

COMPUTER INFORMATION SYSTEMS (CIS)

CIS 24053 INTRODUCTION TO COMPUTER APPLICATIONS 3 Credit Hours

(Equivalent to IT 11000) Develop competency in the operation of contemporary software and hardware applications. To develop an appreciation for the contribution of computers, software and the Internet to society.

Prerequisite: None.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

Attributes: TAG Business

CIS 24065 WEB PROGRAMMING 3 Credit Hours

Principles of visual design as applied to Web site interface development. The course exposes students to the basics of programming and relational database and how to develop a Web-based database driven interactive information system.

Prerequisite: CIS 24053.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 24093 VARIABLE TITLE WORKSHOP IN MANAGEMENT AND INFORMATION SYSTEMS 1-6 Credit Hours

(Repeatable for credit) Special workshop in management and information systems. Credits depend on scope of project.

Prerequisite: Special approval.

Schedule Type: Workshop

Contact Hours: 1-6 other

Grade Mode: Satisfactory/Unsatisfactory

CIS 24165 CLOUD SYSTEMS COMPUTING 3 Credit Hours

This course explores the history, current state, and projected future of cloud approach to providing computing resources. Almost all new startups today use "the cloud" because it allows fast time to market, flexibility, and the ability to "test" new ideas and product offerings very quickly. Kent State even uses this approach for things like student email and Blackboard. Most existing companies realize the "cloud" is in their future; the goal of the course is to expose students to the knowledge they need to be able to help their future employers with cloud migration.

Prerequisite: Minimum C+ grade in CIS 24053.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 24167 CLOUD INFRASTRUCTURE AND APPLICATIONS 3 Credit Hours

Information systems is critical to the efficient operation of any organization today, such as in hiring employees, performing background checks, ordering/creating products, transacting businesses, and providing follow-up services, among others. These can be large "integrated systems" or ERPs or loose collection of "Apps." This class explores the various alternatives available today and the likely future of new products in the future. Different viewpoints and debates will be explored in the class with opportunities for students to discuss and present their thoughts.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34032 DATA AND FILE TECHNOLOGY 3 Credit Hours

An introduction to file architecture and data base management systems. The application of these technologies is detailed.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34034 BUSINESS MODELING AND AGILE DESIGN 3 Credit Hours

Introduction to methods, tools, and techniques used to analyze and develop information systems, with emphasis on application of methods and concepts to real-world problems. The course is the cornerstone upon which all subsequent IS activities are based. Skills developed in the course would have immediate applicability for IS students and help non-IS students gain knowledge they need to appreciate the role of IS in their organization, so they can better understand how to manage and support IS-related projects.

Prerequisite: Minimum 2.250 overall GPA.

Pre/corequisite: CIS 24167.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34036 ENTERPRISE SYSTEMS AND BUSINESS PROCESSES 3 Credit Hours

Overview of the basics of business processes and Enterprise Resource Planning systems solutions in the cloud. The course prepares students for business process and other cloud related courses, with hands-on experience with a professional ERP system such as SAP. Topics covered include data navigation, client server systems, virtualization, database, security, accounting and procurement processes, and ERP simulation games.

Prerequisite: CIS 34034; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34045 SMALL SYSTEMS TECHNOLOGY 3 Credit Hours

An examination of the role of small computer systems within an organization's information systems environment.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34054 USING INFORMATION SYSTEMS FOR SOLVING BUSINESS PROBLEMS 3 Credit Hours

Course examines key concepts about information systems that are relevant for business managers. Students will complete hands-on assignments. Course is not open to students in the Computer Information Systems major.

Prerequisite: CIS 24053 or IT 11000; and minimum 2.000 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34080 COMPUTER PROGRAMMING FOR BUSINESS I 3 Credit Hours

Introduces a programming language currently used in business and industry for data processing, decision making and other information systems applications.

