INFORMATION SYSTEMS

Lam Family College of Business
Dean: Dr. Eugene Sivadas

Department of Information Systems
BUS 310
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Chair: Dr. Sameer Verma
Undergraduate Advisors: Beckman, Chao, Jin, Mak, Shahrasbi, Verma

Professor
Paul Beckman (1996), Professor in Information Systems. Ph.D. Purdue University.
David D. Chao (1990), Professor in Information Systems. Ph.D. University of Washington.
Lutfus Sayeed (1996), Professor in Information Systems. Ph.D. Georgia State University.

Associate Professor
Leigh Jin (2001), Associate Professor in Information Systems. Ph.D. Georgia State University.
Lik Mui (2003), Associate Professor in Information Systems. Ph.D. Massachusetts Institute of Technology.
Nasser Shahrasbi (2022), Associate Professor in Information Systems. Ph.D. HEC Montréal.

Assistant Professor
Tai-Yin Chi (2018), Assistant Professor in Information Systems. Ph.D. Claremont Graduate University.
Guillaume Faddoul (2018), Assistant Professor in Information Systems. Ph.D. Claremont Graduate University.
Matthew Levy (2013), Assistant Professor in Information Systems. Ph.D. Louisiana State University.

Major
- Bachelor of Science in Business Administration: Concentration in Information Systems (http://bulletin.sfsu.edu/colleges/business/information-systems/bs-business-administration-concentration-information-systems/)

Minor
- Minor in Information Systems (http://bulletin.sfsu.edu/colleges/business/information-systems/minor-information-systems/)

Certificate
- Certificate in Information Technology Auditing (http://bulletin.sfsu.edu/colleges/business/information-systems/certificate-information-technology-auditing/)

Graduate Certificate
- Graduate Certificate in Enterprise Cybersecurity (http://bulletin.sfsu.edu/colleges/business/information-systems/gct-enterprise-cybersecurity/)
- Graduate Certificate in Enterprise Information Systems (http://bulletin.sfsu.edu/colleges/business/information-systems/certificate-enterprise-information-systems/)

ISYS 198 Information Systems Spreadsheet Make-Up (Unit: 1)
Prerequisite: Permission of the instructor.
Additional study to make up the spreadsheet component of otherwise equivalent courses in order to receive full credit. (CR/NC grading only)

ISYS 263 Introduction to Information Systems (Units: 3)
Prerequisite: GE Area B4*.
Application of information systems (IS) in a business environment. Topics include information technology (IT), networks and internetworks, types of information systems and their development, problem-solving using end-user tools, and social impact of IT.

ISYS 350 Building Business Applications (Units: 3)
Prerequisite: ISYS 263 with a grade of C- or better.
Development of a multi-tier e-business application using high-level tools. Design and implement a business rule tier, presentation tier, and data access tier in order to rapidly deliver innovative and extensible business solutions. Mini-projects culminate in a complete solution for an e-business application.

ISYS 363 Information Systems for Management (Units: 3)
Prerequisites: ISYS 263* and ACCT 100* with grades of C- or better; or Statistics majors* with MATH 338*.
Information systems for management decision-making. Information system development from the end-user's perspective. Applications software used to develop solutions to business problems. Extra fee required.

ISYS 412 Application Development for Data Analytics (Units: 3)
Prerequisites: Restricted to upper-division standing; ISYS 350* and ISYS 363* with grades of C- or better.
Development of business applications with an emphasis for data analytics. Application development tools and analytics libraries. Selection of tools and libraries will vary based on instructor preference.

ISYS 463 Information Systems Analysis and Design (Units: 3)
Prerequisites: ISYS 350* and ISYS 363* with grades of C- or better; or Statistics majors* with ISYS 363* and MATH 338*.
Analysis and design of computer-based information systems.

ISYS 464 Managing Enterprise Data (Units: 3)
Prerequisites: ISYS 363 and ISYS 350 with grades of C- or better.
Principles and use of database management systems in business. Database design and implementation. Database definition, manipulation, and control using SQL. (Plus-minus letter grade only)
ISYS 471 E-Commerce Systems (Units: 3)
Prerequisite: ISYS 363 with a grade of C- or better.

Electronic commerce systems including E-commerce models, the
technologies behind E-commerce, and planning and implementing E-
commerce systems.

ISYS 475 Building Web Applications with Open Source Software (Units: 3)
Prerequisites: ISYS 363 and ISYS 350 with grades of C- or better.

