

# SYSTEMS ANALYSIS

## Course Description

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School of Engineering  
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**.
- **Speaker** in Colombia, Brasil, Bolivia, at **IEEE** events and colleges.



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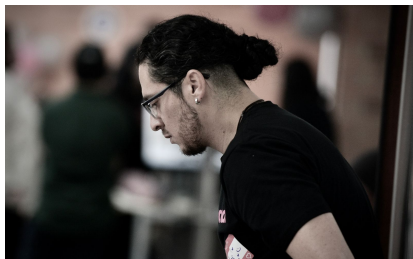
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# Non-academic Experience



- **PyCon Colombia** and **Python Bogotá co-organizer.**  
Collaborations in ScipyLATAM and Jupyter LATAM.
- 3 years as **software engineer** for several **tech companies** in Colombia.
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# Overview

This course is designed to introduce undergraduate students to **foundations** of **systems analysis** and a lot of multiple **science paradigms**. This is a course focused on **thinking**, and **problem solving**.

Classes will consist of lectures, **discussions**, practical examples, and **workshops**. Also, you must take some readings from *software systems*. In addition, there will be a **semester-long project**, as well **two exams**, **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** for **understanding** and **solving problems** using **analysis systems** based on projects requirements.

At the end of this **course** you should be able to **create** a full **engineering solution** with a good level of **quality** metrics. Also, you should be able to **design solutions** in an **agnostic** way.



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# Prerequisites

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

- **Programming** in **Python** or **C++**.
- Draw diagrams to represent anything.
- Git basic usage, and GitHub basic usage.
- Use of IDEs like VS Code, Eclipse, or PyCharm.



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# Syllabus I

Period	Topic	Time
Period I	Systems Thinking	4 sessions
	Information and Communication	2 sessions
	Workshop on Entrophy	1 session
	Analyst as Role	2 sessions
	Swarm Intelligences	2 sessions
	Simulation	2 sessions
	Workshop on Swarm Intelligence	1 session
	Test 1	1 session

Table: Schedule for Period I



# Syllabus II

Period	Topic	Time
Period II	Processes and Software	3 sessions
	Systems Design	3 sessions
	Workshop on Systems Design	1 session
	Business Systems	4 sessions
	Ethical Data Science	1 session
	Workshop on Expert Systems	1 session
	Test 2	1 sessions
Period III	Knowledge Representation	2 sessions
	Project Disertations	2 sessions

Table: Schedule for Period II & III





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# Grades Percentages

Period	Item	Percentage
Period I	Assignments	5%
	Workshops	20%
	Test	10%
Period II	Assignments	5%
	Workshops	20%
	Test	10%
Period III	Paper + Poster	5%
	Technical Report	10%
	Course Project	15%

**Table:** Systems Analysis Grades Distribution



# Don't hate the player, hate the game

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- 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:

- **Systems Analysis and Design**, by [Alan Dennis](#), [Barbara Haley Wixom](#), and [Roberta M. Roth](#).
- **Systems Analysis and Design**, by [Kenneth E. Kendall](#) and [Julie E. Kendall](#).
- **Systems Analysis and Design**, by [Scott Tilley](#) and [Harry J. Rosenblatt](#).
- **Systems Analysis and Design**, by [Gary B. Shelly](#), [Harry J. Rosenblatt](#), and [Thomas J. Cashman](#).



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# Thanks!

## Questions?



*[www.linkedin.com/in/casierrav](https://www.linkedin.com/in/casierrav)*

