**Department of Computer Information Systems**

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biz.colostate.edu/cis (http://biz.colostate.edu/cis)
Professor Jon D. Clark, Chair

**Undergraduate**
**Major in Business Administration**
- Information Systems Concentration

**Certificates**
- Information Technology for Business Professionals

**Graduate**
**Master Programs**
- Master of Science in Business Administration, Plan A, Computer Information Systems Specialization
- Master of Science in Business Administration, Plan B, Computer Information Systems Specialization
- Master of Computer Information Systems, Plan C (M.C.I.S.)

**Certificates**
- Business Information Systems
- Business Intelligence
- Information Technology Project Management

**Courses**
**Computer Information Systems (CIS)**

**CIS 120 Business Programming Fundamentals Credits: 3 (3-0-0)**
**Course Description:** File and operating systems for business application development. Business program development using a high-level programming language.
**Prerequisite:** None.
**Registration Information:** Credit not allowed for both CIS 120 and CIS 210.
**Terms Offered:** Fall, Spring.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

**CIS 200 Business Information Systems Credits: 3 (3-0-0)**
**Course Description:** Use of information technology (IT) to enable knowledge workers, support business processes, and grow the business.
**Prerequisite:** BUS 150 or CS 110.
**Registration Information:** Sections may be offered: Online.
**Terms Offered:** Fall, Spring, Summer.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

**CIS 210 Information Technology in Business Credits: 3 (3-0-0)**
**Course Description:** Introduction to information systems: the IS profession; hardware, software, and programming; web and database applications; data analysis tools.
**Prerequisite:** CIS 200, may be taken concurrently.
**Registration Information:** Credit not allowed for both CIS 210 and CIS 120.
**Terms Offered:** Fall, Spring, Summer.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

**CIS 240 Application Design and Development Credits: 3 (3-0-0)**
**Course Description:** Software engineering methods including design, implementation, and testing using structured and event-driven techniques, logic, and data structures.
**Prerequisite:** CIS 210.
**Registration Information:** Sections may be offered: Online.
**Terms Offered:** Fall, Spring, Summer.
**Grade Modes:** S/U within Student Option, Trad within Student Option.
**Special Course Fee:** No.

**CIS 301 End User Computing Credits: 3 (3-0-0)**
**Course Description:** End user applications in a Graphical User Interface environment including spreadsheet, word processing, and presentation graphics; Internet concepts.
**Prerequisite:** None.
**Registration Information:** Sections may be offered: Online.
**Terms Offered:** Fall, Spring, Summer.
**Grade Modes:** S/U within Student Option, Trad within Student Option.
**Special Course Fee:** No.

**CIS 320 Project Management for Information Systems Credits: 3 (3-0-0)**
**Course Description:** Project management concepts including work breakdown structure, estimating, scheduling, tools, and reports.
**Prerequisite:** CIS 210.
**Terms Offered:** Fall, Spring.
**Grade Mode:** Traditional.
**Special Course Fee:** No.

**CIS 340 Advanced Application Design and Development Credits: 3 (3-0-0)**
**Course Description:** Design and construction of business applications using object-orientation and advanced data structures.
**Prerequisite:** CIS 240.
**Registration Information:** Credit not allowed for both CIS 340 and CIS 220.
**Terms Offered:** Fall, Spring.
**Grade Mode:** Traditional.
**Special Course Fee:** No.
CIS 350  Operating Systems and Networks  Credits: 3 (3-0-0)
Course Description: Multiuser and network operating systems; basic networking concepts including security, transmission, performance, and topologies.
Prerequisite: CIS 210.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 355  Business Database Systems  Credits: 3 (3-0-0)
Course Description: Physical and logical design, implementation, and administration of databases.
Prerequisite: CIS 210.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 360  Systems Analysis and Design  Credits: 3 (3-0-0)
Course Description: Traditional and cutting-edge systems analysis and design techniques, with emphasis on object-oriented approaches.
Prerequisite: CIS 240.
Terms Offered: Fall, Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 370  Business Intelligence  Credits: 3 (3-0-0)
Course Description: Techniques and technologies for deriving business value from the integration, mining, and transformation of data.
Prerequisites: CIS 200 and MKT 300.
Term Offered: Summer.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 410  Web Application Development  Credits: 3 (3-0-0)
Course Description: Web development techniques and strategies including Active Server Pages using VBScript, JavaScript, ColdFusion; security, web design.
Prerequisites: CIS 355 and CIS 240.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 411  Enterprise Resource Planning Systems  Credits: 3 (3-0-0)
Course Description: Introduction to enterprise resource planning (ERP) systems concepts, business processes impacted by ERP, systems and software integration.
Prerequisites: (ACT 220) and (FIN 300 or FIN 305) and (MGT 305 or MGT 320) and (MKT 300 or MKT 305).
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 413  Advanced Networking and Security  Credits: 3 (3-0-0)
Course Description: Modern communication standards, protocol systems; network security, security policies, attack and protection mechanisms, legal and ethical issues.
Prerequisites: CIS 240 and CIS 350.
Term Offered: Fall.
Grade Modes: S/U within Student Option, Trad within Student Option.
Special Course Fee: No.

