

INFORMATION SYSTEMS (GABELLI GRADUATE) (ISGB)

ISGB 799D. CYBERSECURITY FOR BUSINESS. (3 Credits)

This class will explore the concepts of cyber risk management within an enterprise. The course will help a manager develop a solid understanding of cyber risk and successful mitigation strategies to reduce an organizations risk profile. The course will include topics such as IT control assessments, static and dynamic application security, network security, information security policies and standards, threat modeling and analysis, risk/benefits of BYOD (Bring you own device), IOT (The Internet of things), and many other real-time cyber topics.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 799L. STUDY TOUR: GERMANY. (3 Credits)

The study tour to Germany will be held from March 21 - April 1 during the spring/Easter break. It allows students to learn about the business environment in Germany and the European Union. Through academic presentations, company visits, and visits to cultural and historic sites, students will learn how the current business practices in Germany have been influenced by its rich culture, the world wars and the formation of the European Union and technology led globalization. The study tour will include stays in Marburg, Frankfurt, and Munich. There is no pre-requisite for the course and it is open to MBA and MS students in good standing. Course related readings and pre-trip and post-trip assignments will be available in the first week of the spring semester. Expenses for the trip, including airfare are expected to be around \$2,700 per student (in addition to the tuition for the course). Please contact Prof. Saharia at saharia@fordham.edu with any questions.

Attribute: ABIB.

ISGB 799N. OPTIMIZATION MODELS IN BUS. (3 Credits)

Optimization models seek to find the best decisions given a set of constraints. Applications are in diverse areas of business, including finance, logistics and marketing. The course will introduce different kinds of models, including network, linear programming, mixed-integer programming, and non-linear programming, and demonstrate their use in different areas of business. Students will learn how to use optimization software, including solvers and modeling languages.

ISGB 799O. PROGRAMMING WITH PYTHON. (3 Credits)

Do you want to be able to solve business problems through programming/coding? This courses introduces key programming concepts, techniques and tools. Students will learn programming/coding using the widely used Python programming language.

Attributes: ABEP, ABFI.

ISGB 799P. SPORTS ANALYTICS. (3 Credits)

Sports businesses achieve superior performance and gain competitive advantage by leveraging data and analytics. The course explores technologies, tools and analytics projects in Sports business.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 799Q. ACCOUNTING INFO SYSTEM. (3 Credits)

The purpose of this course is to introduce students to the subject of computer-based accounting information systems. The four critical objectives are a sound understanding in business processes, transaction cycles, internal controls and the systems components of each.

Attributes: ISEL, ISER.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 799R. IT AUDIT & INFO ASSURANCE. (3 Credits)

This course will present an overview of the various elements of IT Audit and Information Assurance. Basic IT audit and information assurance concepts will be discussed and analyzed. General IT and application controls will be covered along with how the controls underlie SOX Section 404 Legislation. The course will also examine business processes, technologies and controls relating to financial reporting. Key components of information systems, including operating system security, database controls, network safeguards, systems development and application maintenance will also be covered. Technology processes supported under COBIT 5 will be discussed along with risk assessment techniques. The challenges around information assurance, data governance and privacy will be explored in detail.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 799S. C++ PROGRAMMING. (3 Credits)

This course will teach Object Oriented programming using the C++ programming language. Students will learn the fundamentals of developing coherent, expressive programs. Students will work on a realistic albeit simplified financial application project.

Prerequisite: ISGB 6910.

ISGB 799T. AUDIT DATA ANALYTICS. (3 Credits)

Introduces audit and accounting students to data analytics foundations, methods and tools. It reviews industry applications and trends. Students will do hands-on projects analyzing audit and other accounting data.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 799U. ARTIFICIAL INTELLIGENCE. (3 Credits)

The goal of this course is to acquaint you with the objectives and methods of researchers and practitioners in Artificial Intelligence. We will explore numerous aspects of computational models of intelligence including search and problem solving, planning, machine learning, logic and reasoning, machine perception and robotics, natural-language processing, speech recognition, vision, and cognitive science. We'll also discuss genetic algorithms, fuzzy logic and deep machine learning including neural networks. The ethics of Artificial Intelligence is also addressed. The course is organized as a survey, with hands-on assignments in open source artificial intelligence tools.

Prerequisites: BYGB 7967 or ISGB 7967 and BYGB 7977 or ISGB 7977 and BYGB 7990 or ISGB 7990.

