

The International Certificate Program offers a variety of classes for International students to choose from every semester. Students take at least two classes in their major (Information Technology, Business or Industrial Technology), two English courses and one elective course. The elective course can be selected from any of majors to allow students exposure in a new field. If preferred, students can take a third major course rather than an elective. The following courses are offered in the **Fall 2015** semester. All majors have entry level courses that do not require previous experience in the field; however, some courses require previous experience or coursework in that area. International Certificate Program advisers will work with students individually to establish a suitable course schedule. *Please note that the class list may change at any time due to management discretion.

INFORMATION TECHNOLOGY COURSES

Students who major in information Technology must take a minimum of two of the following in the **Fall 2015 semester**:

IT 301 A+ Certification Training

Participants study the basics of computer architecture and learn to use a contemporary operating system. Hardware requirements, hardware components, software compatibility, and system installation topics are covered along with post-installation, storage, security and system diagnosis, and repair. Topics also include discussion of current and future technology industry trends.

IT 311 Introduction to Programming with Java

A broad introduction to object-oriented programming and the related knowledge necessary to program in a contemporary programming language. This would include coverage of an Application Development Kit, a standard integrated Development environment, and the use of GUI components.

IT 312 C++ Programming

Introduces basic concepts of systems programming. Participants learn to apply basic programming concepts toward solving problems, create source files and implement header files, work with and effectively use basic data types, abstract data types, control structures, code modularization and arrays. Participants will be introduced to object paradigm including, classes, inheritance, and polymorphism applications.

IT-D 411 Java Programming

This course covers a broad spectrum of object-oriented programming concepts and application programming interfaces. The participant considers the details of object-orientated development in topics of multi-threading, data structure collections, stream I/O and client interfaces. Software engineering topics of packaging and deployment are covered as well. Hands-on exercises reinforce concepts taught throughout the course. *Prerequisite: IT 311.*

IT-D 415 Intermediate Java Programming

This course considers Web container application development for enterprise systems. The primary focus is on database connectivity (JDBC) integration with Web application programming using an enterprise-level application framework. A Web application term project considers the design and implementation of a database instance that serves as the information tier in a contemporary 3-tier enterprise solution. *Prerequisite: IT-D 411.*

IT-O 417 Shell Scripting for System Administration

Focuses on preparation of shell scripts to enhance and streamline system administration tasks in all contemporary server operating systems. Scripting will be taught in both native and portable environments. The course will address shell programming, regular expressions, common and system-specific shell utilities and built-in commands, user defined and shell variables, flow control structures, shell functions, and the creation and execution of shell scripts. Homework and hands-on exercises will provide practical experience in contemporary server environments.

IT-D 421 Database Concepts with Oracle

Basic data modeling concepts are introduced. Hands-on database design, implementation, and administration of single-user and shared multi-user database applications using a contemporary relational database management system.

IT-D 422 SQL Databases

Advanced topics in database management and programming including client server application development are introduced. Expands knowledge of data modeling concepts and introduces object-oriented data modeling techniques. Participants will learn the use of Structured Query Language in a variety of application and operating system environments. *Prerequisite: IT-D 421.*

IT-S 428 Database Security

Participants will engage in an in-depth examination of topics in data security including security considerations in applications and systems development, encryption methods, cryptography law and security architecture and models. *Prerequisite: IT-D 421.*

IT-O 440 Network+ Certification Training

This course covers current and evolving data network technologies, protocols, network components, and the networks that use them, focusing on the Internet and related LANs. The state of worldwide networking and its evolution will be discussed. This course covers the Internet architecture, organization, and protocols including Ethernet, 802.11, routing, the TCP/UDP/IP suite, DNS, Bluetooth, SNMP, DHCP, and more. Participants will be presented with Internet-specific networking tools for searching, testing, debugging, and configuring networks and network-connected host computers. There will be opportunities for network configuration and hands-on use of tools.

IT-O 444 Cloud Computing Technologies

Computing applications hosted on dynamically-scaled virtual resources available as services are considered. Collaborative and non-collaborative "cloud-resident" applications are analyzed with respect to cost, device/location independence, scalability, reliability, security, and sustainability. Commercial and local cloud architectures are examined. A group-based integration of course topics will result in a project employing various cloud computing technologies.

IT-D 453 Enterprise Intelligent Device Applications

Intelligent device application development is covered with proprietary enterprise and open-source technologies on media device, mobile and robotic platforms. Utilizing contemporary toolkits, the student considers design and development on simulated and real "smart" devices including smart phones, tablets, sensors, drones and robots.

