

CIS - COMPUTER INFORMATION SYSTEMS

CIS120 Computer Concepts I

Credits 3

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. Recommended co-requisite: CIS120L. This course discusses computer technology and how this technology is used in business, industry and at home. Emphasis is placed on evaluating work-related and personal situations, and then determining how software and computer based systems can be used to solve the problem. The ethical, social and political implications of current and potential use are discussed. This course, only when in combination with CIS120L, may be considered for direct transfer.

CIS120L Computer Concepts Lab I

Credit 1

Registration Requirement: MTH020 with a grade of "C" or better; or placement above stated course levels. All face-to-face sections require a headset. All sections (except W1) use instruction in the most current Microsoft Office Suite. Note: Not all hybrid sections start in week one. This course shows students how to use the following common computer software productivity tools: word processing, spreadsheet, presentation, publication and web searching. The emphasis is on becoming proficient in the basics of each tool and demonstrate how and where each tool can be best used in various types of situations. Students can use these tools to be more productive in either business, industry or at home. Assignments in this course must be completed with Microsoft Office 365 software (Word, Excel, PowerPoint). Students can download this software for FREE at mhcc.edu/OfficeInstall.

CIS125DB Desktop Database

Credits 3

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. Recommended co-requisite: CIS125SS. This course provides a hands-on overview of the capabilities of the Microsoft Access database product. Emphasis is on creating and populating databases; defining simple queries and reports; maintenance/modification of a database; creating and enhancing reports and forms for data output/input; creating an application system built around a database, multiple tables and queries; database administration; and customizing forms using Visual Basic for applications.

CIS125GA Beginning Game Programming

Credits 3

Registration Requirement: Recommended Basic proficiency using a PC such as launching software, locating and opening files, use of the internet and a web browser; familiarity with basic PC concepts and terms; familiarity with at least one common game platform; experience with common video games of various types all recommended. This course introduces students to fundamental object oriented programming concepts and game design techniques. Students work within industry standard game engines to identify solutions and solve basic programming problems in interactive applications.

Additional Course Fee: \$65.00

CIS125SS Spreadsheets

Credits 3

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. This course provides an overview of the capabilities of the Microsoft Excel spreadsheet product. Emphasis is on spreadsheet creation, editing, formatting, copying, deleting and formula specification, spreadsheet functions, font selection, shading, borders, editing and data entry techniques, formulas, various file and printing options, window creation and election, advanced database-like activities, sort query, macros (recorded and written) and specialized menus. The outcomes of this class align with the NIST/CAE Knowledge Unit 'Basic Data Analysis'.

CIS125WP Word Processing

Credits 3

Registration Requirement: RD090 and WR090, each with a grade of "C" or better, or placement above stated course levels; or instructor consent. This course provides an overview of the capabilities of the Microsoft Word product. Emphasis will be on word processing functions such as saving, retrieving, formatting, printing, layout and editing, formatting and font selection on a line, paragraph, page and/or document level. The course material also reviews editing methods and input/output options. This course is intended to provide students with advanced techniques in producing different forms of printed communications.

CIS135 Introduction to Game Industry

Credits 3

Registration Requirement: Experience with different games across multiple platforms recommended. This course is a general introduction computer gaming as an industry. Students evaluate and analyze a variety of aspects of games and related products, propose game concepts and create design documentation based on their findings. Topics are rotating based on current industry events and technologies, and may include market and legal analyses, representation and diversity, business practices, game and product evaluation and alternative uses for game technologies.

Additional Course Fee: \$25.00

CIS135GMA Introduction to 3-D Modeling

Credits 3

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. Recommended co-requisite: CIS125GA. This class provides an overview of the Maya interface and an introduction to various topics and technique used in game, movie, commercial and interactive applications. Students achieve beginner-level Maya familiarity and an understanding of the first tier of menus. Topics covered include basic navigation and menu familiarity, polygon and "low-poly" techniques, non-uniform rational B-spline (NURBS), basic rendering and lighting in mental ray and Maya software.

