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None.

Semester(s) Offered: Fall and Spring

CIS 253 Principles of Cyber Security (3) 2,2

This course introduces students to the key concepts and practices in information security. Students will explore critical topics such as attack surfaces, cryptography, mobile and endpoint security, identity and access management, infrastructure protection, wireless network defenses, and cloud security. With a strong emphasis on hands-on activities, the course prepares learners to identify and mitigate security vulnerabilities and respond to security incidents. Learners will develop practical skills and theoretical understanding required to protect information systems and data from emerging threats. This course aligns to the goals of the CompTIA Security+ exam certification. (1.2) Proficiency Credit Available (2 TI) Pass/No Credit Not Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: None.

Semester(s) Offered: Fall and Spring

CIS 256 Network Administration/Microsoft (3) 2,2

This course introduces windows server administration and integration of cloud-based services. The course focuses on the installation and management of both on-premises and remote systems. Areas of study cover installation, management of local and remote systems, file and storage services, and Hyper-V virtualization. Students will enhance their abilities in leveraging various Microsoft services, including Active Directory, storage, and networking. This course prepares the students for the related intro level Microsoft network administration certification exam. This course is repeatable 3 times. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 231 or concurrent enrollment in CIS 231 or consent of instructor.

Semester(s) Offered: Fall and Spring

CIS 261 Cloud Computing Fundamentals (3) 2,2

This course offers a comprehensive exploration into cloud computing, covering foundational principles, virtual hardware, migration strategies, networking, security, and advanced automation. Designed for students seeking to understand the cloud's impact on IT infrastructure and services, it combines theoretical knowledge with practical applications. Students will learn about deployment models, managing cloud resources, optimizing performance, navigating cloud security, and identity management. Ideal for those aiming for careers in cloud services, system administration, or cybersecurity. The course prepares students for CompTIA Cloud+ certification. Proficiency Credit: Not Available Pass/No Credit: Not Available.

In-District Tuition/Fees: \$414 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 231 or concurrent enrollment in CIS 231 or consent of instructor.

Semester(s) Offered: Fall and Spring

CIS 263 Ethical Hacking & Counter Measures (3) 2,2

This course introduces students to a broad range of systems, applications, and network intrusions, prevention and detection. It provides an in-depth understanding of how to effectively protect computer systems and networks. Students will identify and analyze new vulnerabilities and apply innovative methods to protect systems and networks. Students will learn the tools and methodologies used by ethical hackers. (1.2) Proficiency Credit: Available (2 S) Pass/No Credit: Available.

In-District Tuition/Fees: \$434 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: CIS 252 or CIS 253 or concurrent enrollment in CIS 252 or CIS 253; or consent of instructor.

Semester(s) Offered: Fall and Spring

CIS 271 Application Device Evidence Recovery (3) 2,2

This lab intensive course will teach students how to analyze and recover potential evidence from digital media, applications, and operating systems. Students will utilize an industry standard self-contained digital forensics software suite, such as EnCase or Forensics Toolkit (FTK). Students will learn to use the software to manage cases, create evidence files, analyze disk and device images, use various search methods, and archive evidence. This course will also provide evidence recovery capabilities beyond what might be found in an all-in-one software suite. (1.2)
Proficiency Credit Available (2 IS) Pass/No Credit Not Available.

In-District Tuition/Fees: \$429 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in CIS 170 or consent of instructor

Semester(s) Offered: Fall and Spring