ISGB 799V. R STATISTICAL PROGRAMMING. (3 Credits)

This is a programming course using the R programming language. Applications will focus on data analytics and statistical programming.

ISGB 799W. JAVA PROGRAMMING. (3 Credits)

This course provides an introduction to business applications programming concepts, techniques and tools. Students will acquire practical skills and experience with object-oriented development using the Java language, one of the most widely used programming languages. Topics include the elements of the language, common Java classes, object-oriented programming including inheritance and interfaces, object-oriented design, and database integration. Case studies in e-commerce and finance will show how Java can leverage the wide variety of available libraries and web services. Course work includes individual assignments and group projects.

ISGB 799X. FINTECH -AN INTRODUCTION. (3 Credits)

FinTech is a new and emerging field of technology that is disrupting the way that many companies are conducting business. FinTech has already “forever” changed many sectors including mobile payments, social media, money transfers, loans, fundraising, travel, trading and asset management. It has completely revolutionized the way companies are developing products, conducting research, establishing directed sales and marketing plans, and utilizing start-up technology. Businesses are using FinTech to expand their products and services at a fraction of its previous cost. Entrepreneurs are utilizing FinTech as a central foundation for research, funding, and product development. Customers are already utilizing FinTech as part of their daily lives - mobile apps, social media, banking, online shopping, entertainment and gaming. This course will introduce students to the breadth of FinTech, and touch upon the technical underpinnings.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 799Y. BLOCKCHAIN TECH & APP DEV. (3 Credits)

The main objective of this course is to familiarize you with the ecosystem, technologies, and development skills surrounding Blockchain. The course starts with foundational concepts such as distributed state machine, hash tree, P2P network, GPU processing, cryptocurrency, and cryptography. Using both simulated sandbox and locally installed environments, the course then guide you through the development, front-end integration, and deployment of Blockchain-based smart contracts. Other topics covered include rapid prototyping, design patterns, and agile process to maximize the success likelihood for Blockchain projects. The lab portion of this course involves weekly submissions of programming exercises, assignments and project deliverables. Other topics covered include rapid prototyping, design patterns, and agile process to maximize the success likelihood for Blockchain projects. Prerequisites: Proficiency in computer programming; basic knowledge in analysis and linear algebra.

Attribute: ABBC.

ISGB 799Z. DEEP MACHINE LEARNING. (3 Credits)

The goal of this course is to acquaint you with the objectives and methods of deep machine learning (DML). We will explore and learn the basic types of deep neural networks including convolutional, recurrent, and generative adversarial, and the type of data each is designed for. Key additional topics include techniques to improve training, preventing overfitting, and best practices for minimizing error. Students will study the major technology trends driving DML. A key takeaway is a working knowledge of the vocabulary of concepts and algorithms in DML. The challenges and issues surrounding the use of DML including design issues, ethics, governance, ownership of data, privacy, security standards, and quality control & validation are also discussed. Emphasis is on business applications. The course is organized as a seminar-style course, with hands-on assignments in DML tools. Prerequisites: Programming with Python (ISGB 7990) and Data Mining for Business (BYGB/ISGB 7967) –concurrent enrollment not allowed; Familiarity with basic calculus and linear algebra expected.

Prerequisites: ISGB 7990 and (BYGB 7967 or ISGB 7967).

ISGB 899A. DISRUPTING FINANCIAL SERVICES. (1.5 Credits)

Graduate students will learn directly from industry experts how new technologies, changing demographics and investor preferences are significantly impacting the delivery of wealth management, creation of investment products and capital market mechanisms. From the global adoption of crypto currencies to the trillion dollar tsunami of money flowing into passively managed ETFs, students will be exposed to the current and future implications of these “disruptions” and gain helpful insight and intelligence impacting their careers. We will focus on one “disruption” per week with subject matter experts explaining the economic and cultural implications for both winners and losers. This course will be valuable to all students navigating future employment opportunities in financial services.

