COURSE: **IST 255 - Networking III**   **4 credits**

INSTRUCTOR: Drooger/O'Neal   **SEMESTER/YEAR:**

COURSE DESCRIPTION:
This course provides a comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students learn about the hierarchical network design model and how to select devices for each layer. The course explains how to configure a switch for basic functionality and how to implement Virtual LANs, VTP, Inter-VLAN routing, and Spanning Tree Protocol in a converged network. In conjunction with the Cisco Networking Academy, students also develop the knowledge and skills necessary to implement a WWLAN in a small to medium network. Students must have a personal computer and Internet access to complete online assignments and exams. Class also meets at least one Saturday per session per the instructor's discretion. Laboratory fee required. Prerequisite: IST 156. Semesters offered: Spring.

TEXTBOOK: *Switched Networks Lab Manual; Cisco Press; ISBN-13: 978-1-58713-327-5*

STUDENT LEARNING OUTCOMES:
- Design and implement a switched network using VLANs, VLAN Trunking Protocol (VTP), Rapid Spanning Tree Protocol (RSTP), Per VLAN Spanning Tree Protocol (PVSTP), and 802.1q trunking.
- Configure a router to support inter VLAN routing using 802.1q trunking through sub interfaces.
- Provide reliability and redundancy through routing protocols, load balancing, and link aggregation.
- Design and implement a small standards-based wireless network including appropriate security settings

Total Hours of Coursework:

To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute "academic" hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit.

For most classes, students should expect to do at least 2 hours of coursework outside of class for each hour of in-class coursework.

Total Hours of Coursework for IST255 is at least 150 hours for 4 credits.

Hours Required	Topic
45	Chapter review online (9)
19	Chapter Exams (9)
12	Chapter assignments and webinars
10	Practice quizzes
18	Case Study
10	Final Exam Prep
36	Classroom