COMPUTER INFORMATION SYSTEMS (CIS)

Computer Information Systems (CIS) 101
Computer Science 101
An introductory course in computer science and programming, with emphasis on the logical analysis of a problem and the formulation of a computer program leading to its solution. Topics include basic concepts of computer systems, computer types, cloud computing, and computer programming languages. Writing assignments, as appropriate to the discipline, are part of the course.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 102
Intro To Programming Logic
Techniques and problem-solving aids necessary for efficient solution of computer programming problems. Writing assignments, as appropriate to the discipline, are part of the course.
Eligibility for ENGLISH 101 based on prior coursework or appropriate score on Placement Test; or Consent of Department Chair
3 Lecture hours. 3 Credit Hours.
Offered At: KK, MX, OH

Computer Information Systems (CIS) 103
Fundamentals of Programming
How to use a language to program a computer for real world problem solving in mathematics, science, business and other fields. The course will feature elements of program design, data types and expressions, procedures and modularity, conditions and loops, data and control structures, development of algorithms, and writing and debugging programs. Writing assignments, as appropriate to the discipline, are part of the course.
ENGLISH 101 Eligibility or Successful Completion of CIS 101 or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 111
Computer Operations
This course introduces operation and routine maintenance of hardware technologies; central processing unit; peripheral devices; network setup and connecting; notebooks; and printers. Writing assignments, as appropriate to the discipline, are part of the course.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 112
Advanced Computer Operation
Operating system concepts; program resources, and their allocations, job scheduling, exception handling, set-up, relationship between operating system, hardware and user program, time sharing and teleprocessing. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 111.
4 Laboratory hours. 2 Lecture hours. 4 Credit Hours.
Offered At: KK

Computer Information Systems (CIS) 113
Human-Computer Interaction
This course introduces students to the user interface development process, including evaluating, managing, and differentiating interaction styles. Design limitations and issues will be discussed, as students explore the design of computer interfaces. Students will follow an interactive design process to create a user-centered interface. Writing assignments, as appropriate to the discipline, are part of the course.
3 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 114
Mobile Application Development
This course emphasizes development in an application language appropriate for mobile devices. This course covers programming logic, tools, and code syntax. It also covers designing interfaces to create an interactive multimedia mobile app. Students are expected to have some previous programming experience. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 142 or CIS 144, or consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 116
Operating System I
An overview including a theoretical and practical framework for the study of controlling software in the microcomputer environment using prevailing cooperating systems. The concepts of interrupt handling, scheduling and query techniques, and access and storage methods will be clarified through readings and discussions. Writing assignments, as appropriate to the discipline, are part of the course. No more than 3 credit hours will count towards the CICT requirements. Additional earned credit hours up to 6 will be counted towards elective and requires Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
Repeatable: Yes, up to 4 times

Computer Information Systems (CIS) 117
Introduction to Apple Development
This course gives students a solid foundation in computer programming fundamentals, but using the Apple Swift language for coding mobile Apps. Throughout this course, students will gain practical experience with the tools, techniques, and concepts needed to build basic apps for Apple devices from scratch. Topics include software development methodology, data types, control flow, functions, storage containers, and the mechanics of testing and debugging Apps. Writing assignments, as appropriate to the discipline, are part of the course.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: TR

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Computer Information Systems (CIS) 118
Information Technology Problem Solving
The course introduces students to a wide variety of problem solving methodologies and Information Technology tools that build problem solving skills needed to effectively meet the challenges of real world scenarios. They will use a variety of IT tools including programming, social media and networking among others. Writing assignments, as appropriate to the discipline, are part of the course.
Eligibility for ENGLISH 101 based on prior coursework or appropriate score on Placement Test; or Consent of Department Chair
3 Lecture hours. 3 Credit Hours.
Offered At: DA, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 119
Apple User Management
This course will introduce students to the various Apple operating Systems that are used to control and manage Apple computing devices. The course also teaches students the fundamentals of using Apple devices such as phones, tablets, media and computers. In addition, hardware management concepts are covered in order to guide students through the steps necessary to effectively use these devices with peripherals, storage, and networking equipment. Writing assignments, as appropriate to the discipline, are part of the course.
3 Lecture hours. 3 Credit Hours.
Offered At: TR

