

TCOM514: Basic Switching
Lecture and Laboratory Course
Department of Electrical and Computer Engineering
George Mason University
Spring 2019

Course Description:

Basic switching techniques and protocols for low and high speed digital packet networks (e.g. Ethernet, Frame Relay, MPLS, MPLS L3VPNs, MPLS L2VPNs) are taught within a half semester lecture series. The lecture series is interleaved with a hands-on laboratory series. Real life scenarios are taught in the laboratory element through exercises that involve configuring switches and routers.

Instructors:

Name : **Saeed Agbariah, PhD**

Email: sagbaria@gmu.edu ***Start the subject line with TCOM514:***

Office Hours: I don't have office hours. However; you may request an appointment via email.

TA

Name: TBD

Email:

Phone: TBD

Office Location: Engineering Building Room 3402

Course Meeting Time: 4:30-7:10pm

Lecture: Mondays in **Research Hall 201**

Lab Session I: Mondays in **Research Hall 201/ Johnson Center G10C**

Course Texts (Optional)

1. Data Communications and Networking. Author: Behrouz A. Forouzan
3rd edition: ISBN: 0-07-251584-8 4th edition: ISBN: 0-07-325032-5

Course Grade Breakdown

The grade for the course is determined from a calculation of points on a 0 to 100 points scale, whose components are: **Quizzes: 10% Labs: 20% Midterm: 30% Final: 40%**

Typically:

Grade	Point Range
A	95-100
A-	90-94
B+	86-89
B	80-85
B-	70-79
C	60-69
F	0 - 59

You can NOT make up the exams, and you must take the final during the scheduled timeslot -**ABSOLUTELY NO EXCEPTIONS!!** - Coordinate your travel accordingly

Lecture and labs

Lecture PowerPoint slides and lab procedures will be posted online. Please login to <https://mymasonportal.gmu.edu> to access the class folders.

Lab Preparation

Please print out and read the **Lab Guidelines** before coming to class. I also recommend bringing a USB flash drive to save your router configuration and output to use for the lab reports.

Topic		Date	Reading / Lab
Lecture 1	Introduction Ethernet	1/28	Chapters 2, 7.1, 13.1, 14, 16.1, 20.1, Ethernet Basics Homework 1 Due Lab1 Released
Lab 1	Get Acquainted	2/4	Lab 1 – Get Acquainted Introduction to Cisco IOS
Lecture 2	<u>VLANs</u> (802.1q)	2/11	Chapter 16.3, 802.1q Lab 1 Due Quiz 1 Due Lab 2 Released
Lab 2	<u>VLANs</u> (802.1q)	2/18	Lab 2 – VLANs
Lecture 3	<u>Spanning Tree</u>	2/25	Chapter 16.1, Understanding STP Lab 2 Due Quiz 2 Due Lab 3 Released
Lab 3	<u>Spanning Tree</u>	3/4	Lab 3 – Spanning Tree
		3/11	Spring Break
Lecture 4	<u>Frame Relay</u>	3/18	Chapter 8.1, 18.1, 18.2, Frame Relay Paper Lab 3 Due Quiz 3 Due Lab 4 Released
Lab 4	<u>Frame Relay</u>	3/25	Lab 4 – Frame Relay
Mid-Term		4/1	
Lecture 5	<u>MPLS</u>	4/8	What is MPLS? Lab 4 Due Quiz 4 Due Lab 5 Released
Lab 5	<u>MPLS</u>	4/15	Lab 5 - MPLS

Lecture 6	MPLS Layer 3 VPNs	4/22	RFC 4364 (2547bis) Lab 5 Due Quiz 5 Due Lab 6 Released
Lab 6	MPLS	4/29	Lab 6 – Layer 3 VPNs MPLS
Lecture 7	MPLS Layer 2 VPNs	5/6	Draft-Martini (LDP) Lab 6 Due Quiz 6 Due
FINAL EXAM		5/13	

Schedule Tentative: The schedule may change as the semester progresses.

Official Syllabus: The only official version of this syllabus is the online version, which may change during the semester.

Attendance Policy: In class, announcements are sometimes made of new or changed course policies, requirements, modifications to assignments, etc. Information provided in such announcements may not appear anywhere in the course documentation. Furthermore, course sessions will cover some of the material in the readings, but will also include some material not covered by the readings. Therefore, students are encouraged to attend all classes, however; if you do miss out on a class, it is your responsibility to find out what we covered in class, as well as what announcements might have been made. It is also your responsibility to obtain the missed material. I normally take attendance at every class. Attendance does not get factored directly into the grading process. However; I do consult attendance records in deciding how much I am willing to extend myself in providing help should you get into academic difficulty during the semester. You are in a much better position to get a “break” if you have been conscientiously attending class.

Honor Code: “Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.” I reserve the right to compare Lab reports submitted by students to any other labs by any means necessary to identify violations of the GMU Honor Code. Please notice that the Dean has identified plagiarism as a serious problem at every level of study. Students are required to be familiar and comply with the requirements of the [GMU Honor Code](#). The Honor Code will be strictly enforced in this course.

Religious Observation Accommodations: If you can not satisfy a requirement of the course for religious reasons you must let me know at least 2 weeks in advance. In some cases you will be required to “make up” the requirement, in other cases the distribution of requirements will be changed.

Disability Accommodations: If you need an accommodation based on the impact of a disability, you should contact the Office of Disability Services (*SUB I, Rm. 4205; 993-2474; <http://ods.gmu.edu>*) if you have not previously done so. Disability Services will provide you with an Access Plan Letter that will verify your need for services and make

recommendations for accommodations to be used in the classroom. Once you have presented me with this letter, you and I will sit down and review the course requirements, your disability characteristics, and your requested accommodations to develop an individualized plan, appropriate for the class.