NETWORKING COURSE SUMMARIES

INTRODUCTORY

NET1010: DIGITAL TECHNOLOGY 1

Students construct and demonstrate logic systems and their unique functions.

Prerequisite: *None*

NET1910: NET PROJECT A

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: *None*

INTERMEDIATE

NET2010: DIGITAL TECHNOLOGY 2

Students demonstrate knowledge of digital principles, by using small-scale transistor–transistor logic (TTL) and complementary metal-oxide semiconductor (CMOS) integrated technology.

Prerequisite: *NET1010: Digital Technology 1*

NET2020: WORKSTATION TECHNOLOGY & OPERATIONS

Students learn computer work station operations, including computer architecture, peripherals, configurations, operating system environments and platforms, utility software, diagnostic and protection software, hard drive file updating and maintenance, support resource application and troubleshooting activities.

Prerequisite: *None*

NET2030: NETWORK STRUCTURES

Students acquire an understanding of network infrastructure and assess the advantages and disadvantages of different types of networks. They also develop knowledge of data transmission principles in a computer network and compare features of different network topologies and transmission methods.

Prerequisite: *None*

NET2040: NETWORK MEDIA & DEVICES

Students develop an understanding of different connectivity strategies for linking computers and other devices in a local area network (LAN). They acquire knowledge of industry standards for network cables and gain practical experience through installing cabling, connectors and other hardware components.

Prerequisite: *None*

NET2050: OPEN SYSTEM INTERCONNECTION

Students develop knowledge of the Open System Interconnection (OSI) reference model and its use as a conceptual framework for analyzing network communication tasks. They examine the OSI reference model characteristics, the functions of each of its seven layers and how data moves between layers of the reference model when computers establish a network connection.

Prerequisite: *None*

NET2060: NETWORK PROTOCOLS

Students acquire basic knowledge of upper-layer protocol suites that permit the networking of computers. They examine reasons for the extensive use of the Transmission Control Protocol/Internet Protocol (TCP/IP) in computer networks, and develop knowledge and skills relevant to installing, configuring and maintaining a TCP/IP client on a network.

Prerequisite: *None*

NET2070: LOCAL AREA NETWORKS

Students extend their understanding of technologies used in a local area network (LAN) and examine specifications for an Ethernet LAN. They develop knowledge of a general strategy for network design and apply the strategy to design, implement and troubleshoot a small LAN.

Prerequisite: None

NET2080: LAPTOPS & PERIPHERALS

Students develop an understanding of laptops, portable devices, printers and scanners. They acquire knowledge of industry standards for network cables and gain practical experience through installing cabling, connectors and other hardware components.

Prerequisite: *None*

NET2110: TELECOMMUNICATIONS 1

Students learn how to select and use various wired and wireless telecommunication systems. By using the Internet, they investigate how communication principles, bandwidth, telecommunication infrastructure and wave spectrum affect telecommunication systems.

Prerequisite *None*

NET2910: NET PROJECT B

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: *None*

NET2920: NET PROJECT C

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: *None*

NET2950: NET INTERMEDIATE PRACTICUM

Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Prerequisite: *None*

ADVANCED

NET3010: DIGITAL TECHNOLOGY 3

Students demonstrate and apply knowledge of digital principles by using medium-scale transistor–transistor logic (TTL) and complementary metal-oxide semiconductor (CMOS) integrated technology.

Prerequisite: *NET2010: Digital Technology 2*

NET3020: DIGITAL APPLICATIONS

Students experiment with large-scale and very large-scale integrated circuits, and demonstrate their applications to practical situations.

Prerequisite: *NET2010: Digital Technology 2*

NET3030: MICROPROCESSORS

Students compare the internal architecture of microprocessors and program them using instruction sets.

Prerequisite: *NET2010: Digital Technology 2*

NET3040: MICROPROCESSOR INTERFACE

Students demonstrate how to interface microprocessors/microcontrollers with real-world applications.

Prerequisite: *NET3030: Microprocessors*

NET3050: NETWORK OPERATING SYSTEMS

Students examine the features, advantages and disadvantages of major network operating systems and the criteria involved in selecting network operating systems that are appropriate in specific networking environments. They develop the knowledge and skills required to install and configure different network and client operating systems and develop a strategy for troubleshooting problems resulting from the installation of operating system software.

Prerequisites: *NET2030: Network Structures*
NET2040: Network Media & Devices
NET2050: Open System Interconnection
NET2060: Network Protocols
NET2070: Local Area Networks

NET3060: WIDE AREA NETWORKS

Students develop basic knowledge of the technologies employed in a wide area network (WAN) and of how a WAN may be used to connect local area networks (LANs) at different locations. Students gain practical experience in using WAN technologies to establish remote network access and they analyze emerging WAN technologies with respect to the impact on global networking.

Prerequisites: *NET2030: Network Structures*
NET2040: Network Media & Devices
NET2050: Open System Interconnection
NET2060: Network Protocols
NET2070: Local Area Networks

NET3070: ROUTING FUNDAMENTALS

Students extend their knowledge of wide area networks (WANs) by examining the process used to route information through an internetwork. They examine the major functions and components of a router, develop knowledge of common routing protocols and gain practical experience in basic router configuration.

Prerequisites: *NET2030: Network Structures*
NET2040: Network Media & Devices
NET2050: Open System Interconnection
NET2060: Network Protocols
NET2070: Local Area Networks

NET3080: INTERNET PROCESSES

Students apply their knowledge of Wide Area Network (WAN) technologies to an Internet environment. Course content focuses on the significance and utility of Internet Protocol (IP) addressing schemes in Internet communication and on the function of WAN protocols and services in providing Internet access. Students develop knowledge of internetworking career paths and related educational opportunities.

Prerequisites: *NET2030: Network Structures*
NET2040: Network Media & Devices
NET2050: Open System Interconnection
NET2060: Network Protocols
NET2070: Local Area Networks

NET3090: NETWORK MANAGEMENT

Students acquire knowledge of internal and external risks to a network and develop strategies for protecting network data and securing a network. They also develop and apply a general strategy for troubleshooting network problems and acquire knowledge of the basic roles and responsibilities associated with network maintenance and support.

Prerequisites: *NET2030: Network Structures*
NET2040: Network Media & Devices
NET2050: Open System Interconnection
NET2060: Network Protocols
NET2070: Local Area Networks

NET3100: NETWORK MEDIA & DEVICES, SECURITY

Students develop an understanding of different connectivity strategies for linking computers and security devices in a local area network (LAN). They acquire knowledge of industry standards for network cables and gain practical experience through installing cabling, connectors and other hardware components.

Prerequisite: *None*

NET3110: TELECOMMUNICATIONS 2

Students demonstrate knowledge of telecommunication systems by designing a new system. They use the Internet in researching and developing their design and for comparing and contrasting various telecommunication initiatives. Students analyze the effect this is having on the individual and society.

Prerequisite: *NET2110: Telecommunications 1*

NET3910: NET PROJECT D

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: *None*

NET3920: NET PROJECT E

Students develop project design and management skills to extend and enhance competencies and skills in other CTS courses through contexts that are personally relevant.

Prerequisite: *None*

NET3950: NET ADVANCED PRACTICUM

Students apply prior learning and demonstrate the attitudes, skills and knowledge required by an external organization to achieve a credential/credentials or an articulation.

Prerequisite: *None*