Computer Information Systems (CIS) 120
Introduction to Computer Applications
Fundamental concepts of computer information systems as applied to microcomputers in business and individual use; includes hands-on experience with a variety of microcomputer software. Writing assignments, as appropriate to the discipline, are part of the course. Allowed Repeatable Course: Not more than three credit hours will be counted towards the CIS/IT degree requirements. Additional earned credit hours up to six will be counted towards elective credit and requires the consent of Departments Chairperson. ARC: 3 times.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
IAI: BUS 902
Repeatable: Yes, up to 3 times

Computer Information Systems (CIS) 122
Intro to Word Processing on Microcomputers
In-depth concepts of word processing as they apply to microcomputers in business and personal use. Laboratory assignments provide hands-on experience with microcomputer word processing software. Writing assignments, as appropriate to the discipline, are part of the course. Allowed Repeatable Course: Not more than three credit hours will be counted towards the CIS/IT degree requirements. Additional earned credit hours up to six will be counted towards elective credit and requires the Consent of Departments Chairperson.
3 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
Repeatable: Yes, up to 3 times

Computer Information Systems (CIS) 123
Microcomputer Spreadsheets
Fundamental concepts of computer programs as exemplified in the electronic spreadsheet. Emphasis on business applications and personal financial management and tax preparation. Writing assignments, as appropriate to the discipline, are part of the course. Allowed Repeatable Course: Not more than three credit hours will be counted towards the CIS/IT degree requirements. Additional earned credit hours up to six will be counted towards elective credit and requires the Consent of Departments Chairperson.
3 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
Repeatable: Yes, up to 3 times

Computer Information Systems (CIS) 124
Introduction to Cloud Computing
This course will expose students to basic knowledge of Cloud Computing. Students get a core grounding in the Cloud platform and gain the skills to launch a cloud computing career. Students will get an overview of cloud computing concepts and key factors to consider when moving to the cloud. Students will also learn about core Cloud services, security, architecture, pricing, and support. Upon completion, students will be prepared to take the exam for AWS Certified Cloud Practitioner. Writing assignments as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 101, Computer Science 101 and a grade of C or better in either NET TEC 121, Internetworking I, or COMPSFI 101, Networking Essentials, or consent of the Department Chairperson
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: TR, WR

Computer Information Systems (CIS) 130
Intro to Assembler Programming
Writing programs demonstrating use of assembler language. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 103 and CIS 135, or Consent of Department Chairperson.
3 Lecture hours. 3 Credit Hours.
Offered At: KK

Computer Information Systems (CIS) 142
C++ Object Oriented Programming I
Fundamentals of structured object-oriented C++ programming through a study of program specification and design, algorithm development, flowcharts, problem solving, programming concepts, classes and methods, control structures, arrays, strings, coding and testing using a modern software development environment. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in MATH 118 or higher, or consent of Department Chairperson. (CIS 101 is recommended)
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
IAI: CS 911

Computer Information Systems (CIS) 144
Java Object Oriented Programming I
A block-structured high-level programming language commonly used in internet applications; including procedural and data abstraction programming styles; the concepts of design, testing, and documentation in programming, programming platforms, and software developments; selection, repetition, and sequence control structures; the basic programming elements of arrays, records, and files. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in MATH 118 or higher, or consent of Department Chairperson. (CIS 101 is recommended)
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
IAI: CS 911

Computer Information Systems (CIS) 145
Database Management
In-depth concepts of database as they apply to microcomputers in business and personal use to build information management systems. The network, hierarchical, and relational models are discussed. DBMS on microcomputers are used for lab assignments to implement the rational models. Writing assignments, as appropriate to the discipline, are part of the course. Allowed Repeatable Course: Not more than three credit hours will be counted towards the CIS/IT degree requirements. Additional earned credit hours up to six will be counted towards elective credit and requires the Consent of Departments Chairperson.
3 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
Repeatable: Yes, up to 3 times

Computer Information Systems (CIS) 146
Python Programming I
Fundamentals of structured object-oriented Python programming through a study of the concepts of program specification and design, algorithm development, flowcharts, problem solving, programming concepts, classes and functions, control structures, store collection, strings, coding and testing using a modern software development environment. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in MATH 118 or higher, or consent of Department Chairperson. (CIS 101 is recommended)
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: TR, WR

