

Information Technology Concentrations

The IT Concentrations are **Digital Forensics, Network Technologies & Administration, Information Assurance and Security, Integrated Digital Media, Software Development, and Gaming Design and Development, and Health Informatics**. In order for a student to receive an IT Concentration, he/she must take at least 15 hours of coursework within a concentration. In addition to the courses listed, special topics courses may also be used to satisfy concentration requirements as approved by the Chair of the School of Information Technology.

Network Technologies & Administration

The Network Technologies & Administration concentration educates students in the use of current concepts and technologies of networking. Students will learn to analyze the needs of organizations, communicate the needs to the users, and then design and build networks to meet those needs. Graduates will be prepared for positions in networking or systems administration.

Students should choose five courses from the following list:

- ITEC 3325 - Windows System Administration Credit: 3 hours
- ITEC 3328 - Linux Systems Administration Credit: 3 hours
- ITEC 4242 - Database Administration Credit: 3 hours
- ITEC 4285 - Web Server Administration Credit: 3 hours
- ITEC 4321 - Forensics/Data Recovery Credit: 3 hours
- ITEC 4324 - Wireless Technologies Credit: 3 hours
- ITEC 4329 - Data Communications Credit: 3 hours
- ITEC 4370 - Virtual Computing Credit: 3 hours
- ITEC 4421 - Network Security Credit: 3 hours

And any other courses in this area as approved by the Chair of the School of Information Technology

Information Assurance and Security

The Information Assurance and Security concentration involves detecting, reporting, and responding to cyber threats, making encryption codes to securely pass information between systems, and taking appropriate measures to ensure the security of valuable information. Students will learn about digital evidence, computer crime and law, and server and network security important to law enforcement, forensic science, and information systems security.

Students should choose five courses from the following list:

- ITEC 4242 - Database Administration Credit: 3 hours
- ITEC 4285 - Web Server Administration Credit: 3 hours
- ITEC 4321 - Forensics/Data Recovery Credit: 3 hours
- ITEC 4322 - Advanced Digital Forensics Credit: 3 hours
- ITEC 4341 - Incident Response and Contingency Planning Credit: 3 hours
- ITEC 4361 - Software and Database Security Credit: 3 hours
- ITEC 4370 - Virtual Computing Credit: 3 hours
- ITEC 4421 - Network Security Credit: 3 hours

And any other courses in this area as approved by the Chair of the School of Information Technology

Integrated Digital Media

The Integrated Digital Media concentration prepares students in the design and development of products for use in a variety of IT applications. Through the various courses, students will develop competencies in evaluating user and product needs and in designing, developing, and implementing digital media products to meet those needs. Students learn a broad range of skills including graphic design and production, interface design, and analysis and design techniques for constructing interactive applications. Graduates will find career opportunities as digital media designers and developers, specialists, and trainers.

Students should choose five courses from the following list:

Required:

- ITEC 4230 - Graphic Imaging Credit: 3 hours
- ITEC 4238 - 2D Computer Animation Credit: 3 hours
- ITEC 4284 - Web Multimedia Delivery Credit: 3 hours

Choose two (2) of the following:

- ITEC 4231 - Designing Content for Instructional Applications Credit: 3 hours
- ITEC 4237 – 3D Modeling and Animation Applications Credit: 3 hours
- ITEC 4250 - Artificial Intelligence Credit: 3 hours
- NMAC 3108 - Writing for Digital Media Credit: 3 hours
- NMAC 3145 - Digital Media Studio Credit: 3 hours

- NMAC 3600 - Digital Storytelling Credit: 3 hours
- NMAC 4450 - Visual Rhetoric: Principles of Production Credit: 3 hours
- NMAC 445 1 - Advanced Video Production Credit: 3 hours

And any other courses in this area as approved by the Chair of the School of Information Technology

Software Development

The Software Development concentration prepares students for the design, development, and implementation of software solutions. Graduates will be prepared for a variety of careers including software developers or systems, application, or database programmers. Students should choose five courses from the following list:

Required:

- ITEC 3264 - Data Structures & Algorithm Analysis Credit: 3 hours

Choose four courses from the following:

- ITEC 4244 - Database Programming Credit: 3 hours
- ITEC 4248 - Web Development Environments Credit: 3 hours
- ITEC 4266 - C++ Programming Credit: 3 hours
- ITEC 4261 - Java Programming Credit: 3 hours
- ITEC 4269 - Client/Server Systems Programming Credit: 3 hours
- ITEC 4286 - Web Applications Development Credit: 3 hours
- ITEC 4361 - Software and Database Security Credit: 3 hours

And any other courses in this area as approved by the Chair of the School of Information Technology

Gaming Design and Development

The Gaming Design and Development concentration provides students with an understanding of the theory, design and programming techniques required for developing interactive games. This concentration will equip students with the theoretical and practical knowledge for careers in the games and simulation industries.

Students will take the following courses:

Required:

- ITEC 3264 - Data Structures & Algorithm Analysis Credit: 3 hours
- ITEC 4230 - Graphic Imaging Credit: 3 hours

- ITEC 4238 - 2D Computer Animation Credit: 3 hours
- ITEC 4250 - Artificial Intelligence Credit: 3 hours
- ITEC 4255 - Game Design and Development Credit: 3 hours

And any other courses in this area as approved by the Chair of the School of Information Technology

Digital Forensics Concentration

Students will learn the digital forensics process of acquisition, analysis, and reporting. Learners will carry out the procedures of identification, collection, preservation, examination, analysis, and reporting of evidence for civil and criminal cases. Students will learn about the tools and processes to handle digital evidence. Digital forensics includes using scientific methods and providing extensive documentation to ensure the preservation and integrity of the investigation.

Required:

ITEC 4321 - Forensics/Data Recovery Credit: 3 hours

ITEC 4341 - Incident Response and Contingency Planning Credit: 3 hours

Choose 3 of the following – 9 hours

ITEC 4501 - Special Projects or ITEC 4701 – Internship in Digital Forensics Credit: 3 hours

ITEC 3328 - Linux Systems Administration Credit: 3 hours

ITEC 4370 - Virtual Computing Credit: 3 hours

ITEC 4322 - Advanced Digital Forensics Credit: 3 hours

And any other courses in this area as approved by the Chair of the School of Information Technology

Health Informatics

Informatics is the bridge that connects Information Technology to other areas of study. An Informatics Concentration provides students with a strong foundation in IT as well as a deeper understanding of another discipline. Informatics Concentrations allow students to more rapidly develop IT solutions for organizations within diverse disciplines. All courses in the Informatics Concentration are taken outside the School of Information Technology. These courses are deemed to cover the foundations, theory, and principles within each concentration. Some concentrations lead to recognized disciplines for graduate study.

Health Required Courses Credit: 9 hours

- HLSA 3310 - American Health Care System Credit: 3 hours
- HLSA 3320 - Health Care Management Credit: 3 hours
- HLSA 4470 - Design & Management Credit: 3 hours

Required Electives Credit: 6 hours

Select two courses from the following:

- HLSA 3350 - Public Health and Epidemiology Credit: 3 hours
- HLSA 3360 - Quality Management and Improvement Credit: 3 hours
- HLSA 4410 - Health Law and Ethics Credit: 3 hours
- HLSA 4435 - Managed Care Credit: 3 hours