ISGB 6910. BUSINESS TECH & ANALYTICS. (3 Credits)

FT MBA CORE/ PMBA FLEX CORE COURSE (Formerly “Business IT”) This course focuses on applied tech and analytics skills for business managers/leaders, and strategic use of digital technologies in business. It will help students meet two objectives: (1) Make effective business decisions involving digital technologies and data; (2) Build essential hands-on software skills. We will use and demo a number of hands-on tools useful for managers and business leaders. Students will analyze case studies and will learn to become valuable participants in business decisions involving digital technologies. They will learn how to evaluate business applications, propose digital innovation ideas and work on a semester-long project to make data-driven decisions or develop a proposal/prototype for a company. Topics include enterprise applications, systems development processes, data management, data visualization, data mining, web analytics, IT for competitive advantage, e-commerce, creating a web presence, network effects and platform strategies, digital business models, digital innovation foundations & tech trends, cloud strategies, mobile commerce, social business technologies, adtech and cybersecurity. The course emphasizes applied active learning and a global perspective, informed by industry speakers from the vibrant NYC tech ecosystem. (This is an MBA core course, and a recommended course for other MS students interested in an introduction to business tech and analytics).

Attribute: BUAN.

ISGB 7811. INFO SYSTEMS - INTERNSHIP. (1 to 3 Credits)**ISGB 7901. E BUSINESS STRATEGIES & APPL. (3 Credits)**

This course introduces students to concepts, issues, technologies and trends essential to conducting business in the Internet-based digital economy. The main question answered is: How do you create a successful web presence for your company? The course emphasizes marketing aspect of e-business and hands-on skills on building effective business websites. The course reviews common e-business models (e.g., e-tailing, digital content, digital social media, etc) and applications such as web-based customer relationship management (CRM) and e-procurement. It addresses search engines, web analytics & metrics and discuss cutting-edge issues including e-retailing, content providers, Internet advertising technologies, e-payment systems, regulatory & tax issues, security & privacy concerns and mobile commerce. This course has a global focus through case studies in a variety of business sectors, including retailing, financial services, information services and global e-commerce. Hands-on skills include use of HTML, CSS, Javascript, WordPress, and other related technologies and platforms. In a group project, students will propose an e-commerce business strategy and create a website to implement it.

Attributes: ABEB, ABEP, ABIB, ISDB.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7902. SYSTEM ANALYSIS & DESIGN. (3 Credits)

(Formerly Systems Development) Companies launch systems development projects when they seek to develop new digitally-enabled services or to solve a multitude of business problems, such as inefficient business processes, poor information sharing etc. This course provides a comprehensive and up-to-date coverage of systems analysis and design and related systems development and software engineering issues in business. This course emphasizes technical skills, managerial skills, approaches, software tools, challenges, opportunities, and success factors in systems development within global companies and startups. Topics include: systems development lifecycle, agile development, open source and global development, capturing and managing system requirements, data and process modeling using the Unified Modeling Language (UML) standard, architectural and detailed design, testing and quality assurance, redesigning and optimizing business processes using cutting-edge BPM methods and software tools. The course addresses both the traditional (structured) and object-oriented approaches to systems development. It teaches the language that connects IT with business units, and cultivates essential skills for IS professionals and other business managers involved in developing new IT business solutions. Hands-on skills acquired include modeling using UML and structured methods, Microsoft's Visio, IBM's Rational Suite and IBM's BPM software and other cloud-based or open-source modeling and development tools and platforms.

Attributes: ABFI, BUAN.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7905. WEB APPLICATIONS DEVELOPMENT. (3 Credits)

(Formerly Web Technologies and E-Business Applications) Begins with a brief review of e-business models and applications, such as online purchasing, customer relationship management, electronic marketplaces, application service providers, supply chains, enterprise resource planning and enterprise portals. Studies enabling technologies, such as Web, XML, Semantic Web, HTML, wireless web and XML web services. Also discusses web-based platforms for e-commerce, B2B trade and mobile applications. Reviews emerging XML standards, such as ebXML, Rosettanet and Biztalk, and web-based platforms, including Dot Net and J2EE. Students experience the systems development lifecycle while developing a website to meet business requirements and review real-life examples and case studies.

Attributes: ABEB, ABEP, ISEA.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7910. INFO SYSTEMS STRATEGY & MGMT. (3 Credits)

Focuses on issues of aligning business and technology strategies. Addresses how IT supports business strategy and business processes, the role of the CIO, systems integration, outsourcing, the value of IT, selection of technologies IT strategy and infrastructure, dealing with emerging technologies and organizational issues surrounding technology implementations. This is the Information Systems area capstone course. Prerequisite: ISGB 6910.