Additional Course Fee: \$65.00

CIS135GMB Intermediate Game Modeling

Credits 3

Registration Requirement: CIS135GMA; or instructor consent.

This class provides further experience with the Maya interface and menus. Intermediate techniques and tools are covered, as well as further exploration of theory, lighting and rendering. Students create more advanced models and learn techniques to prepare them for export and use in interactive environments. Students are encouraged to select a focus for their modeling and begin creating content for an entry-level portfolio and demo reel.

Additional Course Fee: \$65.00**CIS135GMC Advanced 3-D Modeling**

Credits 3

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. Co-requisite: CIS235ANM. (Formerly CIS235GMA) This course covers advanced 3-D modeling and character development using Maya. Emphasis is placed on proper topology for deformation and biomechanics, advanced modeling techniques, and character design.

Additional Course Fee: \$65.00**CIS135GRA Graphics for Game Asset Development I**

Credits 3

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. Basic computer skills are required. This course covers the basic fundamentals of 2D graphical element creation for use in various aspects of the computer game development, including asset texturing, Graphical User Interface / Heads Up Display (GUI/HUD) applications and Sprite sheets. Emphasis of this class is on technique and software usage.

Various proprietary and open-source software packages are used.

Additional Course Fee: \$65.00**CIS135GRB Graphics for Game Asset Development II**

Credits 3

Registration Requirement: CIS135GRA, or strong experience in image manipulation software (e.g., Photoshop); or instructor consent. Recommended co-requisite: CIS135GMB. (Formerly CIS197TXT) This course covers basic and "Next-Gen" texturing for 3-D models and game applications. Texturing concepts and practice are used to create more efficient models and environments, as well as introducing core concepts of the Hypershade, UV texture editor and introductory digital sculpting techniques.

Additional Course Fee: \$65.00**CIS135TXP Special Topics in Emerging Technologies**

Credits 3

Registration Requirement: CIS125GA, CIS135GMB, and either CIS135GRA or CIS197WAG; or workforce proficiency; or instructor permission. This course covers a rotating topic in game technology, allowing students to supplement their skills with an specialty class in a variety of trending technological topics, such as Alternative User interfaces (Kinect, Oculus rift) Visual FX, AR (augmented reality), VR (Virtual reality), motion capture, and other currently relevant topics.

Additional Course Fee: \$65.00**CIS151 Introduction to Networks**

Credits 4

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. CIS151 is the first of a three-course sequence that uses the Cisco Networking Academy curriculum. The course is a comprehensive program designed to teach student networking and internetworking technology skills. It introduces networking standards, concepts, topology, media and terminology including LANs, WANs, the OSI model, cabling, IP addressing, subnetting, network hardware and various protocols. Additional material is supplied that goes beyond the scope of the Cisco curriculum.

Additional Course Fee: \$35.00**CIS152 Switching, Routing and Wireless Essentials**

Credits 4

Registration Requirement: CIS151. CIS152 is the second of a three-course sequence that uses the Cisco Networking Academy curriculum. This course provides an overview of hardware device configurations, switching and routing concepts, an introduction to wireless technologies, and extensive troubleshooting opportunities. This course also provides additional information on routing theory and protocols beyond that of the basic Cisco Networking Academy semester two course, leading to a more detailed understanding of routing.

Additional Course Fee: \$35.00**CIS153 Enterprise Networking, Security, and Automation**

Credits 4

Registration Requirement: CIS152. This third course is a sequence of Cisco Networking Academy curricula provides students with a deeper understanding of the advanced functionality of routers and switches. Students will get experience with the Open Shortest Path First (OSPF) routing protocol, design access control lists to filter network traffic. They will also develop the knowledge and skills needed to manage, design, troubleshoot, and virtualize networks while automate certain network tasks.