IT-D 455 Intelligent Device Applications

Intelligent device application development is covered with various technologies on mobile and robotic platforms. Utilizing contemporary toolkits, the participant considers design and development on emulated and real "smart" devices including smart phones, personal digital assistants, sensors, actuators, and robots. Numerous exercises reinforce concepts gained throughout the course. A term project will integrate course topics into a comprehensive intelligent device application.

IT-O 456 Linux + Certification Training

Participants learn to set up and configure an industry-standard, open-source operating system including system installation and basic system administration. Also addressed are applications and graphical user interfaces as well as support issues for open-source software.

IT-D 460 Fundamentals of Multimedia

Participants are introduced to computer-based multimedia theory, concepts, and applications. Topics include desktop publishing, hypermedia, presentation graphics, graphic images, animation, sound, video, multimedia on the World Wide Web and integrated multimedia authoring techniques.

IT-D 461 Internet Technologies and Web Design

This course will cover the creation of Web pages and sites using HTML, CSS, JavaScript and graphical applications. Networked multimedia distribution technologies are also explored. The design of effective Web site including page layout, user interface design, graphic design, content flow and site structure as well as management of Web site resources including intranet management and design considerations are addressed. Participants design and create a major Web site with multiple pages and cross-linked structures.

IT-M 464 Social Media Marketing

Participants will explore the tactics, tools, and strategies of incorporating new media channels to successfully grow a business and/or to maximize the goals of other types of organizations. Participants will be able to demonstrate knowledge of current tools, tactics, and strategies of Social Media Marketing appropriate to business requirements at the professional, managerial and executive levels. They will apply these techniques in the development of a Social Media Marketing plan appropriate to each of these levels and discuss how Social Media Marketing can be integrated in an organization's overall marketing plan.

IT-M 470 Fundamentals of Management for Technical Professionals

This course explores fundamentals of management for professionals in high-technology fields. It addresses the challenges of the following: managing technical professionals and technology assets; human resource management; budgeting and managerial accounting; management of services, infrastructure, outsourcing, and vendor relationships; technology governance and strategy; and resource planning.

IT-M 471 Project Management for IT Professionals

Basic principles of project management are taught with a particular focus on project planning for information technology hardware, software and networking project implementation. Management of application development and major Web development projects will also be addressed.

IT-S 478 Cyber Security Management

In-depth examination of topics in the management of information technology security including access control systems and methodology, business continuity and disaster recovery planning, legal issues in information system security, ethics, computer operations security, physical security and security architecture and models using current standards and models.

IT-M 481 Entrepreneurship for IT Professionals

This course prepares participants to become leaders in information technology and to build ITM companies. Participants design and develop a prototype ITM product and prepare a business plan and venture proposal presentation.

IT-M 482 Business Innovation

This course is designed to teach innovative thinking through theory, methods, and practice of innovation. The course incorporates Einstein's thinking, and Edison's method to establish the innovation process that can be applied in current business environment. Current economic conditions and global sourcing requires that innovation becomes a leading tool for developing a competitive edge. Innovation has been considered a competency of educated, design engineering, and a selected few employees that has become insufficient today. Corporations and organizations need innovation to develop customer-specific solutions in almost real time.

IT-T 492 Embedded Systems and Reconfigurable Logic

This course covers reconfigurable intelligent devices programmed with modern high level languages focusing on design and integration to modern environments. The course will also cover the topic and deployment of wireless sensor networks and the use of rapid prototyping for commercial application. Participants will discover hardware, software and firmware design trade-offs as well as best practices in current embedded systems development. A final project will integrate course topics into a system using an embeddable single-board microcontroller. *Prerequisite: IT 311 or IT 312.*

IT-D 529 Advanced Data Informatics

Informatics is the application of information technology to solve problems in other fields. Informaticists use technology and information to build intelligent systems used to bridge the gaps between information, technology, and the people who use it. The study of informatics is about blending applied mathematics with technology while understanding the broader consequences of computing on society and the problem being solved. It is important for any participant to develop a broad perspective of technology and the people it serves. This course builds upon the participant's knowledge of mathematical concepts of predictive modeling of samples and populations with an emphasis on applying technology to solve real world problems.

IT-T 531 Object-Oriented System Analysis

This course will cover object oriented approaches to system analysis, data modeling and design that combine both process and data views of systems. Emphasis is given to practical problems and the techniques needed to create solutions in systems design.

