



New Jersey's Science & Technology University

LIFE LONG LEARNING = LIFE LONG EMPLOYABILITY

ESSENTIALS OF BUSINESS APPLICATION DESIGN CERTIFICATE WHICH LEADS TO A BACHELOR'S OF SCIENCE IN INFORMATION SYSTEMS

As businesses become more complex and internet-aware, they have become more dependent on information systems and application software methodologies to manage mission-critical processes, enhance their competitiveness and efficiency, and support high level managerial decisions. NJIT's new certificate in Business Application Design will provide the working adult with the requisite knowledge and strategies to most effectively utilize these modern technologies for designing business applications and information systems. Students will become familiar with the SDLC (software development life cycle), the architecture and components of a business application system, how to design, develop and evaluate effective business applications, and the prudent selection and use of information systems and analysis techniques, including structured analysis.

Completion of this certificate will open the pathway for individuals to gain entry to new career positions in Business Application Design, or to advance their knowledge in their current career position. Individuals who complete this certificate may also wish to consider enrolling in NJIT's nationally accredited baccalaureate degree programs in Information Systems, for which all the certificate degree credits would be transferable.

Certificate Includes

IS 118:	Introduction to Application Development Tools
IS 218:	Introduction to Web Systems Design
IS 245:	Information Technology Systems: Hardware/Software
MIS 245:	Introduction to Management Information Systems
IS 270:	Multimedia Information Systems
IT 310:	E-commerce Technology
IS 390:	Requirements Analysis and Systems Design
IS 431:	Database System Design and Management

IS 118 - Introduction to Application Development Tools

Application development principles, and associated development tools and programming. HTML, and PHP are examples of open source development tools that are becoming defacto standards within the development community. Knowledge of these tools will benefit the student in subsequent courses and in their senior capstone project. In the proprietary arena, VB.Net is extensively used for application in all environments and its penetration into the development area is quite large and often is the language of choice of many Windows shops.

IS 218 - Introduction to Web Systems Design

This course provides a critical, hands-on introduction to Web-based Information Systems and Web systems design. Students will research and discuss emerging trends, capabilities, and limitations of web technologies used to capture, store, access, and disseminate information for both businesses and online communities. Students will design and develop different types of websites and web applications which will then be analyzed as to their usability in real public and private settings.

IS 245: - Information Technology Systems: Hardware/Software

This course reviews hardware/software technologies in order to enable system developers to understand tradeoffs in the design of computer architectures for effective computer systems. Also covered are operating systems and systems architecture for networked computing systems. Topics include Hardware (CPU architecture, memory, registers, addressing modes, busses, instruction sets, multi processors versus single processors, and peripheral devices), Operating systems (processes, process management, memory and file system management), and Telecommunications (basic network components, switches, multiplexers and media, installation and configuration of multi-user operating systems).

MIS 245 - Introduction to Management Information Systems

Concepts of information systems, business process, hardware, software, systems analysis, e-commerce, enterprise systems and computer applications in organizations, techniques of systems analysis, systems designs, implementations, and information management (both technical and behavioral) are studied in the organizational context of management information needs.

IS 270 - Multimedia Information Systems

Multimedia combines text, graphics, sound, video, and animation in a single application. Preparation for creating multimedia information systems, and understanding the crucial issues involving technology, design and effectiveness of multimedia applications. Programming techniques for integrating video, sound, animation, and graphics, and design strategies for multimedia information systems.

IT 310 - E-commerce Technology

An overview of the technologies relevant to electronic commerce. Communications and networking, web authoring tools, system security, databases and archiving, EDI, transaction processing, and factory/warehouse data networks. Provides competency to appraise tools such as HTTP servers, secure transaction software and firewalls, low and high-end database systems, heterogeneous networks, NNTP Servers, client software, procurement systems, and intelligent agents. Covers e-commerce models including agent-based and Java-based, electronic contracts and the electronic exchange of technical data, electronic cash systems and user security.

IS 390 - Requirements Analysis and Systems Design

A study of the information systems development life-cycle, from the initial stages of information requirements analysis and determination to the ultimate activities involving systems design. Theory, methodologies and strategies for information requirements analysis, including the assessment of transactions and decisions, fact-finding methodologies, structured analysis development tools, strategies of prototype development, and an overview of computer-aided software engineering (CASE) tools. Theory, methodologies and strategies for systems design, including design of user-interfaces, particularly menu-driven and keyword dialogue strategies, and issues in the proper design of computer output.

IS 431 - Database System Design and Management

Database system components; data modeling using the Entity-Relationship model, Semantic Object model, UML and other data models; Relational Database Management Systems-functionality and design concepts and applications; querying a database; Structured Query Language; functional dependencies and higher order normalization for relational database design; relation decomposition; overview of concurrency control and transaction management, Database application design and management issues. Student projects involve the use of DBMS packages, including Oracle and Microsoft Access.

For more information on Information Systems at NJIT visit: <http://is.njit.edu/>