

Course Syllabus

SWITCHING NETWORKS DESIGN

Printed by: jfmoncay

Program: Telecommunications Engineering

1. Course number and name

TELG1013 - SWITCHING NETWORKS DESIGN

2. Credits and contact hours

3 credits and 4 contact hours

3. Instructor's course or coordinator's name

VERONICA ALEXANDRA SOTO VERA

4. Text book, title, author, and year

- Cisco Networking Academy. Switched Networks Companion Guide (Primera Edición)
 - a. Other supplemental materials
- Jeff Doyle, Jennifer Carroll. Routing TCP/IP, Volume 1 (Segunda Edición)

5. Specific course information

- a. Brief description of the content of the course (catalog description)

This course describes the elements that are part of a switched network communication infrastructure. Theoretical concepts such as: monitoring, scalability, segmentation, redundancy, survival, security and traffic differentiation, are detailed with the implementation of the main network protocols through laboratory practices and project design of business networks.

- b. Prerequisites

PROGRAMMING APPLIED TO TELECOMMUNICATIONS - TELG1010

- c. This course is: Required

6. Specific goals for the course

- a. Specific outcomes of instruction

1.- To know the general requirements of a data network for planning and sizing of networks.

2.- To analyze the operation of the main protocols and network services through realization of network simulation tests.

3.- To choose the monitoring, security and traffic prioritization policies for a scalable and stable switched network design.

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course

- A broad education necessary to understand the impact of engineering solutions in a social, environmental, economic and global context
- An ability to use the techniques, skills and modern tools necessary for engineering practice



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7. Brief list of topics to be covered

- 1.- Network design.
- 2.- Network monitoring.
- 3.- Network scalability and segmentation.
- 4.- Redundancy and survivability.
- 5.- Network security.
- 6.- Differentiation of traffic and quality of service.