CIS 455  Advanced Database Management  Credits: 3 (3-0-0)
Course Description: Advanced data management topics including performance tuning, concurrency control, security, object-oriented databases, and data warehousing.
Prerequisite: CIS 355.
Term Offered: Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 487  Internship  Credits: 3 (0-9-0)
Course Description: Supervised and planned work experience paralleling concentration in industry.
Prerequisites: CIS 355 and CIS 360.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 492  Seminar  Credits: 3 (3-0-0)
Course Description: Current topics in computer-based information systems.
Prerequisite: None.
Term Offered: Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 495  Independent Study  Credits: Var[1-18]
Course Description: 
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496A  Group Study: Small Business Information Systems  Credits: Var[1-18]
Course Description: 
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496B  Group Study: Communications and Distributed Systems  Credits: Var[1-18]
Course Description: 
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496C  Group Study: Information Systems Performance Measurement  Credits: Var[1-18]
Course Description: 
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 496D  Group Study: Current Issues in Business Computing  Credits: Var[1-18]
Course Description: 
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.
CIS 498 Research Credits: Var[1-3]
Course Description: None.
Prerequisite: None.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.
CIS 570 Business Intelligence Credits: 3 (3-0-0)
Course Description: Harnessing vast data stores to solve problems, enhance decision-making, discover new business opportunities, and to derive additional benefits.
Prerequisite: None.
Restriction: None.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 575 Applied Data Mining and Analytics in Business Credits: 3 (3-0-0)
Course Description: Data mining is a process of selecting, exploring and modeling large amounts of data to identify patterns and relationships among key variables.
Prerequisite: CIS 575 or CIS 605.
Restriction: None.
Registration Information: Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 576 Business Data Visualization Credits: 3 (3-0-0)
Course Description: Methods to solve data visualization problems; critique and evaluate current systems; develop skills in the construction of data visualization.
Prerequisite: CIS 576.
Restriction: None.
Registration Information: Sections may be offered: Online.
Term Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 600 Information Technology and Project Management Credits: 3 (3-0-0)
Course Description: Strategic role in and management of information technology and software development projects.
Prerequisite: None.
Restriction: Must be a Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Fall, Spring, Summer.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 605 Business Visual Application Development Credits: 3 (3-0-0)
Course Description: Design, construction, and testing of business application systems including leading-edge visual, E-commerce languages, and tools.
Prerequisite: None.
Restriction: Must be a Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 606 Application Software Infrastructure Credits: 3 (3-0-0)
Course Description: Design, construction, and testing of business application software infrastructure including hardware, operating software, and communications network.
Prerequisite: None.
Restriction: Must be a Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 610 Software Development Methodology Credits: 3 (3-0-0)
Course Description: Methods for all phases of software development focusing upon the establishment of economical software that is reliable and cross platform.
Prerequisite: None.
Restriction: Must be a Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 611 Object-Oriented Systems Credits: 3 (3-0-0)
Course Description: Object-oriented and web-based software; object model describing classes; relationships to other objects, attributes, and operations.
Prerequisite: CIS 610.
Restriction: Must be a Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 620 IT Communications Infrastructure Credits: 3 (3-0-0)
Course Description: Technical aspects of information communications, business considerations; wireless technology, architecture, and applications.
Prerequisite: CIS 606.
Restriction: Must be a Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 601 Enterprise Computing and Systems Integration Credits: 3 (3-0-0)
Also Offered As: MGT 601.
Course Description: Integrated extended enterprise planning and execution systems concepts including ERP, CRM, SCM, MRP II, business processes, front/back office systems.
Prerequisite: None.
Restriction: Must be a Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Credit not allowed for both CIS 601 and MGT 601.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.
CIS 655 Business Database Systems Credits: 3 (3-0-0)
Course Description: Database analysis, design, administration; data modeling; data sublanguages, query facilities; distributed database systems.
Prerequisite: CIS 605.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 665 E-Business Application Technologies Credits: 3 (3-0-0)
Course Description: Developing E-business (B2B and B2C) through construction and deployment.
Prerequisites: CIS 605 and CIS 606 and CIS 610.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 670 Advanced IT Project Management Credits: 3 (3-0-0)
Course Description: Advanced tools, techniques and skills for advanced risk management, change movement, and performance/control measures in cross-functional projects.
Prerequisite: CIS 600.
Restriction: Must be a: Graduate, Professional.
Registration Information: Sections may be offered: Online.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 675 Agile Management and Product Development Credits: 3 (3-0-0)
Course Description: Business model process optimization; managing rapid product development; incorporating constituent feedback throughout the product life cycle.
Prerequisite: CIS 600.
Restriction: Must be a: Graduate, Professional.
Registration Information: Sections may be offered: Online.
Term Offered: Fall.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 676 Information Technology Management Credits: 3 (3-0-0)
Course Description: Strategic information technology management of business, technical, system and information services.
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Registration Information: Admission to graduate program in business. Sections may be offered: Online.
Term Offered: Spring.
Grade Mode: Traditional.
Special Course Fee: No.

CIS 695 Independent Study Credits: Var[1-18]
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 696 Group Study Credits: Var[1-18]
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring.
Grade Mode: Instructor Option.
Special Course Fee: No.

CIS 699 Thesis Credits: Var[1-18]
Course Description:
Prerequisite: None.
Restriction: Must be a: Graduate, Professional.
Terms Offered: Fall, Spring, Summer.
Grade Mode: Instructor Option.
Special Course Fee: No.