IT-T 535 Data Center Architecture

The course deals with building integrated data center information infrastructures, including facility, hardware, software and network components, as solutions to particular enterprise information management needs and requirements. Participants will learn critical elements of modern data center design including physical plant construction; network infrastructure; data storage technologies; power provisioning and conditioning; environmental controls and HVAC; system and physical security; modular component use; and planning for growth. *Prerequisite: IT-O 440.*

IT-O 542 Wireless Technologies and Applications

This course will provide participants with the knowledge of wireless communication technologies. The course will focus on the 3G and 4G wireless networks such as UMTS, LTE, and WiMAX. Participants will have the opportunity to study the different wireless networks architectures and major network elements including devices, base stations, base station controller, and core networks. Major topics of the course include air interfaces, protocols, session management, QoS, security, mobility, and handoff.

IT-O 546 Voice over Internet Protocol

This course covers a suite of application protocols known as Voice over IP (VoIP). It describes important protocols within that suite including RTP, SDP, MGCP and SIP and the architecture of various VoIP installations including on-net to on-net to PSATN and inter-domain scenarios. The functions of the Network Elements that play significant roles in this architecture will be defined. Examples of network elements that are currently available as products will be examined. *Prerequisite: IT-O 440.*

IT-O 557 Storage Technologies

Modern enterprise data storage technologies and architectures are examined in depth. Topics include storage devices, file systems, storage networks, virtual storage, RAID, NAS, SAN, and other current enterprise-level storage models. Storage management, replication, deduplication, storage tiers, backups as well as fundamentals of business continuity, application workload, system integration, and storage/system administration are addressed. Specific knowledge and skills required to configure networked storage to include archive, backup, and restoration technologies are covered.

IT-M 572 Process Engineering for Information Technology Managers

This course will provide participant with the knowledge and skills to define, model, measure and improve business processes. The course will focus on re-engineering processes through the application of technology to achieve significant and measurable improvement. The course will explore the latest industry standards and participants will use state-of-the-art software tools for hands-on experiential learning. *Prerequisite: IT-M 471.*

IT-M 586 CISA Certification Preparation

Industry standard practices and standards in the auditing of information technology in an organization are addressed, with a particular emphasis on examination of IT governance, assets, controls, and control techniques. Specific areas covered will include the audit process, IT governance, systems and infrastructure life cycle management, IT service delivery and support, protection of information assets, and business continuity and disaster recovery. Participants will examine case studies and complete hands-on exercises.

INDUSTRIAL TECHNOLOGY

Students who major in Industrial Technology must take two of the following courses in the Fall 2015 semester:

INT 301 Communications for the Workplace

Review, analyze and practice verbal and written communication formats found in the workplace. Emphasis is on developing skills in technical writing, oral presentations, business correspondence, and interpersonal communication using electronic and traditional media.

INT 315 Industrial Enterprise

This course provides an introduction to the world of industrial enterprises. The world-wide evolution of business will be considered leading to today's competitive world. The range of industrial activities is reviewed, and students are introduced to the organization and purpose of various industrial sectors.

INT 441 Supply Chain Management

This course covers the full range of activities involved in the supply chain. This includes management of tools for optimizing of supply chains, relationships with other parts of the Management Systems, Advanced Planning and Scheduling Systems, as well as cost benefit analysis to determine the most appropriate approach.

INT 459 Issues in Industrial Sustainability

Examines the concept of sustainability and its application in the industrial environment. Identifies underlying stresses on the natural and human environments and the resultant problems for business and society including legal, ethical, and political issues related to sustainability. Global warming, peak oil, and commodity pricing are considered as indicators of the need for improvements in sustainability. Industrial ecology will be discussed as well as strategies for developing sustainable practices in manufacturing, power generation, construction, architecture, logistics, and environmental quality. Coverage includes case studies on businesses that have developed successful sustainability programs.

BUSINESS COURSES

Students who major in Business must take a minimum of two of the following courses in the Fall 2015 semester:

PL 811 Introduction to Marketing

This course provides an introduction to the activities and decisions faced by marketing managers in modern organizations. Topics include: current marketing issues, including customer relationship management (CRM), global marketing, marketing research, supply-chain management and integrated marketing communications (IMC). Special text and classroom focus is placed on Product, Price, Place and Promotion strategies, as they relate to an overall Marketing Plan.