Additional Course Fee: \$35.00**CIS195 Interface Design for Interactive Applications**

Credits 3

Registration Requirement: MTH020 with a grade of "C" or better; or placement above stated course levels. This non-coding course covers the fundamentals of creating testable design prototypes for a variety of interactive applications including websites, mobile and application development, internet of things and game design. It brings together explorations of user feedback, prototyping methods and interface design to create optimal user experiences.

CIS197CSP Web Authoring: Client-Side Programming

Credits 3

Registration Requirement: Co-requisite: CIS197HTM, or HTML experience equal to CIS197HTM and instructor consent. This introductory programming course presents the fundamentals of creating dynamic HTML documents using client-side programming techniques such as JavaScript or AJAX. Topics included: variables and data types, syntax, objects and functions (built-in, user-defined), embedding scripts into HTML documents, security tips and concerns and using the Document Model (DOM).

CIS197HTM Web Authoring: HTML5 and CSS3

Credits 3

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. General computer and internet knowledge is strongly recommended for student success. This course introduces students to the fundamentals of web design with a focus on exposing students to HTML5 and CSS3 (the building blocks of web design and development). Students will learn how to use the appropriate tools and strategies to build simple web pages fully from code intentionally and effectively. This course will also feature coding best practices and the fundamentals of layout design for modern usage.

CIS197WAA Web Authoring: Applications

Credits 3

Registration Requirement: MTH020 with a grade of "C" or better, or placement above stated course levels. This introductory course covers the basics of creating web pages using popular web design software. The course includes basic page creation, format and layout manipulation, basic site navigation, forms and Cascading Style Sheets (CSS). Incorporation of various table styles, images, basic animation and media objects are covered. Intermediate knowledge of computers, computer systems and mobile devices equal to CIS120 is strongly recommended for student success.

CIS225 Computer End-User Support I

Credits 4

Registration Requirement: Corequisite: CIS120 and CIS120L or ISTM183A; or instructor consent. This course explores software tools to help manage requests for end-user support and resolve problems in a timely fashion including: computer-user support and customer service skills; troubleshooting basic computer problems; help desk operation; user support management; product evaluation strategies and support standards; user needs analysis and assessment methods; installing end-user computer systems; training computer users; and writing for end-users and computer facilities management. Various software will be explained for features such as logging and tracking incoming calls, audit trail, escalations, notification and follow-up, standard reporting, guide help systems and "gathered knowledge" for an expert system.

Additional Course Fee: \$65.00

CIS235 Game Design Theory

Credits 3

Registration Requirement: CIS135 or instructor consent. Students design and describe various techniques for developing immersive game levels and how to use a variety of tools to make an engaging and successful game. Emphasis will be placed on design and analysis, as well as implementing strategy, conflicts and player goals.

Additional Course Fee: \$25.00

CIS235ANM Introduction to 3-D Animation

Credits 3

Registration Requirement: CIS135GMA or instructor consent. Students are introduced to the classical principles of animation and learn how to translate realistic movement, weight and appeal into a 3-D environment. Students study techniques used for both the games and movie industry and create action and idle loops for games, as well as learn how to create a narrative animation to a sound clip.

Additional Course Fee: \$65.00

CIS235CXP Career Specific Exploration for Game Majors

Credits 3

Registration Requirement: CIS135GMC, CIS235TLC, CIS235RIG, and either CIS135GRA or CIS197WAG; or workforce proficiency; or instructor permission.

This course allows students to engage in an instructor guided curriculum to enhance their skills in their selected game-career path. Students will use a variety of external multimedia sources to compose, with instructor assistance and evaluation, a skill enhancing exploration of their chosen field.

Additional Course Fee: \$65.00

CIS235DD Introduction to Digital Painting and Concepting

Credits 3

Registration Requirement: CIS135GRA or CIS197WAG or instructor consent. Experience with image software preferred. Students utilize industry standard image manipulation software (such as Photoshop) and other digital art software as a medium for creating concept art, illustration and fine art for a variety of potential applications. Emphasis is placed on utilizing the students' individual styles to create a marketable portfolio geared for their chosen industry.

