



**Antonio Cianfrani**

# **Laboratory of Network Design and Configuration**

**A.Y. 2019/2020**



# Info

## ■ Lectures schedule

- Monday 17:00 - 19:00 (Classroom 22 - SPV) → 17:15 - 18:45 (no break)
- Thursday 16:00 - 19:00 (B2 - DIAG) → 16:30 - 18:45 (no break)

## ■ Antonio Cianfrani

- Room 220 - DIET Department - II floor
- E-mail: [antonio.cianfrani@uniroma1.it](mailto:antonio.cianfrani@uniroma1.it)
- Tel.: 0644585371



# Class schedule

Date	Timeslot	Topic	Classroom
24-Feb-20	17-19	Course Introduction - Networking fundamentals	22 - Engineering Faculty
27-Feb-20	16-19	Networking fundamentals - Cisco Packet Tracer software	B2-DIAG
2-Mar-20	17-19	Router IP Configuration	22 - Engineering Faculty
5-Mar-20	16-19	Router IP Configuration	B2-DIAG
9-Mar-20	17-19	RIP routing protocol	22 - Engineering Faculty
12-Mar-20	16-19	RIP routing protocol	B2-DIAG
16-Mar-20	17-19	OSPF routing protocol	22 - Engineering Faculty
19-Mar-20	16-19	OSPF routing protocol	to be defined
23-Mar-20	17-19	DHCP and NAT	22 - Engineering Faculty
26-Mar-20	16-19	DHCP and NAT	to be defined
30-Mar-20	17-19	Training lab activity - part I	22 - Engineering Faculty
2-Apr-20	16-19	Training lab activity - part I	to be defined
6-Apr-19	17-19	Back-up	22 - Engineering Faculty
9-Apr-20	16-19	Midterm exam part I	B2-DIAG
13-Apr-20		Eastern holidays	
16-Apr-20	16-19	Ethernet - Management	to be defined
20-Apr-20	17-19	Virtual LAN (VLAN)	22 - Engineering Faculty
23-Apr-20	16-19	Inter-VLAN Routing	B2-DIAG
27-Apr-19	17-19	Access Control List (ACL)	22 - Engineering Faculty
30-Apr-20	16-19	Access Control List (ACL)	B2-DIAG
4-May-20	17-19	Security	22 - Engineering Faculty
7-May-20	16-19	Security	B2-DIAG
11-May-20	17-19	Training lab activity - part II	22 - Engineering Faculty
14-May-20	16-19	Training lab activity - part II	B2-DIAG
18-May-20	17-19	Back-up	22 - Engineering Faculty
21-May-20	16-19	Midterm exam part II	B2-DIAG



# Lectures

- Classical (theory) lectures (mainly on Monday) and practical (lab) activity
- The lab activity will be based on the use of Packet Tracer emulator (Cisco)
  - You need to register to the course so that to have a Cisco Netacad account and to be able to download the software.
- You need your own PC during lab activity (at least groups of two persons)



# Course website

- The teaching material is available at
  - <https://web.uniroma1.it/netlab> (Teaching section)
- On the website you will find the teaching material and info
  - Lectures pdf
  - Exam dates
  - Lectures schedule modifications



# Course Subscription

- To subscribe:
  - Send an email to [antonio.cianfrani@uniroma1.it](mailto:antonio.cianfrani@uniroma1.it)
  - Mail Subject: LNDC2020
  - Name, Surname, Master Degree
- I will subscribe you to the mailing list  
[Indc-2020@uniroma1.it](mailto:Indc-2020@uniroma1.it)



# Exams

- Two Midterm exams (April and May) or a full exam (from June)
- Exams (midterms or classical) will require the execution of configuration procedures on your own PC (Cisco Packet Tracer software)
- Midterm exam:
  - final score (accepted or not);
  - first exam date of June not available.



# Objectives

- The main aim of the LNDC course is to provide practical approach for the management of an Internet Service Provider (ISP) network and of a LAN network.
- More in details:
  - to configure an IP network from addressing to routing and troubleshooting
  - to provide advanced configurations of an Ethernet network from Virtual LAN to security solutions
- The course (6 CFU), is composed of two parts
  - Part I (3 CFU): router IP
  - Part II (3 CFU): switch Ethernet and Security





# Pre-requirements

- The following topics must be known (an overview will be provided today and tomorrow):
  - IPv4 protocol
  - TCP/IP protocol stack
  - IP routing
  - LAN
  - MAC protocols



# Cisco Academy certification

- It is possible, after the exam completion, to have a fast track (with discount) access to Cisco Netacd Certification
  - CISCO CCNA Routing and Switching (R&S) 1
  - CISCO CCNA Routing and Switching (R&S) 2
- More details during the course.