Concepts, techniques, and tools to develop Internet-oriented business
application systems with emphasis on the web.

ISYS 512 Business Application Design and Development with .NET
(Units: 3)
Prerequisites: ISYS 350 and ISYS 363 with grades of C- or better.

Theory and practice of distributed business application design and
development. Architecture and components of a business application
system, how to design and develop a business application, and how to
develop the web-based components of a business application. (Plus-
minus letter grade only)

ISYS 556 Building Mobile Business Applications (Units: 3)
Prerequisites: Restricted to upper-division standing; ISYS 350 or one
semester of programming with a grade of C- or better.

Design and develop applications for mobile devices including tablet
computers and smartphones. Building successful business applications
for mobile devices that interfaces with the backend system.

ISYS 557 Managing Open Source (Units: 3)
Prerequisites: Restricted to senior standing; ISYS 363.

Detailed study of the management of open source software and related
processes: open source management issues, integration of open and
proprietary software, licensing, copyright and intellectual property rights.
Also examines open source business models in the enterprise.

ISYS 558 Managing Enterprise Networks (Units: 3)
Prerequisite: ISYS 363 with a grade of C- or better.

Hardware and software for communications and their application
to the distributed data processing environment. Terminal-to-host
communication, local and wide area networks, transaction processing
monitors.

ISYS 567 Information Systems Internship (Units: 3)
Prerequisites: ISYS 363; completed an application form; a minimum GPA
of 3.0 in ISYS courses; permission of the instructor.

Provides Information Systems majors the opportunity to participate in a
field experience in their chosen concentration. Major report required.

ISYS 568 Multimedia Business Applications Development (Units: 3)
Prerequisite: ISYS 363 with a grade of C- or better.

Methodology and tools for the development of multimedia business
applications.

ISYS 569 Information Systems for Business Process Management (Units: 3)
Prerequisite: ISYS 363 with a grade of C- or better.

Design of information systems that closely aligned with business
processes; business modeling languages and techniques; real world
applications. (Plus-minus letter grade only)

ISYS 573 New Advances in IT in Organizations (Units: 3)
Prerequisites: ISYS 350*; ISYS 363* or ACCT 307*, with grades of C- or
better.

The rapid adoption of innovative Information Technology (IT)
architectures and tools. Topics to be specified in the Class Schedule. May
be repeated for a total of six units as topics vary. [CSL may be available]
Topics:

a. Machine Learning for Business
b. Managing Open Source
c. Building Mobile Business Applications

ISYS 575 Information Security Management (Units: 3)
Prerequisites: ISYS 363 and ISYS 565 with a grade of C- or better.

Information security from a management perspective. Identification of
organization's information assets, threats to these assets, information
security strategy to protect assets.

ISYS 650 Business Intelligence (Units: 3)
Prerequisite: ISYS 363.

Analysis and design of business intelligence systems that are aligned
with business processes. Identification and use of business data,
(re)design of information and knowledge systems, business modeling
methodology. (Plus-minus letter grade only)

ISYS 663 Information Technology Project Management (Units: 3)
Prerequisite: ISYS 350 or ISYS 363 with a grade of C- or better.

Managing information technology projects including both technical and
behavioral aspects, Managing IT project scope, cost, time, quality, risk,
human resources, communications, procurement, and outsourced IT
projects. Senior IT management role.

ISYS 699 Independent Study (Units: 1-3)
Prerequisite: Permission of the instructor, adviser, and department chair.

Intensive problem analysis under the direction of a business computer
information systems faculty member. Open only to upper-division
students who have demonstrated the ability to do independent work.

ISYS 782 Information Systems for Management (Units: 3)
Prerequisite: Restricted to graduate Business students; graduate
students in other programs permitted with the permission of the Faculty
Director of Graduate Programs.

Information systems and their use in business management. Information
technology for managers, the role of different types of information
systems in businesses, common information systems, problem-solving,
and application development. (Plus-minus letter grade only) [Formerly
BUS 782]

ISYS 812 Programming and Applications for Data Analytics (Units: 3)
Prerequisites: Restricted to graduate Business students; ISYS 782 or one-
semester of programming. Graduate students in other programs admitted
with the permission of the Faculty Director of Graduate Programs.