Additional Course Fee: \$65.00

CIS235PUB Publishing for the Game Industry

Credits 3

Registration Requirement: Either CIS235CXP or CIS135TXP; or CIS235UNA; or workforce proficiency; or instructor permission. This course brings together the outcomes from preceding courses, adding in the finalizing elements needed to bring an interactive application from concept to market. Students will analyze a variety of publishing, funding and social media platforms to design an appropriate and cohesive brand identity and associated marketing packages for their projects.

CIS235RIG Rigging for Animation and Games

Credits 3

Registration Requirement: CIS235ANM. Students learn basic 3-D object rigging techniques to create an object with motion believability. Using animation software such as Maya, students build skeleton and joint hierarchies, bind skin and use weight painting techniques to create realistic simulations of biomechanical principles for games and animation applications. Students learn industry standard control schemes, set driven keys and blend shapes to enhance their rigging systems.

Additional Course Fee: \$65.00

CIS235ST Game Studio

Credits 3

Registration Requirement: CIS235UNA, CIS235CXP and prior work; or instructor consent.

This sixth-term course provides the student the opportunity to put the final polish on previous work in preparation for final portfolio. Finished materials will be organized into a portfolio suitable for presentation or upload to the web.

Additional Course Fee: \$65.00

CIS235TLC Team Level Creation

Credits 3

Registration Requirement: CIS125GA, CIS135GMA, CIS135GRA or instructor consent. Recommended Second-year program standing. Students gain industry experience through production of a small, portfolio-quality game demo. Students utilize their chosen disciplines in a team environment, and get hands on experience with an industry standard game engine.

Additional Course Fee: \$65.00

CIS235UNA Small Games Programming I

Credits 3

Registration Requirement: CIS125GA; or strong experience in game engine software or instructor approval. Students build on their programming foundations to work with a popular industry game engine to produce functional games ideal for the mobile environment.

Additional Course Fee: \$65.00

CIS235UNB Small Games Programming II

Credits 3

Registration Requirement: CIS235UNA; or instructor consent. Students individually design and produce fully functional games for web and mobile, using industry standard games engines and languages. Through guided projects, students create a portfolio-level application of their own design, demonstrating their understanding of programming foundations and engine specific tool sets.

Additional Course Fee: \$65.00

CIS276 SQL

Credits 4

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. CIS276 addresses the needs of information technology organizations to solve their data problems. User interaction with databases is accomplished using a "Structured Query Language" or SQL per the industry ANSI-SQL standard. The course presents SQL using Oracle as a vehicle, yet concepts and exercises are solvable using any propriety SQL.

Additional Course Fee: \$65.00

CIS284S Preparation for Security+

Credits 4

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W; and MTH020, each with a grade of "C" or better; or placement above stated course levels. This course is designed to provide students with the fundamentals of computer security, and to help prepare for the CompTIA Security + exam. It covers material related to general computer security concepts, communications security, infrastructure security, basics of cryptography and operational/organizational security. Packet filtering, password policies and file integrity checking are also covered.

CIS297 Capstone Project Development

Credits 4

Registration Requirement: RD090 and WR090, or IECC201R and IECC201W, each with a grade of "C" or better; and MTH020; or placement above stated course levels. This course is a capstone class for all students in the CIS and CS curriculum tracks. The application of newly acquired knowledge and skills to the real world is the student's ultimate goal of this course. Students select and explore a topic that both relates to their specific studies and their field of work. The result of this project is presented in an appropriate form to the student's peers and potentially, to the student's future/present employer as evidence of competence. In addition, students prepare material necessary to market one's self into their chosen career path.

Course fees are subject to change. Additional section fees (web, hybrid, etc.) may apply.

- ★ Course offered online
- 🌐 Cultural Literacy course