Prerequisite: None.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34167 CREATING INTUITIVE SYSTEMS 3 Credit Hours

The process of creating products that are intuitive, simple, useful and easy-to-use is difficult and always evolving. However, organizations such as Apple Incorporated and Google that can adopt this approach to product or service development are often on top of their industry. This course will explore this process, its value and how to make it work to help a business prosper and thrive in today's highly competitive market and short product lifecycles.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 34191 TECHNOLOGY BOOTCAMP 3 Credit Hours

(Repeatable for credit) The course covers important current topics and innovations in information system technologies. Students are taught to develop skills that help them to identify and investigate emerging important technologies and learn how to research and master them. Topics covered each semester will be different from those covered in past semesters, with examples of what were covered in the past.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Seminar

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44007 PROJECT MANAGEMENT AND TEAM DYNAMICS 3 Credit Hours

Overview and hands-on experience of the principles, tools, and techniques of project management with emphasis on practical aspects of initiating, planning, executing, costing and closing out information systems related projects. The course begins with the Myers-Briggs personality inventory which will help in later class team exercises and uses the PMBOK. Students will work in teams to perform exercises that will help them learn team dynamics and leadership.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44040 PROGRAMMING FOR THE CLOUD 3 Credit Hours

Cloud development programming course that is based on the client-server architecture. The course begins with a review of HTML and CSS used to build the user interface. Document Object Model (DOM) is investigated as the basis for all web interfaces. Interface stylistic formatting is achieved by use of CSS, and JavaScript for interface in the web browser, while server-based language such as PHP and Python are used to process user actions. The course also introduces jQuery for interface animation.

Prerequisite: CIS 24165; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44042 NETWORK THEORY AND APPLICATIONS 3 Credit Hours

Presentation of current and emerging network technologies and services in business applications and performance issues. Topics include transmission media, modulation and signaling schemes, switching and multiplexing techniques, local and wide area network protocols and standards, and internetworking devices.

Prerequisite: Minimum C+ grade in CIS 24053 and C grade in CIS 24065; and minimum overall 2.250 GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44043 DATA MANAGEMENT AND BUSINESS INTELLIGENCE I 3 Credit Hours

The processing, storage, retrieval, manipulation, and management of often massive and complex business data is an essential part of most information systems. This course will expose students to key database concepts such data integrity, conceptual and logical data modeling, and structured query language (SQL). Some of the SQL skills include data definition language (DDL), data manipulation language (DML), transaction control concepts, joins, grouping, and subqueries. The course will also introduce database management concepts related to managing users and physical storage space. Current and future database trends and issues will also be discussed including security, introduction to emerging topics in big data, data acquisition, analytics and visualization.

Prerequisite: CIS 44040; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44044 SYSTEMS ANALYSIS II 3 Credit Hours

Physical system implementation: mapping logical data models and process models to physical data bases and system design; system coding, testing, installation, conversion, training and automated tools.

Prerequisite: None.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44045 INFORMATION SYSTEMS MANAGEMENT 3 Credit Hours

Management of information systems resources in organizations of all types and sizes; IT best practices; the effective and efficient use of IS in support of the organization's mission and to achieve competitive advantage in today's global economy; the impact of IT on enterprises, users, customers, society and the environment.

Prerequisite: CIS 24053 with a minimum C grade; and CIS 24065; minimum overall 2.250 GPA; and senior standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44048 CLOUD SYSTEMS INTEGRATION (ELR) (WIC) 3 Credit Hours

As a writing intensive course the primary objective is that students or team of students write and rewrite their reports to consistently produce high quality, clear, and to the point written and verbal communication with feedback from their instructor. Students participate as a member of a project development team that builds cloud-based information system using a cloud platform for a real client. To be completed successfully, the projects often require knowledge, content and skills from all prior IS courses.

Prerequisite: Minimum 2.250 overall GPA.

Pre/corequisite: CIS 44043.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

Attributes: Experiential Learning Requirement, Writing Intensive Course

CIS 44049 NETWORK MANAGEMENT AND CYBERSECURITY 3 Credit Hours

The course explores technologies and business issues related to computer networking and security, with emphasis on the protocols in modern business networking such as Ethernet and TCP-IP. Topics also include cybersecurity threats and defenses, privacy, cloud and parallel computing, and map-reduce.

