COMPUTER INFORMATION SYSTEMS

College of DuPage

COMPUTER INFORMATION SYSTEMS

As existing and emerging technologies become more ubiquitous, and industry becomes more and more dependent on technology, there is a growing need for qualified professionals to develop, implement, maintain, organize and support the devices and systems that are found in nearly every industry. Job growth in computer-related careers is expected to continue into the next decade. Career opportunities are varied and include application developers, computer service technicians, data entry personnel, network administrators, programmers, software developers, support technicians, video game developers and web specialists.

Health care facilities, computer consulting services, accounting systems design, manufacturing and government agencies are a few examples of fields that provide jobs for technical and business computer professionals.

The Computer Information Systems (CIS) program at College of DuPage offers a variety of degrees and certificates that enable graduates to pursue careers and upgrade skills in a wide range of information technology (IT) fields. In addition, the program offers courses and programs designed to give professionals working outside the IT field the knowledge and skills to utilize current and emerging technologies required for their jobs. Whether you are entering a computer-related field or brushing up on computer skills, the CIS program offers degrees, certificates, and courses that can meet all of your needs.

For a complete list of courses in this program visit:
cod.edu/catalog

WHY COLLEGE OF DuPAGE IS RIGHT FOR YOU

Whether you are preparing for a career in the IT industry, planning to transfer to a four-year baccalaureate-granting institution, or updating your skills, College of DuPage has the right program for you. We offer:

- Dedicated instructors with years of practical industry experience, certification and licensing.
- Instruction in top-notch facilities and on cutting-edge equipment.
- Flexible schedules with day, evening and online learning.
- Practical, hands-on experience as well as classroom-based studies.
- Affordable programs that get you on the fast track to success without breaking the bank.
- Training that is accredited and certified by industry associations and educational organizations ensure the most up-to-date and relevant training necessary for a competitive edge on the job market and a successful career.
- Articulated partnerships with respected baccalaureate-granting institutions validate the rigor of the program and enable seamless transfer of earned credits.

ASSOCIATE IN APPLIED SCIENCE (A.A.S.) IN COMPUTER INFORMATION SYSTEMS

The CIS program offers five A.A.S. degrees: Application and Technical Support Specialist, Game Animation and Design, Game Design and Development, Game Programming and Development, and Software Development. Each degree program consists of a minimum of 64 credits in general education requirements and program requirements.

Application and Technical Support Specialist

The Application and Technical Support Specialist degree program prepares students to work as support specialists for a range of technology products. Students gain skills and knowledge in computer programming, customer service, Linux and UNIX operating systems, networking, PC maintenance and upgrading, and system analysis and design. Students are required to complete a minimum of 64 credits of coursework, which includes 36 credits in core requirements, 13 credits in approved elective classes, and 15 credits in general education classes.

Game Animation and Design (NASAD accredited)

The Game Animation and Design degree program prepares students to create animations, design and develop video games, and incorporate art assets using game industry tools. Students learn concepts and techniques in 2D and 3D game design and development for Windows PC, game consoles, and VR, basic theory of design through practiced professional game design techniques, game asset creation, programming logic using Python. Animation will be stressed in a studio art atmosphere where students will be introduced to historical through present day animation, and will create 2D and 3D animations and special effects for film and video games. Students are required to complete a minimum of 64 credits of coursework, which includes 46 credits in core requirements, and 18 credits in general education classes. The Game Animation and Design AAS degree is a nationally accredited program through the National Association of Schools of Art and Design (NASAD) nasad.arts-accredit.org

Game Design and Development

The Game Design and Development degree program prepares students to design and develop video games through application of game design elements and development tools used in the game industry. Students learn concepts and techniques in 2D and 3D game design and development for Windows PC, game consoles, and VR, game asset creation, programming logic using Python, and C++ language programming. Game design will be stressed in both theory and practice, from basic theory of design through practiced professional game design techniques. Students are required to complete a minimum of 64 credits of coursework, which includes 38 credits in core requirements, 8 credits in approved electives, and 18 credits in general education classes.

Game Programming and Development

The Game Programming and Development degree program prepares students to develop video games using industry standard programming languages, tools, and techniques. Students will learn concepts and techniques in 2D and 3D game design and development for Windows PC, game consoles, and VR, programming logic using Python, system analysis. The C++ programming language will be stressed both in theory and in practice, from basic syntax to development of data structures required during software development. Assembly language programming, software engineering techniques needed to create custom game engines. Students are required to complete a minimum of 64 credits of coursework. This consists of 46 to 48 credits in core requirements, and 18 general education course credits.