PL 815 Business Strategies

This course is the integration and application of the knowledge and skills learned in the foundation, tools and concepts, marketing, finance and functional field component of business management. Business Strategy focuses on the strategy behind business practices, strategic thinking, and creating successful strategies. It is an experiential course designed to enable each student to understand the necessary components of strategic business decisions and to create them.

PL 819 Essentials of Exporting and Importing

This course provides a comprehensive overview for conducting export and import business in the global arena. Content focuses on U.S. government trade policies and export-import controls, industry practices and international procedures that are essential for business or entrepreneurial success. Instruction ranges from the basics to more advanced marketing strategies for both export and import. The instructor's newly- published textbook, *Essentials of Exporting and Importing*, will be the textbook for this course.

PL 820 Theory & Organization of Management

Theory of Organization and Management Introduction to the theory and practice of management; includes basic managerial functions: planning, organizing, leading and controlling. Communication, motivation and decision-making techniques are stressed. Also covered are organization structure and design, the dynamics of individual and group interaction, organization climate, managerial styles, the implication of increasing work force diversity, coping with conflict, and methods for achieving organizational improvement. Issues in international business are dealt with at relevant points.

PL 831 Financial Markets

Theory and applications associated with the functioning of financial markets to include the conceptual foundations of portfolio theory, risk management, and asset valuation. The stock, money, bond, mortgage, and futures and options markets are examined.

PL 837 Business Statistics

Statistics is the science that deals with collection, description, analysis, interpretation and presentation of data. Statistics can be used to describe a particular data set (termed descriptive statistics) as well as to draw conclusions about the population from a particular data set (termed inferential statistics). *Business Statistics* applies statistical methods in a business context order to address business related questions and help make evidence based decisions. In *Business Statistics* you will learn to apply commonly used statistical methods in business context and how to interpret analyses performed by others.

IT-M 464 Social Media Marketing

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ENGLISH COURSES

Students will take two English courses in the Fall 2014 semester. Students will be given an English assessment upon arrival to determine their English level in listening, reading, speaking and writing and will register for two of the following courses:

PL 421 Listening Enhancement Level 1

Listening Enhancement I is designed to help international students improve academic and social listening. Students will complete a variety of listening-based tasks to increase comprehension and develop strategies for effective listening and note-taking. Frequently used vocabulary terms will also be presented.

PL 422 Listening Enhancement Level 2

Listening Enhancement II is an advanced level Listening course for international students. The course will aid students in comprehending academic lectures and strengthening social listening as well as note-taking skills. Students will complete activities using web-based videos to refine their listening skills. Each unit of study is centered on an academic lecture and the student work that is necessary before, during, and after a university course lecture.

PL 431 Reading/Vocabulary Development Level 1

Reading and Vocabulary Development I is designed for international students to develop academic reading skills and increase overall vocabulary. Students will be exposed to a variety of readings in order to build effective strategies for analysis of and interaction with academic texts.

PL 432 Reading/Vocabulary Development Level 2

Reading and Vocabulary Development II is designed to help international students analyze instructor-selected readings for lexical, syntactic, rhetorical, and discursive features. The course will also focus on increasing academic vocabulary and building skills and strategies to improve reading speed and overall comprehension.

PL 440 Fundamentals of Academic Writing

Fundamentals of Academic Writing is designed to introduce international students to the conventions of academic writing and to develop a voice in writing for American audiences. By composing academic paragraphs in a variety of genres, students will gain knowledge of deductive organizational structure, academic formatting, and strategies for avoiding plagiarism.

PL 441 Academic Writing Level 1

Academic Writing I is designed for international students to improve the fluency and accuracy of their writing. Students will reinforce their understanding of argumentation and organization for American academic audiences through the composition and revision of a variety of paragraphs and essays that demonstrate increasing complexity.

PL 442 Academic Writing Level 2

Academic Writing II will prepare international students for research and research writing. Students will learn advanced research skills and apply them through the composition of several academic papers.

PL 461 Effective Communication 1

Effective Communication I is designed to help international students improve speaking fluency and pronunciation. This course will focus on skills and strategies to increase confidence in spoken interactions, both in the classroom, and in daily life.

PL 462 Effective Communication 2

Effective Communication II is an advanced course in speaking and pronunciation for international students. Topics include developing informational skills, interactional skills, and skills to manage interactions in both academic and social life. Accent reduction and the International Phonetic Alphabet (IPA) will also be addressed.