NJIT
New Jersey's Science & Technology University

LIFE LONG LEARNING = LIFE LONG EMPLOYABILITY

Essentials of Web Application Development Certificate
which leads to a bachelor's of science in information systems

The Internet and the World Wide Web are the most transformative inventions of our time, and NJIT's new Web Application Development certificate is designed to prepare qualified working adults for exciting career opportunities in this area. Beginning with an introduction to utilizing some of the fundamental web application development tools, students will then study the necessary concepts from information technology and progress to developing expertise in areas like multimedia information systems, building applications for E-Commerce, and advanced web development tools.

Completion of this certificate will open the pathway for individuals to gain entry to new career positions in E-Commerce and Web Development, 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
IT 101:	Introduction to Information Technology
IS 245:	Information Technology Systems: Hardware/Software
IT 202:	Internet and Applications
MIS 245:	Introduction to Management Information Systems
IS 270:	Multimedia Information Systems
IS 373:	World Wide Web Standards
IS 433:	Electronic Commerce Requirements and Design

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.

IT 101 - Introduction to Information Technology
Overview of emerging information technologies and the principles behind these developments. Discusses applications developed around evolving Internet infrastructure and their impact on business, information technology professionals and society. Covers such topics as multimedia systems and standards, distributed and network computing, e-commerce applications and data management all in the context of problem solving and program development, which are integrated throughout the course using a modern development environment as a vehicle to illustrate the concepts.

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).

IT 202 - Internet Applications
This course covers Internet programming and applications. A variety of software technologies are used to illustrate important concepts in Information Technology, from the client-server paradigm to text-based protocols like HTTP. HTML is introduced as the standard tool for information layout for web documents and for transferring information to/from a server-side program. The client-side language Javascript that interfaces with HTML is introduced including some of the Document Object Model [DOM]. The eXtended Markup Language (XML), Document Type Definition grammars [DTD] and Cascading Style Sheets (CSS) are used to illustrate technologies for structuring information and uniformizing the presentation of information. A server-side language (like JSP) is considered in some detail, together with a database (like Access) and the Structured Query Language (SQL) to allow implementing a three-tier web application. As time allows, other topics will be discussed.

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.

IS 373 - World Wide Web Standards
This course covers the standards that are emerging for formatting, accessing, displaying, transmitting and structuring information, including the standards and protocols existing and under development today. Topics include: Standards, Rationale, Pros and Cons, the Standards Process; Standards Bodies & Participating on Standards Bodies; How Companies Influence Standards; How Developers Incorporate Standards in their Programs; Planning for Emerging Standards; Company Policies Regarding Web Standards; Standards and Legal Issues.

IS 433 - Electronic Commerce Requirements and Design
Introduces critical concepts emerging in the field of electronic commerce, such as business to consumer (B2C), business to business (B2B), supply chain management (SCM) systems, and peer to peer (P2P). The course provides concepts and practical skills for building effective, usable, and secure electronic commerce systems, offering a conceptual framework for the study of electronic commerce as well as hands-on skills for building systems for electronic commerce.

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