Software Development

The Software Development degree program prepares students to work in a variety of roles in the field of computer technology. Students gain knowledge and skills in computer programming, HTML and XML programming languages, database applications, Linux and UNIX operating systems, networking, and system analysis and design. Students are required to complete a minimum of 65 credits of coursework, which includes 34 credits in core requirements, 16 credits in selected emphasis classes, and 15 credits in general education classes. This degree can be earned with emphasis in C++, Java, Visual Basic, or .NET.

UPDATE YOUR SKILLS AT COLLEGE OF DUPAGE

The CIS program offers several specialized courses that may be taken by professionals to update skills and knowledge. Here are just a few recent popular additions to CIS course offerings:

- Data Analytics and Visualization
- Explore International Information Technology
- Game Animation
- Game Asset Creation and File Optimization
- Game Development Capstone Project

STATE-OF-THE-ART FACILITIES

Facilities for the CIS program at College of DuPage are housed in the Seaton Computing Center (SCC). This 18,500 square-foot facility includes high-tech classrooms, a visual and simulation lab, networking hardware labs, a server/internetworking lab, software/web development labs and end-user labs.

AVAILABLE SCHOLARSHIPS

Students who are planning to enroll in the CIT program at College of DuPage may be qualified to receive a financial award through a variety of supported scholarships.

- Barth Engineering/Computer Science Scholarship
- CDW Women in Technology Scholarship
- Foundation's Returning Adult Scholarship

Visit **cod.edu/scholarships** for requirements and a full list of available scholarships.

"I've had some really awesome professors, and without them I would not be on the path I am taking today."

—Fumin Dang, College of DuPage Presidential Scholar

TRANSFER OPPORTUNITIES

3+1 Transfer Agreement

The College of DuPage CIS program has established a 3+1 agreement with Lewis University aimed at students who are pursuing a bachelor's degree in Computer Science. This agreement enables students to complete an associate's degree plus additional coursework beyond the associate's degree at College of DuPage and then seamlessly transfer to a partner university where they can complete their bachelor's degree in one year. The last year of coursework is offered by the partner university on site at College of DuPage.

Illinois Articulation Initiative (IAI)

The Illinois Articulation Initiative (IAI) facilitates the transfer of students from one Illinois institution to another. Both a general education core curriculum and a lower-division major recommendation course listing have been developed. For more information on transfer opportunities at College of DuPage, visit cod.edu/academics/transfer_programs.

ASSOCIATE IN SCIENCE (A.S.) IN COMPUTER SCIENCE

The Associate in Science (A.S.) degree in Computer Science program is designed for students who wish to transfer to a baccalaureate-granting institution. Students are required to complete a minimum of 64 credits of coursework including program required classes as well as general education classes. Specific program requirements may vary depending on the prospective transfer institution.

CERTIFICATES IN COMPUTER INFORMATION SYSTEMS

The Computer Information Systems program offers certificates in a variety of disciplines. These targeted programs range in length from 12 to 35 credit hours. Most students enroll in these programs to improve their on-the-job credentials, retrain for a new career in technology, or upgrade skills for a competitive edge in the job market. Please note: Several classes have prerequisite requirements. Students should consult with a faculty advisor for more information on prerequisite requirements for specific programs.

Business Productivity Software

The Business Productivity certificate provides students with the core competencies needed to use technology in modern business environments. Students are required to complete 19 credits in a variety of topics including database applications, office suite applications, spreadsheets, web design software, and Windows-based presentation graphics.

C++ Language Proficiency

The C++ Language Proficiency certificate provides students with core competencies in the use of the C++ programming language. Students are required to complete 15 credits in classes that include basic and advanced concepts in C++ language programming, computer information systems, data structure applications, and programming logic and technique.

Database Proficiency

The Desktop Database Proficiency certificate provides students with core competencies in the use of databases. Students are required to complete 10 credits in classes covering computer information systems, database management, and microcomputer database applications.

Enterprise Database Proficiency

The Enterprise Database Proficiency certificate provides students with core competencies in the use of databases in an enterprise network environment. Students are required to complete 13 credits in classes covering enterprise database development, programming logic and technique, Structured Query Language (SQL), and system analysis and design.

Game Design and Development

The Game Design and Development certificate prepares students for careers in computer game design and development. Students are required to complete 32 credits in classes that include an introduction to the field of the video game industry, programming logic using Python, 2D and 3D game design and development, advanced game design techniques, game asset creation, and C++ language programming.