Fundamental programming, data processing, and business application
development with an emphasis on data analytics. Application
development tools and analytics libraries. Selection of tools and libraries
will vary based on instructor preference. (Plus-minus letter grade only)
ISYS 814 Information Systems for Strategic Advantage (Units: 3)
Prerequisites: Restricted to graduate Business students; ISYS 782;
Graduate students in other programs admitted with the permission of the
Faculty Director of Graduate Programs.

In-depth treatment of three topics: derivation of an Information Systems
(IS) strategy, specification of information system requirements, and
design and implementation of an information-based solution. (Plus-minus
letter grade only)

ISYS 850 Seminar in Business Intelligence (Units: 3)
Prerequisites: Restricted to graduate Business students; ISYS 782;
graduate students in other programs admitted with the permission of the
Faculty Director of Graduate Programs.

Tools and techniques for extracting business intelligence from data to
support strategic decision-making. Applications of business intelligence
and analytics methodologies in different functional areas. Managerial
implications. (Plus-minus letter grade only)

ISYS 855 Enterprise Mobile Applications (Units: 3)
Prerequisites: Restricted to graduate Business students; ISYS 782;
graduate students in other programs admitted with the permission of the
Faculty Director of Graduate Programs.

Focus on mobile enterprise technologies in the workplace that enable
new business models to connect customers and enterprises; Design
Thinking methodology to facilitate the creative design of enterprise
mobile strategy and solutions; employment of Enterprise Resource
Planning (ERP) mobile development platform to help prototype and
develop innovative mobile solutions. Activity. (Plus-minus letter grade
only)

ISYS 864 Data Management for Analytics (Units: 3)
Prerequisites: Restricted to graduate Business students; ISYS 812 or
equivalent; graduate students in other programs permitted with the
permission of the Faculty Director of Graduate Programs.

Fundamentals of database management in the context of business
analytics processing with an introduction to the principles, design,
security, and use of database management systems in business with an
emphasis on Big Data Management. (Plus-minus letter grade only)

ISYS 865 Managing Enterprise Networks (Units: 3)
Prerequisite: ISYS 782.

Selection and management of distributed data processing systems and
concurrent communication networks. Distributed databases, computer
system network applications, communication systems and protocols,
transaction processing monitors. Distributed vs. centralized data
processing cost/benefit analysis.

ISYS 869 Business Process Management (Units: 3)
Prerequisites: Restricted to graduate Business students; ISYS 782;
Graduate students in other programs admitted with the permission of the
Faculty Director of Graduate Programs.

Design of business processes and their implementation through change
management. Modeling and analysis of business processes. (Re)design
and implementation of systems that enable them. Business modeling
languages and techniques. (Plus-minus letter grade only)

ISYS 871 Electronic Commerce (Units: 3)
Prerequisites: Restricted to graduate Business students; ISYS 782.
Graduate students in other programs admitted with the permission of the
Faculty Director of Graduate Programs.

Electronic commerce from a managerial perspective. B2C and B2B e-
commerce. E-commerce business and revenue models, security and
payment, support services. Planning, implementing, and managing e-
commerce in organizations. (Plus-minus letter grade only)

ISYS 875 Enterprise Cyber Security Management (Units: 3)
Prerequisite: ISYS 782.

Foundation for understanding the critical issues associated with
protecting information assets, determining the levels of protection
and response to cybersecurity incidents, and designing consistent,
reasonable information security systems with appropriate intrusion
detection and reporting features. Overview of the field of cybersecurity
and assurance. Exposure to the spectrum of cybersecurity activities,
methods, methodologies, and procedures. Explore data and network
attack vectors, spyware, network defense, cybersecurity appliances,
social engineering, and cryptographic communication platforms. Reflects
new industry trends.

ISYS 895 Research Project in Information Systems (Units: 3)
Prerequisites: ISYS 814 and three 800-level required courses in the
chosen emphasis. Open only to computer information systems and
electronic commerce MSBA candidates; permission of the instructor
and approval of Advancement to Candidacy (ATC) and Culminating
Experience (CE) forms by Graduate Studies.

Research methodology and supervised research culminating in oral
and written presentations. Advancement to Candidacy and Proposal
for Culminating Experience Requirement forms must be approved by
Graduate Studies before registration. (Plus-minus letter grade; no CR/NC
allowed; RP)

ISYS 899 Independent Study (Units: 1-3)
Prerequisites: Restricted to graduate Business students; permission
of the instructor, adviser, and department chair; open only to graduate
students who demonstrate the ability to work independently.

Intensive study of a particular problem under the direction of an
Information Systems faculty member. (Plus-minus letter grade only)