Computer Information Systems (CIS) 158
Web Development I
Course emphasis will include the design and development of standards-based HTML, XHTML, and CSS documents with an introduction to Javascript. Previous knowledge of file management, including downloading and uploading, is required. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 101 or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 171
Computer Mathematics
Survey of numbers systems, conversion of one number system into another; fundamental operations of binary, octal and hexadecimal arithmetic. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in MATH 99, or Grade of C or better in MATH 140.
3-4 Lecture Hours. 3-4 Credit Hours.
Offered At: DA

Computer Information Systems (CIS) 181
Web Development I/Basic Web Technologies
This course covers website architecture, layout structure, documentation, and user interface development with an emphasis on valid and semantic code. Style sheets will be used to organize and present page content. Responsive design techniques and tools will be used to build a robust website. Writing assignments, as appropriate to the discipline, are part of the course.
ENGLISH 101 Eligibility or Successful Completion of CIS 101 or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 182
Web Development II/Client Side Scripting
This course focuses on client-wide scripting language to verify data entry, to manipulate and control web page elements, and to store information on client machines using cookies. This course also introduces students to industry-standard client-side scripting libraries as well as concepts of data handling, Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 181, or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 201
Advanced Apple Development
This course is a further exploration into the SWIFT Object Oriented Programming language concepts and methods for creating mobile Apps for iPhones and iPads. Students will also learn how to create multi-screen Apps using the Xcode design interface. Through a series of guided and unguided projects, students will learn to effectively connect programming code to user interface objects for creating engaging mobile Apps for Apple devices. Writing assignments, as appropriate to the discipline, are part of the course.
ENGLISH 101 Eligibility and Completion of CIS 117 -Introduction to Apple Development with grade of C or better, or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: TR

Computer Information Systems (CIS) 203
Advanced Basic Programming
Event-driven programming using the Visual Basic programming language. Includes algorithm development, structured design and file processing, and the use of various controls including control arrays, exception handling and the use multiple forms. Introduces database manipulation using Microsoft Access and database controls. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 103, or Grade of C or better in CIS 142, or Consent of Department Chairperson.
3 Lecture hours. 3 Credit Hours.
Offered At: KK, TR

Computer Information Systems (CIS) 224
Cloud Architecture
Cloud Architecture is an essential task in the Enterprise Operation. In this course, we will identify services and features to build resilient secure and highly available IT solutions on the AWS cloud architecture platform. Solutions differ depending on industry, types of applications, and business size; you will be guided through the process of designing optimal IT solutions focusing on account security, networking, compute, storage, databases, monitoring, automation, containers, serverless architecture, edge services and backup and recovery. Upon completion, you'll be prepared to take the AWS Certified Solutions Architect Associate exam. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 124 Intro to Cloud Computing, or consent of the Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: TR, WR

Computer Information Systems (CIS) 242
C++ Object Oriented Programming II
Building on prior programming experience, design and implementation of large-scale programs; abstract data types; and data structures: files, sets, pointers, lists, stacks, queues, trees, graphs. Program verification and complexity, recursions, and dynamic concepts: memory, scope, block structures. Text processing and introduction to searching and sorting algorithms. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 142, or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
IAI: CS 912

Computer Information Systems (CIS) 244
Java Object Oriented Programming II
Use fast, secure, and reliable Java programming language for designing and implementing applications and websites; management of abstract data types; data structures (lists, stacks, queues, trees, graphs); program verification and complexity; recursion; dynamic concepts (dynamic memory allocation); text processing, and an introduction to searching and sorting algorithms. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 144 or Consent of Department Chairperson
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR
IAI: CS 912