Game Programming and Development

The Game Programming and Development certificate prepares students to develop computer games using industry standard programming languages, tools, and techniques. Students are required to complete 35 credits in courses that include an introduction to the field of the video game industry, programming logic using Python, 2D and 3D game design and development, data structures using C++, Assembly language programming, and basic software engineering techniques to create custom game engines.

iPhone/iPad Developer Proficiency

The iPhone/iPad Developer Proficiency certificate prepares students to design and develop applications for the Apple iOS platform in accordance with Apple development standards. Students are required to complete 16 credits in coursework including computer information systems, C++ language programming, and basic and advanced iPhone/iPad application development.

Java Language Proficiency

The Java Language Proficiency certificate provides students with core competencies in the use of the Java programming language. Students are required to complete 15 credits in classes that include computer information systems, programming logic and technique, as well as basic and advanced knowledge and skills working with the Java language including the development of applications, Graphical User Interfaces (GUIs), object-based problem solving, and polymorphism.

Linux Proficiency

The Linux Proficiency certificate provides students with core competencies in the administration, management, and use of the Linux operating system. Students are required to complete 16 credits in classes that include computer information systems, Linux operating system administration, programming logic and technique, UNIX operating systems, and Shell programming for Linux and UNIX.

Spreadsheet Proficiency

The Spreadsheet Proficiency certificate provides students with core competencies in the planning, creation, management and use of spreadsheets. Students are required to complete 17 credits in classes covering computer information systems, basic and advanced use of spreadsheet software, programming logic and technique, and Windows operating system basics.

Web Client Developer

The Web Client Developer certificate provides the necessary skills and knowledge for client-side website development. Learn to develop websites using Hypertext Markup Language version 5 (HTML5), Cascading Style Sheets (CSS), and JavaScript. You will write code manually, as well as use graphical user interface (GUI) authoring tools, and program client-side, platform-independent solutions. This certificate requires 13 credits in program requirements.

Web Programmer

The Web Programmer certificate provides students with advanced knowledge and skills in web page design and development. Students are required to complete 31 credits in classes that include basic and advanced skills in the Java programming language, cascading style sheets, computer information systems, Javascript and HTML programming languages, programming logic and technique, and web design software such as DreamWeaver.

Windows Network Administration

The Windows Network Administration certificate provides IT professionals with the knowledge to design and implement a Microsoft network using Active Directory. Students are required to complete 21 credits in classes that include planning and managing a Microsoft Windows server network, fundamentals of networking, Windows Client and Server operating systems, and Windows Active Directory.

EMPLOYMENT OUTLOOK

There is a broad range of possible careers for graduates of the CIS program at College of DuPage, with an equally broad range of wages and projected growth. The U.S. Bureau of Labor Statistics reports that the median annual wage for careers for graduates of the CIS program ranged from $52,160 to $82,860 in 2016, with top earners in certain disciplines bringing in more than $111,840. Employment in this area is projected to grow 12 percent from 2014 to 2024. For more information and employment statistics in the IT industry, visit www.bls.gov.

COMMON CAREERS FOR GRADUATES OF THE COMPUTER INFORMATION SYSTEMS PROGRAM

- Applications Developers: Design commercial or custom computer software for applications, such as word processors and games, for consumers or organizations.
- Software Developer: Design and develop software programs.
- Graphic Designers: Create visual concepts to communicate ideas that inspire, inform or persuade consumers.
- Multimedia Artists and Animators: Create animation, special effects or other visual images using film, video, computers or other electronic tools for use in products and media such as computer games, movies, music videos and television.
- Network and Computer Systems Administrators: Install, configure and support computer network systems, network segments, intranets and other data communication systems.
- Systems Software Developers: Create commercial or custom systems used in a variety of electronic devices.
- Video Game Designer: Design and develop software and applications for computer games.
- Web Developers: Design, create, modify and maintain websites.

GETTING STARTED

If you are considering this program as an area of study:

- Visit our website at **cod.edu/programs/cis**

- Consult with a program coordinator or specialist:

  Dr. Sam Shamsuddin, Program Co-coordinator
  Berg Instructional Center (BIC), Room 1530B
  (630) 942-2940, shamsudd@cod.edu

  Steve Santello, Program Co-coordinator
  Berg Instructional Center (BIC), Room 1530C
  (630) 942-2654, santellos@cod.edu

  Nazia Naqvi, Program Advisor
  Berg Instructional Center (BIC), Room 1530A
  (630) 942-2081, naqvin@cod.edu

  Kim Groesbeck, Program Support Specialist
  Berg Instructional Center (BIC), Room 1433
  (630) 942-2599, groesbec@cod.edu

- Contact the Business and Technology Division office:
  Technical Education Center (TEC), Room 1034
  (630) 942-2592

College of DuPage

425 Fawell Blvd.
Glen Ellyn, IL 60137-6599
cod.edu