

ICT Infrastructure - Appunti

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Course info

Don't be shy to send multiple emails, prof. Cisternino receives many emails, and he knows he can't reply to each one. He is okay to be contacted through teams using the @ symbol to "mention" him.

He designed the UniPi datacenters.

"Italy is more about the multiple micro businesses than the few existing industries"

0.1 Exam

The exam is **oral**.

Prof. Cisternino expects students to get the full picture, and understand key concepts, not to remember everything—which still wouldn't be bad ☺—.

Chapter 1

Introduction

Prof. Cisternino dropped a lot of measures in terms of Watts, Dollars, Gigabits and so on.

He mentioned with emphasis the problem of energy consumption. To give an idea, a single rack of a datacenter designed ~ 10 years ago, absorbs up to $15kW$. The datacenter in *San Piero a Grado* is made up of 60 racks. It is not meant to provide the maximum energy possible for all racks simultaneously, but it still helps to get an idea of how things work in similar contexts.

1.1 Course map

1. Elements
 - i. Datacenters
 - (a) Power
 - (b) Cooling
 - ii. Cabling
 - iii. Networking
 - iv. Storage
 - v. Compute
 - vi. Virtualization
 - (a) Hypervisor
 - (b) Containers
2. Cloud
 - i. Reference architecture
 - ii. Resilience
 - iii. Security
 - iv. Legal aspects
 - (a) GDPR
 - (b) Security frameworks
 - v. Procurement aspects
 - vi. Operations
 - i.e. Keep the system up and running while upgrading the system