Computer Information Systems (CIS) 245
Principles of Software Development
This course introduces and applies the methods and procedures used in the analysis and design of software within modern software engineering fields. Topics covered will include Software Architecture, cloud software, etc. Students are expected to have some previous programming experience and to develop software that covers the topics introduced in class. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in Computer Information System (CIS 101) and Fundamentals of Programming (CIS 103) or consent of the Department Chairperson
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 250
Systems Analysis and Design
This course provides students with theory and practice associated with the analysis and design of computer-based information systems. Fundamental topics include systems theory, the role of the information system in operating and managing the organization, systems design concepts, forms and work-flow, entity relationship diagramming, equipment selection, and implementation of systems. Other topics include the function of design tools such as CASE planning techniques, and project management. Hands-on activities will be introduced at each face of the SDLC with built-in security measures. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 101 or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 251
Intro to Database Management Systems
Examination of data manipulation needs and comparison of traditional processes for meeting needs with data base approach; use of computer simulations to practice and apply database management system (DBMS) techniques. Writing assignments, as appropriate to the discipline, are part of the course.
Eligibility for ENGLISH 101 based on prior coursework or appropriate score on Placement Test; or Consent of Department Chair
3 Lecture hours. 3 Credit Hours.
Offered At: KK, OH, TR

Computer Information Systems (CIS) 255
Operating Systems II
This course introduces prevailing operating systems and their relationship to servers in the work environment. Course covers distributions and licensing, system installation and configuration, file system management, system scripting and usage, resource administration, user and group management, process, services and kernel management, and network configuration. Students will also learn how to set up network and other services on a server system and perform remote administration. Administrative tasks include file compression, system backup, and software installation. Topics in troubleshooting, performance tuning, virtualization and system security are also covered in this course. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 116 or COMPSFI 101 or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 258
Web Development II
Extends introductory concepts of CIS 158, using a variety of Internet and general networking concepts, including interactive forms and CGI programming for the World Wide Web, multimedia development, Intranets, server installation and management, and database connectivity, and simple website administration. This will include multimedia additions, setting design styles, and installing on a web server. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 158 or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR

Computer Information Systems (CIS) 260
Computer Information Systems Field Project
This is a capstone course that provides students with practical application of computer skills by participation in a planned and coordinated field project. At the start of the class, specific goals and requirements will be carefully outlined to ensure that the student is aware of his or her responsibilities. Writing assignments, as appropriate to the discipline, are part of the course.
CIS 260 - Prerequisites: Minimum of 18 credit hours completed with a C or better in CIS or NET TEC or CSFI courses, and consent of Department Chair.
3 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 265
Computer Information Systems Internship
This course is designed to enable students to combine classroom training with practical Information Technology (IT) work experience through supervised on-the-job training in a public or private IT setting. IT interns may work at IT companies or for the IT department at larger business and corporations. They work alongside and support IT staff in software, hardware and other types of IT tasks and issues including networking, security, and software development. A minimum number of on-site hours is required for this course. Internship placement must be approved by the Program Chair/Coordinator. Writing assignments, as appropriate to the discipline, are part of the course.
Minimum of 18 credit hours completed with Grade of C or better in CIS -OR-NET TEC -OR-COMPSFI courses, and Consent of Department Chairperson.
10 Laboratory hours. 1 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 281
Web Development III/Server Side Programming
Continuation of CIS 182. Part III presents dynamic web programming using server side programming techniques. Database integration into website is also introduced. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in CIS 182, or Consent of Department Chairperson.
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 282
Web Development IV/Web Database Integration
Continuation of CIS 281. Part IV covers advanced topics in web development, including but not limited to Error Handling, Email, User Profile, Content Management, basic Online Store and E-Commerce Fundamentals. Writing assignments, as appropriate to the discipline, are part of the course.
Grade of C or better in both CIS 281 and NET TEC 101, or Consent of Department Chairperson
2 Laboratory hours. 2 Lecture hours. 3 Credit Hours.
Offered At: DA, HW, KK, MX, OH, TR, WR

Computer Information Systems (CIS) 299
Special Topic Comp Info Sys
Special topics in CIS will be discussed along with appropriate lab and/or field trip activities. New developments will be emphasized, especially materials useful in K-12 education and industry. Writing assignments, as appropriate to the discipline, are part of the course.
Eligibility for ENGLISH 101 based on prior coursework or appropriate score on Placement Test; or Consent of Department Chair
1-4 Lecture Hours. 1-4 Credit Hours.
Offered At: KK, TR
Repeatable: Yes, up to 4 times