

# COMPUTER INFORMATION SYSTEMS (CIS)

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## CIS 101 Introduction to Computing (3 credits)

At Pace University, and in careers beyond Pace, students will face the challenges of coping with technology and the opportunities to benefit from the productive use of technology. The Introduction to Computing course provides students with guided hands-on exercises with a variety of computer-based tools. The hands-on portion of the course gives the students experience with spreadsheets, computer programming for problem solving, and the exploration, societal impact, and ethical issues of emerging technologies, including Artificial Intelligence (AI).

**Course Rotation:** Fall, Spring, and Summer.

**Prerequisites:** This course does not have a prerequisite.

## CIS 102 Special Topics in Computer and Information Systems (1-6 credits)

This is a special topics course based on current trends in the Computer Information Systems field within the Computer Information Systems. Course topic varies from semester to semester.

**Prerequisites:** CIS 101 with minimum grade of D.

## CIS 102Q Problem Solving Using LEGO Robotics (3 credits)

This class introduces students to basic problem solving and project management techniques which can be applied to building, programming and managing the creation of robots using the LEGO Mindstorms Robotics system. Students will spend a significant amount of time outside the classroom in activities designed to share the robotics skills they have learned with younger students to excite them about studying science and technology.

**Prerequisites:** CIS 101 with minimum grade of D.

## CIS 102W Web Design for Non-Profit Organizations (3 credits)

This course involves civic engagement in which students work with non-profit agencies to create Websites while working with non-profits to ascertain their Website requirements. The students are introduced in class to the methods of designing Web sites in a non-profit paradigm and are involved in developing, implementing, and enhancing the sites while working in teams.

**Prerequisites:** CIS 101 with minimum grade of D.

## CIS 102Z Topic: The History of Video Games (3 credits)

From Pong to PlayStation, video games have become part of our history and represent not only a progression in technology but also changes in our cultural and societal attitudes. We will learn about the groups who made games and the groups that would endeavor to ban and censor them. This course covers a time period from 1960 – 2000 and offers students an opportunity to get hands-on experience with original video game consoles and other artifacts spanning those decades.

**Course Rotation:** NYC & PLV: Fall & Spring

**Prerequisites:** This course does not have a prerequisite.

## CIS 121 Advanced Word Processing Skills (2 credits)

This course covers in-depth the advanced features of word processing programs. Emphasis is placed on developing expertise in advanced document design and processing on the creation, editing and formatting of documents. Topics include: multiple-page reports, tables, mail merge, graphics and charts, desktop publishing, and automating tasks.

**Course Rotation:** Fall and Spring

**Prerequisites:** CIS 101 with minimum grade of D.

## CIS 122 Advanced Spreadsheet Skills (2 credits)

This course covers in-depth the advanced features of spreadsheet programs. Emphasis is placed on using spreadsheets to solve problems. Topics include: good spreadsheet design, graphing, working with financial tools and analytical functions, automating spreadsheets with macros, exploring what-if alternatives with pivot tables and charts, data tables, Goal Seek, Solver and Scenarios, using database functions, and developing an Excel application.

**Course Rotation:** Fall;NY:PLV

**Prerequisites:** CIS 101 with minimum grade of D.

**CIS 122L Advanced Spreadsheet Skills - Test Prep (3 credits)**

This is an online course that introduces students to the features of perhaps the most popular and widely used business spreadsheet program - Microsoft Excel and prepares them for the Microsoft Office Specialist (MOS) Excel 2013 Certification exam. This is a hands-on course that covers the fundamentals of good spreadsheet design and management. Topics include: creating and saving an Excel workbook; using the Ribbon; learning concepts, terms and jargon; brushing up on math skills; entering labels, formulas, and functions; printing worksheets and workbooks; creating and using charts; creating and using Excel tables; and using the decision make strength of Excel.

**Course Rotation:** PLV: Fall, Spring; Online: Fall, Spring

**Prerequisites:** CIS 101 with minimum grade of D.

**CIS 123 Advanced Presentation Skills (2 credits)**

This course covers in-depth the advanced features of presentation software and good presentation design and techniques. Emphasis is placed on creating and making effective presentations. Topics include: preparation/planning of a presentation, rhetorical techniques, audience preparation, and the use of advanced features of slide show software, including customizing slide shows, applying special effects, inserting audio and video, and Hyperlinks.

**Course Rotation:** NY:PLV;Fall:Spring

**Prerequisites:** CIS 101 with minimum grade of D.

**CIS 133 Social Media (2 credits)**

This course provides a comprehensive introduction to social media and interactive Web 2.0 technologies in use today. Students will gain a solid understanding of the current trends in technology and the concepts associated with interactive information sharing and new Web applications. They will gain knowledge of web-based communities, social-networking, and video and file sharing sites.

**Course Rotation:** NY:WP;Fall:Spring

**Prerequisites:** CIS 101 with minimum grade of D.

**CIS 143 Introduction to SQL for Business (3 credits)**

This course introduces the concept of relational databases where many organizations store data, and covers SQL used to retrieve the information relevant to formulate useful insights for decision making. The topics include relational model and data modeling with entity-relationship diagram, as well as retrieving information from single and multiple tables, sorting and formatting data, and creating a database with tables.

**Course Rotation:** Fall and Spring; NY and PLV

**Prerequisites:** CIS 101 with minimum grade of D.

**CIS 151 Game Development for Everyone (3 credits)**

In this course, students will learn programming and interactivity through the lens of Game Development. No prior experience is needed. Students will gain familiarity with a game engine and learn about topics such as sprites, models, collisions, physics, lighting, and audio. Additionally, students will create their own behaviors through scripting. This is a project-based course with students building playable games throughout the semester.

**Course Rotation:** NYC: Fall, Spring, & Summer

**Prerequisites:** This course does not have a prerequisite.

**CIS 161 Design Thinking and Innovation (3 credits)**

This project-based learning experience will provide students with an opportunity to develop their creative problem-solving skills using a design thinking approach. Collaboratively, students will explore how to leverage design thinking tools and mindsets to develop technology-driven solutions for design challenges that tackle societal needs. Throughout the design process, students will actively cultivate empathy, generate creative ideas, and prototype solutions. They will also consider various aspects such as system components, future scenarios, and human behaviors. The outcome of the design process will be the creation of products, services, or experiences that prioritize equity, equality, and have a positive impact on society. Students who have taken CIS 102Y (Design Thinking and Innovation) cannot register for this course.

**Course Rotation:** NYC & PLV: Fall & Spring

**Prerequisites:** This course does not have a prerequisite.

**CIS 171 AI101: Intro Art Intelligence (2 credits)**

AI101: Introduction to Artificial Intelligence" provides students with a comprehensive, hands-on introduction to artificial intelligence. Students will learn about several AI chatbots, including Claude, CoPilot and ChatGPT. They will explore some of the opportunities and challenges posed by AI. They will explore the future directions of AI, along with the many ethical issues that AI poses.

**Course Rotation:** NYC & PLV, Spring, Summer, Fall

**Prerequisites:** This course does not have a prerequisite.