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 designers 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.

“I’ve had some excellent teachers and made great new friends and look forward to always being involved with COD at some level.”
—Cindy Jaunich, Student
ASSOCIATE IN APPLIED SCIENCE (A.A.S.) IN COMPUTER INFORMATION SYSTEMS

The CIS program offers four A.A.S. degrees: Application and Technical Support Specialist, 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 35 credits in core requirements, 14 to 18 credits in approved elective classes, and 15 credits in general education classes.
**Game Design and Development**

The Game Design and Development degree program prepares students to design and develop computer games through application of game design elements and development tools used in the game industry. Students learn concepts and techniques in game design including C++ language programming, cross-platform design, simulation and serious game design, systems analysis, and 2D and 3D game development. Students are required to complete a minimum of 64 credits of coursework, which includes 42 credits in core requirements, 7 credits in approved electives, and 15 to 17 credits in general education classes.

**Game Programming and Development**

The Game Programming and Development degree program prepares students to create and develop computer games using programming languages and development tools used in the game industry. Students learn concepts and techniques in game design including basic and advanced C++ language programming, cross-platform programming, programming logic and technique, 2D and 3D game development, as well as an overview of the gaming industry. Students are required to complete a minimum of 64 credits of coursework, which includes 46 credits in core requirements, 3 credits in approved electives, and 15 to 17 credits in general education classes.

**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 64 credits of coursework, which includes 33 credits in core requirements, 16 credits in selected emphasis classes, 4 to 8 credits in approved electives, and 15 credits in general education classes. This degree can be earned with emphasis in either Visual Basic or Java.
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 44 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

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.
“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
Desktop 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 18 credits in classes that include basic and advanced game design, cross-platform game design, introduction to the game industry, simulation and serious game design, and 2D game development.
Game Programming and Development

The Game Design and Development certificate prepares students to create and develop computer games using programming languages and development tools used in the game industry. Students are required to complete 36 credits in classes that include the C++ programming language, concepts in game design, cross-platform game design, data structure applications, introduction to the game industry, Microprocessor Assembly Language, and 2D and 3D game development and XNA game design.

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/UNIX 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. In 2010, the job placement rate was 100 percent for graduates of this program.

**Visual Basic Language Proficiency**

The Visual Basic Language Proficiency certificate provides students with core competencies in the use of the Visual Basic programming language. Students are required to complete 15 credits in classes that include basic and advanced Graphical User Interface (GUI) programming, computer information systems, and programming logic and technique.

**Web Technician**

The Web Technician certificate provides students with knowledge and skills in web page design and development. Students are required to complete 20 credits in classes that include cascading style sheets, computer information systems, Javascript and HTML programming languages, programming logic and technique, and web design software such as DreamWeaver and FrontPage. In 2010, the job placement rate was 100 percent for graduates of this program.
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 and FrontPage. In 2010, the job placement rate was 100 percent for graduates of this program.

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.
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:

- Advanced iPhone Application Development
- Android Application Development
- IT Proposals and Presentations
- Project Management Software

STATE-OF-THE-ART FACILITIES

Facilities for the CIS program at College of DuPage are housed in the recently renovated 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](http://cod.edu/scholarships) for requirements and a full list of available scholarships.

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.
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.

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 common careers for graduates of the CIS program ranged from $28,010 to $94,180 in 2010, with top earners in certain disciplines bringing in more than $133,110. Projected growth in several of these careers ranges from 18 to 31 percent between 2010 and 2020. By industry, employment in professional, scientific, and technical services is projected to grow by 29 percent, adding about 2.1 million new jobs by 2020. Driven by growing demand for sophisticated computer network and mobile technologies, computer systems design and related services employment is expected to increase by 47 percent by 2020.

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.

- **Computer Programmers**: Write code to create software programs.

- **Data Entry Keyers**: Operate data entry devices, such as keyboard or photo composing perforator.

- **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.
“COD has given me knowledge and experiences that will be applicable in both my future education and in my career.”
—Carly Swanson, Graduate

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 Coordinator
  Berg Instructional Center (BIC), Room 1530B
  (630) 942-2940  shamsudd@cod.edu

  **Kathy Harper**, Program Advisor
  Berg Instructional Center (BIC), Room 1474B
  (630) 942-3961  kotowsk@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

The College will not discriminate in its programs and activities on the basis of race, color, religion, creed, ancestry, marital status, sexual orientation, arrest record, military status or unfavorable military discharge, citizenship status, or physical or mental handicap or disability.

For Americans with Disabilities Act accommodations, call (630) 942-2141 (voice) or (630) 858-9692 (TDD).

For individuals who need language assistance, please contact Campus Central at (630) 942-2380.