Prerequisite: Minimum C+ grade in CIS 24053 and minimum C grade in CIS 24065; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44093 VARIABLE TITLE WORKSHOP IN MANAGEMENT AND INFORMATION SYSTEMS 1-6 Credit Hours

(Repeatable for credit) Variable title workshop courses offered under Computer Information Systems.

Prerequisite: Minimum 2.25 overall GPA.

Schedule Type: Workshop

Contact Hours: 1-6 other

Grade Mode: Satisfactory/Unsatisfactory

CIS 44095 SPECIAL TOPICS IN COMPUTER INFORMATION SYSTEMS 3 Credit Hours

(Repeatable for credit) Offered on a semester basis with different CIS topics and different faculty involved each time the course is offered.

Prerequisite: Minimum 2.250 overall GPA; and junior standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44140 APPLICATION DESIGN AND DEVELOPMENT 3 Credit Hours

The focus of this course is about making apps for mobile and other devices. Techniques that permit apps to be developed and then used as native on Android and iOS platforms are covered, with emphasis on interface design, client programming, server programming, database use for storage and retrieval, and security. The Model-View-Controller (MVC) architecture is used as the basis for app development, including interface, programming and data management.

Prerequisite: CIS 44040; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44243 DATA MANAGEMENT AND BUSINESS INTELLIGENCE II 3 Credit Hours

The course explores advanced topics in the acquisition, management and use of data. The knowledge and skills presented in Data Management and Business Intelligence I, big data, data acquisition, analytics and visualization are extended with an emphasis on machine learning, artificial intelligence, and NoSQL. There is also an introduction to blockchain concept using software platforms.

Prerequisite: CIS 44043; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 44292 BUSINESS EXPERIENCE AND INTERNSHIP (ELR) 3 Credit Hours

(Repeatable for credit) Learning by experience and practice in an IT related company. The course exposes students to the various areas and activities related to the information systems profession in a cooperating organization.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Practical Experience

Contact Hours: 9 other

Grade Mode: Standard Letter

Attributes: Experiential Learning Requirement

CIS 44293 WORKSHOP IN PROFESSIONAL INFORMATION SYSTEMS CERTIFICATION 3 Credit Hours

(Repeatable for Credit) Supervised workshop designed to help students pass at least one VMware, Microsoft or other vendors' professional certification credentials. The student chooses the exam to take, with the course providing a supported self-study opportunity to prepare for the exam.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Workshop

Contact Hours: 3 other

Grade Mode: Standard Letter

CIS 44295 SPECIAL TOPICS IN INFORMATION SYSTEMS 3 Credit Hours

(Repeatable for credit) Special topics course on newest advances in information systems technology and how they support business activities. New and emerging topics in information systems are presented in an experimental way, with the content of the course changing from one offering to the other.

Prerequisite: Minimum C+ grade in CIS 24053; and minimum 2.250 overall GPA.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 64042 GLOBALIZATION AND TECHNOLOGY STRATEGY 2 Credit Hours

This course is designed for anyone dealing with technology in a globalized economy. Technology is pervasive in today's globalized world. Given that technology is central to every business operation, learning to manage technology in a global context is crucial. This course uses technology management as the central cog that impacts multiple business and social facets, including digital transformation, cybersecurity, international operations, sustainability, marketing, finance, culture, human capital and the political economy.

Prerequisite: Graduate standing.

Schedule Type: Lecture

Contact Hours: 2 lecture

Grade Mode: Standard Letter

CIS 64080 EMERGING HARDWARE AND SOFTWARE TECHNOLOGIES 3 Credit Hours

(Slashed with CIS 74080) Investigation of selected emerging hardware and software technologies such as parallel processing systems, computer languages and operation systems, artificial intelligence, neural networks and chaos theory.

Prerequisite: Graduate standing; and special approval of instructor.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 64081 DATA COMMUNICATIONS AND NETWORKING IN BUSINESS 3 Credit Hours

(CIS 74081) An introduction to telecommunications and computer networks. Topics include telecommunications technologies and services communication standards and protocols local area networks and network management.

