

# Introdução

Lecture 1

18/10/2021

## Regentes

o Teóricas: Carla Teixeira\*  
Michel Ferreira

o Práticas: Carla Teixeira  
João Moreira

José Devezas

## Agenda

- o Motivation for studying databases
- o Administrative structure
- o Course logistics
- o Overview of lecture coverage

## What this course is (and is not)

- o Discuss fundamentals of data management
- o we'll cover how database management systems work
- o But not the principles of how to build them

## Dúvidas

- o Moodle forum (<https://moodle.up.pt/course/view.php?id=818>)

## Avaliação

o Project - 35%

↳ Grupos de 3 estudantes

↳ Nota mínima: 8/20 valores

o Final Exam - 35%

## Class participation

o Kahoot

↳ nickname: 202007531

o Nas aulas-teóricas, vão ser apresentados questões de escolha múltipla

↳ Para cada estudante, os melhores 50% recebem um bónus na avaliação distribuída.

## Project

o Groups (October 31<sup>th</sup>)

o Theme (November 7<sup>th</sup>) - Has to be approved by the teacher

o 1st submission (November 21<sup>th</sup>) - 25%

↳ Conceptual model

o 2nd submission (December 12<sup>th</sup>) - 25%

↳ Relational scheme + DDL + load

o 3rd submission (January 30<sup>th</sup>) - 50%

↳ DML

# Lectures

- o Data Models
  - ↳ Relational Databases (CTL)
- o Database Design
  - ↳ Unified Modeling Language (UML)
  - ↳ Relational Design Theory (MCPF)
- o Creating Relational Databases (MCPF)
  - ↳ SQL
  - ↳ Constraints and Triggers
- o Querying Relational Databases (CTL)
  - ↳ Relational algebra
  - ↳ SQL
- o Advanced features
  - ↳ Indexes and Transactions
  - ↳ Views
  - ↳ Data Warehouses and On-line Analytical Processing
  - ↳ NoSQL systems

# Bibliografia

- o Ullman Jeff D. ; *A First course in database systems*. ISBN : 978 - 0 - 13 - 600 - 637 - 4
- o Raghu Ramakrishnan , Johannes Gehrke ; *Database management systems*. ISBN : 0 - 07 - 116898 - 2

