TECHNOLOGY INTEGRATION (TECI)

TECI 111 Healthcare Data Management and Information Systems 3 Credits
Introduction to the electronic health record (EHR) components and health informatics including infrastructure, privacy, security, and legal implications. Federal involvement and its impact on information technology regarding health data will be discussed. The transformation of data into meaningful information, through research, vital statistics, and epidemiology will be demonstrated. Data quality, integrity, collection, access, and retention will also be emphasized.

TECI 118 AC Passive Circuits 3 Credits
Analysis of AC circuits including resistors, capacitors, inductors, and use of standard test equipment. Three one-hour lectures and one one-and-one-half hour laboratory per week.
Corequisites: TECI 118L.

TECI 118L AC Passive Circuits Laboratory 1 Credit
Lab component required for TECI 118.
Corequisites: TECI 118.

TECI 131 Principles of Information Assurance 3 Credits
Exploration of skills and knowledge required to survey key issues associated with protecting information assets, determine the levels of protection and response to security incidents, and design a consistent, reasonable information security system. Students learn to inspect and protect information assets, detect and react to threats to information assets, and examine pre- and post-incident procedures.

TECI 132 Introduction to IT Hardware and System Software 3 Credits
Basic hardware and software study of stand-alone or local/wide-area computers. Hands-on experience using 5x or above architecture.

TECI 142 Internet of Things 3 Credits
Introduction to the network and how the internet expands to sectors such as manufacturing floors, energy grids, healthcare facilities, and transportation. Students will learn the network of physical objects that contain embedded technology to communicate and interact with their internal states. Topics will also include cloud applications and cloud-based office productivity software.

TECI 163 Convergent Technologies 3 Credits
Introduction to telecommunications, including how data, voice, and video technologies are converging for telecommunications systems. Topics will also include wireless, ISDN, PCM, DSL, cable, IP voice, and computer networks.

TECI 170 Introduction to Communications 3 Credits
Overview of communication systems that include both central office based and premise based platforms. The switching and service components of RBOC and inter-exchange providers will be examined and discussed. Characteristics, advantages, and disadvantages of the various systems will be compared and contrasted. Architecture and design of switching infrastructures and components will also be covered.

TECI 180 Cisco Networking I 3 Credits
The first of four semester courses in Cisco’s Networking Academy curriculum. Concepts covered are: OSI model, internetworking devices, IP addressing, LAN media and topologies, structured cabling, electronics. CCNA certified individual can perform the following tasks: -Install and configure Cisco Switches and routers in multi-protocol internetworks using LAN and WAN interfaces. -Provide Level 1 troubleshooting service. -Improve network performance and security. -Perform entry-level tasks in the planning, design, installation, operation, and troubleshooting of Ethernet and TCP/IP networks.

TECI 185 Cisco Networking II 3 Credits
The second of four semester courses in Cisco’s Networking Academy curriculum. Concepts covered are: Safety; Networking; Network terminology and protocols; Network standards; LANs, MANs, SANs, WANS; OSI model; Ethernet; Token ring; FDDI; TCP/IP addressing protocol; Dynamic routing, the Network Administrator’s role and function.
Prerequisites: TECI 180.

TECI 195 Independent Study 1-4 Credits
Course may be taken multiple times up to maximum of 6 credit hours.

TECI 196 Topics 1-3 Credits
Course may be taken multiple times up to maximum of 15 credit hours.

TECI 230 Cisco Networking III 3 Credits
The third of four semester courses in Cisco’s Networking Academy curriculum. Concepts covered are: LAN switching; VLANs; LAN design; IGRP; Access lists; IPX/SPX; with concepts applied through design of a Threaded Case Study (TCS).
Prerequisites: TECI 180 and TECI 185.

TECI 235 Cisco Networking IV 3 Credits
The fourth of four semester courses in Cisco’s Networking Academy curriculum. Concepts covered are: WANs, SANs design; PPP; ISDN; Frame relay; Master documentation skills; with concepts applied through design of a Threaded Case Study (TCS).
Prerequisites: TECI 180, TECI 185, and TECI 230.

TECI 240 VoIP Fundamentals 3 Credits
Covers the components of engineering the telephone outside plant, fundamentals of transmission, resistance design, and distribution cable design in serving a customer area.

TECI 242 Cloud Computing 3 Credits
Introduction to cloud computing and how to install, configure, and manage a cloud environment. Builds on knowledge of hypervisor and virtual machine environments.

TECI 245 Security Fundamentals 3 Credits
Comprehensive overview of network security. Includes general security concepts. Communication security includes remote access, e-mail, the Web, directory and file transfer, and wireless data. Common network attacks introduced. Cryptography basics incorporated. Operational/organizational security discusses as it relates to physical security, disaster recovery, and business continuity. Computer forensics introduced.

TECI 260 Information Technology Hardware and System Software 3 Credits
Use of an internal systems approach to building and maintaining stand-alone or local/wide area computers utilized in networking. Hands on experience using 5x or above architecture.
TECI 265 Advanced IT Hardware and System Software3 Credits
Prerequisites: TECI 260.

TECI 292 Capstone in Technical Engineering Planning and Economics4 Credits
Knowledge to articulate the tactical planning functions performed within capacity provisioning. Access and apply the various tactical planning tools and data elements to supporting documentation. Economic principles in costing, value, capital investment, profitability and inventory.

TECI 295 Independent Study1-3 Credits
Course may be taken multiple times up to maximum of 6 credit hours.