Prerequisite: Graduate standing; and special approval of instructor.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 64083 INFORMATION SECURITY: A MANAGERIAL PERSPECTIVE 3 Credit Hours

Introduction to the information security areas that managers must understand in order to deal with today's security threat-laden environment. The emphasis is on the important principals and concepts that managers utilize to develop effective security risk management programs.

Prerequisite: Admission to MBA program or admission to MS IAKM program; and graduate standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 74042 GLOBALIZATION AND TECHNOLOGY STRATEGY 3 Credit Hours

Focus is on the strategic issues around how a firm should manage its technology in a global market. Strategic issues include understanding the technological and competitive landscape, innovations, competitive advantages in the high-tech marketplace, outsourcing and information ethics. The core emphasis is on integrated decision-making in the age of globalization.

Prerequisite: Doctoral standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 74080 EMERGING HARDWARE AND SOFTWARE TECHNOLOGIES 3 Credit Hours

(Slashed with CIS 64080) Investigation of selected emerging hardware and software technologies such as parallel processing systems, computer languages and operation systems, artificial intelligence, neural networks and chaos theory.

Prerequisite: Doctoral standing; and special approval of instructor.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 74081 DATA COMMUNICATIONS AND NETWORKING IN BUSINESS 3 Credit Hours

An introduction to telecommunications and computer networks. Topics include telecommunications technologies and services, communication standards and protocols, local area networks and network management.

Prerequisite: Doctoral standing; and special approval of instructor.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 84007 PHILOSOPHY OF SCIENCE AND BUSINESS MODELS 3 Credit Hours

Introductory seminar for understanding the forms and the process of business research. Its major objective is to help seminar participants understand the various philosophies that drive business research in an academic community, and introductory methods of social science research. Additionally, the seminar seeks to develop participant motivation to become a contributor to the organizational sciences communities by examining the research process, methodologies and strategies, research paradigms, modes and contexts of Inquiry, the nature of organizational sciences research, the major streams of business research, understanding ontological choice of constructs and defining epistemic relationships between constructs, building hypotheses and socio-technical models, research design, data requirements and collection techniques and ethics and philosophies.

Prerequisite: Doctoral standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 84045 SOCIAL ISSUES IN INFORMATION SYSTEMS 3 Credit Hours

Social issues in information systems arise at the interface between information systems and individuals, groups and society. The course will begin with a broad exposure to current social issues, moving to an examination of specific issues in detail with issues chosen by student interest and instructor consent.

Prerequisite: Doctoral standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 84080 INNOVATION, ADOPTION, DIFFUSION 3 Credit Hours

Provides students with theoretical foundations of adoption and diffusion of technological innovations in organizations and society. Topics include: determinants of organizational innovation by acquisition, individual- and organizational-level technology adoption, diffusion of technologies through social systems and the infusion and assimilation of technologies in organizations.

Prerequisite: Doctoral standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 84081 INFORMATION SYSTEMS STRATEGY AND INNOVATION 3**Credit Hours**

This course explores the basis of strategy, deployment and competition in high- technology industries. It introduces conceptual frameworks based on cutting-edge research in economics and strategy. The frameworks may seem abstract at first, but we will focus on mastering them will gain an in-depth understanding of how high-technology industries work and how to develop strategies for managing firms in such industries. Students will learn how to develop and apply such frameworks in their research.

Prerequisite: Doctoral standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 84082 DATABASE MANAGEMENT SYSTEMS 3 Credit Hours

In-depth investigation of intelligent database management systems in support of business decision- making. An understanding of relational databases is assumed. Object-orientation and other advanced database concepts will be explored.

Prerequisite: Doctoral standing.

Schedule Type: Lecture

Contact Hours: 3 lecture

Grade Mode: Standard Letter

CIS 84095 SPECIAL TOPICS IN INFORMATION SYSTEMS RESEARCH**3 Credit Hours**

(Repeatable for credit) Variable content of relevance to IS research. Exact topics will be announced when scheduled.

Prerequisite: Doctoral standing.

Schedule Type: Colloquium, Seminar

Contact Hours: 3 lecture

Grade Mode: Standard Letter