

COMPUTER NETWORKING I

Course Description

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Lecturer
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Universidad Distrital Francisco José de Caldas

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UNIVERSIDAD DISTRITAL
FRANCISCO JOSÉ DE CALDAS

Outline

- 1 You don't know who I am
- 2 Course Overview
- 3 Syllabus
- 4 Grading & Rules
- 5 Bibliography



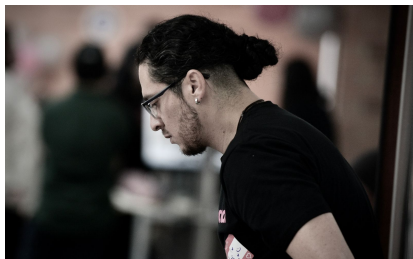
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Academic Experience

- **Computer Engineer**, M.Sc. in Computer Engineering, and *researcher* for **15 years**.
- 7 years as **full-time associate professor** at colleges, for **Computer Engineering programs**.
- 3 years as **lecturer professor** for both colleges and **government STEM programs**.
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Non-academic Experience



- **PyCon Colombia** and **Python Bogotá co-organizer**. Collaborations in ScipyLATAM and Jupyter LATAM.
- 3 years as **software engineer** for several **tech companies** in Colombia.
- 3 years as **Technical Leader** of **Machine Learning and Data Science** in a USA startup.
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Overview

This course is designed to **introduce undergraduate students** to **foundations** of **computer networking** and *recommendations* of computer networks design. Also, in this course some **advanced topics** will be covered, such as **cloud infrastructure**, and **IoT networks**.

Classes will consist of **lectures**, **discussions**, **practical examples**, and **workshops**. Also, you must take some readings from *computer networking architectures*. In addition, there will be a **semester-long project**, as well **one final test**, **four workshops**, and **ten additional assignments**.



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Goals

The **main goal** of this course is to provide **undergraduate students** with different **models**, **concepts**, and **tools** to understand the **foundations** involved in interconnecting devices for **communications**. It includes the exploration of *protocols*, *network hardware*, and *network services*.

At the **end of this course** you should be able to **design** a simple but functional **network solution** with a good level of **quality**. Also, you should be able to **think** in **computer networking systems** in both **on-premise** and **cloud** way.



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Prerequisites

This is a **basic course**, so you must have some **knowledge** in:

- **Programming** in **Java** or **C++**.
- **Command-line** interface **foundations**.
- **Git** **basic usage**, and **GitHub** **basic usage**.



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Syllabus I

Period	Topic	Time
Period I	Introduction to Computer Networking	2 sessions
	Networking Devices	2 sessions
	Basic Concepts of Computer Networking	3 sessions
	Workshop of Network Architecture	1 session
	Networks Layers I	4 sessions
	Subnetting and Routing	2 sessions
	Workshop Network Subnetting	1 session
	Projects Catch-Up	1 session

Table: Schedule for Period I



Syllabus II

Period	Topic	Time
Period II	Networks Layers II	4 sessions
	Networks Services	3 sessions
	Workshop on Network Services	1 session
	Networks Troubleshooting	3 sessions
	Internet and Wireless	3 sessions
	Workshop on The Cloud	1 session
	Course Test	1 session
	Projects Dissertation	2 sessions

Period III [Table: Schedule for Periods II & III](#)



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Grades Percentages

Period	Item	Percentage
Period I	Assignments	5%
	Workshops	20%
	Project Catch-Up	10%
Period II	Assignments	5%
	Workshops	20%
	Test	10%
Period III	Paper + Poster	5%
	Project Dissertation	10%
	Project Report	15%

Table: Computer Networking Grades Distribution



Don't hate the player, hate the game

- **All assignments** must be submitted **hand-written** on **time** and in **english**. Grammar and spelling will **not** be evaluated.
- Copying and pasting from internet is **forbidden**. Please, **develop** your **own solutions**.
- Class attendance is **not mandatory**. If you **miss** classes, you must *study by yourself*.
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Code of Conduct

- **Always** be **respectful** to your **classmates** and to me. You must be **kind** with everyone inside (*and outside*) the classroom.
- There is **no** a better **programming language**, **tool**, or **technology**. There are only **better** or **worse** solutions.
- You must be **honest** with your work. If you **don't know something**, just **ask** me. I will be **glad** to help you.
- You must be **responsible** with your work. If you don't submit **on time**, please **don't cry**.
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Bibliography

Recommended bibliography:

- **Computer Networks: A Systems Approach**, by **Larry L. Peterson, Bruce S. Davie**.
- **Redes de Ordenadores, un enfoque descendente basado en Internet**, by **J.F. Kurose, K.W. Ross**.
- **Comunicaciones y redes de computadores**, by **William Stallings**.
- **Redes e internet de alta Velocidad**, by **William Stallings**.



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Thanks!

Questions?



www.linkedin.com/in/casierrav