Attributes: ABGS, ABIB.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7922. HEALTHCARE IT. (3 Credits)

Introduces students to the subject of health information technology (HIT) and describes the organizational context surrounding the implementation, use and management of HIT. Examines the concepts, applications, and strategies of HIT. Key concepts include the role of HIT in enabling quality, safety and efficiency of health care delivery. The course surveys the various types of HIT including electronic health records, clinical decision support systems, master patient indexes, analytics, telemedicine, etc. The organizational issues of user acceptance, value measurement, alignment, workflow analysis and management are also discussed. Contemporary developments including the trend towards service-oriented architectures/web services and meaningful use are highlighted. The key challenges of security, privacy, and compliance with regulations are also discussed.

Attributes: ABHM, ISEA, ISEL.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7924. MOBILE E-COMMERCE & APPS. (3 Credits)

Roughly two-thirds of the world's population participates in the new mobile economy. Leveraging the mobile marketplace requires a conceptual understanding of mobile-commerce as well as the practical skills needed to create the next generation of wireless enabled goods and services. This course will provide both, using a combination of global case studies and hands-on experience in building mobile applications for handheld devices.

Attributes: ABEB, ABEP, ISDB.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7945. IT AND SUSTAINABILITY. (3 Credits)

(Formerly Business Design Through IT). This course discusses the transformative role of information and communication technologies (ICTs) in enabling sustainability. ICTs' effect on sustainability dimensions are felt at both the macro, societal level, as well as at the business level. These include ICTs' positive impact on development, education, environment, health care, power, transportation, and others. Simultaneously, ICTs themselves are subject to sustainability practices, for example, green computing. Additional topics include the design of smart cities, digital divide, the knowledge society, rebound effects, governance, and world development indicators. Students working in groups will analyze several contemporary cases from a global perspective and also develop an IT-based sustainability plan.

Attributes: ABEB, ABEP, ABGS, ISDB.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7955. PROJECT MANAGEMENT. (3 Credits)

Provides the skills project managers need to complete projects on time and on budget. Technology improvements in organizations are implemented through projects, and strong project management skills are a key success factor for companies to achieve the expected benefits from their technology investments. Topics include setting and maintaining project scope, developing work plans, estimating required resources, developing work programs, organizing project teams, super-users, monitoring and controlling projects, maintaining relationships with users and management, status reporting and key factors for realizing the anticipated benefits from the investment. Students use a computer-based project management tool as part of this course.

Attributes: BUAN, ISEA.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7967. DATA MINING FOR BUSINESS. (3 Credits)

Discusses data mining techniques and their use in strategic business decision making. A hands-on course that provides an understanding of the key methods of data visualization, exploration, association, classification, prediction, time series forecasting, clustering, induction techniques, neural networks, and other methods. Students work in teams on solving a business problem of their choice, using data mining tools and applying them to real data.

Attributes: ABFI, ASDM.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7973. DATABASE MANAGEMENT. (3 Credits)

Covers the basics of database management, a critical element of all IT organizations. Databases are the foundation for operational/transaction systems and for management decision-making. Topics include types of databases and the database environment, database analysis and data modeling, database design with relational models, implementation issues such as SQL, data administration, the Internet database environment and distributed databases.

Attributes: ABFI, ISEA.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7975. BUS ANALYTICS FOR MANAGERS. (3 Credits)

Introduces the concepts of business analytics and such related concepts and techniques as business intelligence, data analytics, data warehousing, data-mining and online analytical processing (OLAP). The course explores the process, contents, and context of managerial decision-making and looks at how business analytics can help in improving management decision-support effectiveness in the various functional areas of business such as marketing, finance and manufacturing. Managers in general—not just IT professionals—stand to gain from the discussion. Students gain hands-on experience in the use of a comprehensive set of Business Intelligence (BI) tools.

Attributes: ASDM, ISBA, ISEA, ISET.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7977. TEXT ANALYTICS. (3 Credits)

The course introduces the concepts of text analytics, unstructured information analysis and management for better decision making by deriving valuable insights from your enterprise content regardless of source or format. It allows deep, rich text analysis of information. Content analytics can help organizations surface undetected problems, fix content-centric process inefficiencies, improve customer service and corporate accountability, reduce operating costs and risks and discover new revenue opportunities. Student groups will implement a comprehensive content analytic project (SPSS Text Analytics/Content Analytics 2.0/UIMA).

Attributes: ABFI, ISBA, ISEL.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7978. WEB ANALYTICS. (3 Credits)

Web analytics—also referred to as Web metrics, e-Metrics, or e-analytics—is the science of Internet audience measurement and analysis. It deals with the identification, gathering & formatting of Web usage data, the computation and presentation of metrics, and the exploitation of the results, in order to measure web site success. Meaningful insight is gained from traffic and visitor analytics data. It not only covers the unique measurement challenges associated with segmentation, but also comes with strategic recommendations for focusing the entire analytics process - from where to begin to what your larger, overall web analytics goals should be (Google Analytics, IBM ShowCase Web Analysis).

Attributes: ABEB, ABEP, ISBA, ISDB, ISEL.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7980. BUS MODELING W/ADV SPRDSHEETS. (3 Credits)

Covers the vital role of advanced spreadsheet methods in business modeling and decision-support. Students learn to build and analyze decision-making models using a spreadsheet package (Excel), with extensive hands-on use of the package and add-ins. Students model and solve representative practical problems covering key business functions such as accounting and finance, sales and marketing, management and operations and human resources. Topics include various advanced spreadsheet functions, “what-if” analysis, list and data management tools, Solver and sensitivity analysis, simulation and forecasting models. Prerequisite: A basic understanding of Microsoft Excel.

Attributes: BUAN, ISBA.

ISGB 7985. DATA WAREHOUSING. (3 Credits)

Provides an advanced, comprehensive overview of data warehousing along with in-depth discussion of critical issues in planning, design, deployment and ongoing maintenance. Students gain a clear understanding of techniques for data extraction from source systems, data cleansing, data transformations, data warehouse architecture and infrastructure, and the various methods for information delivery. Additional concepts discussed include data marts, real-time information delivery, data visualization, requirements gathering methods, multi-tier architecture, OLAP applications, Web click-stream analysis, data warehouse appliances, and data-mining techniques. Students undertake hands-on exercises and projects in commercial data warehousing modeling and implementation tools and perform case analyses. Prerequisite: ISGB 6910.

Attributes: ISBA, ISEA, ISEL, ISET.

Prerequisites: ISGB 6910 or INSY 6910 or ICGB 6910 or GBA Waiver Information Systems with a score of 070 and ISGB 7973.

ISGB 7988. BUSINESS PERFORMANCE AND RISK MANAGEMENT. (3 Credits)

This course aims to develop a good understanding of knowledge required and techniques available to enable managers to measure and manage business performance within their organization. The role of business analytics in enabling business performance and risk management is emphasized. The application of analytics to such concepts as balanced scorecard strategy maps, KPI, corporate metrics, corporate governance information communication and dissemination, compliance and regulation assessment and reporting and information assurance is hallmark of this course. The social, ethical, and behavioral dimensions of the role of technology in analytics and performance management are discussed. Students will work on case studies and also engage in a capstone project involving analytics with a tool such as Cognos Insights.

Attributes: ISBA, ISEL, ISER.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7989. INFO TECH IN TRANSNATL. (3 Credits)

Provides practical guidelines for managers to integrate international business with IS planning and operations. As businesses increasingly operate globally, corporations with transnational business strategies must also develop transnational Information Systems. Today's managers need to coordinate international telecommunications and IS operations as well as exploit the organizational and economic opportunities Information System creates for businesses that operate globally. INTERNATIONAL BUSINESS COURSE.

Attribute: ABIB.

Prerequisites: ISGB 6910 or GBA Waiver Information Systems with a score of 070.

ISGB 7990. BIG DATA ANALYTICS. (3 Credits)

As organizations today generate and store massive amounts of data, they face the key challenge of analyzing the data to gain key insight to make informed decisions. Traditional relational models of data storage and use appear to be ill-suited for these large data sets. Alternative distributed, cloud-based approaches have emerged to handle these big data sets. Frameworks such as the Hadoop platform including the Hadoop Distributed File System (HDFS) and MapReduce (M/R) framework at its core, allows for distributed processing of large data sets across clusters of computers using the Map and Reduce programming model. It is designed to scale up from a single server to thousands of machines, offering local computation and storage. This exploratory course discusses the contemporary topic of big data analytics and introduces Hadoop and related technologies in an introductory fashion. Topics include big data analytics life cycle, technologies, development and management, privacy and security, governance, examples and others. Students will work on workshops and assignments in Hadoop on the Amazon Web Services cloud.

Attributes: ABFI, ISBA, ISEL.

Prerequisite: ISGB 7967.

ISGB 8999. INDEPENDENT STUDY. (1 to 3 Credits)