escola d'enginyeria

UAB

ESCI upf. School of International Studies

# Databases Course

Degree in Bioinformatics

# Professor


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Information systems engineer

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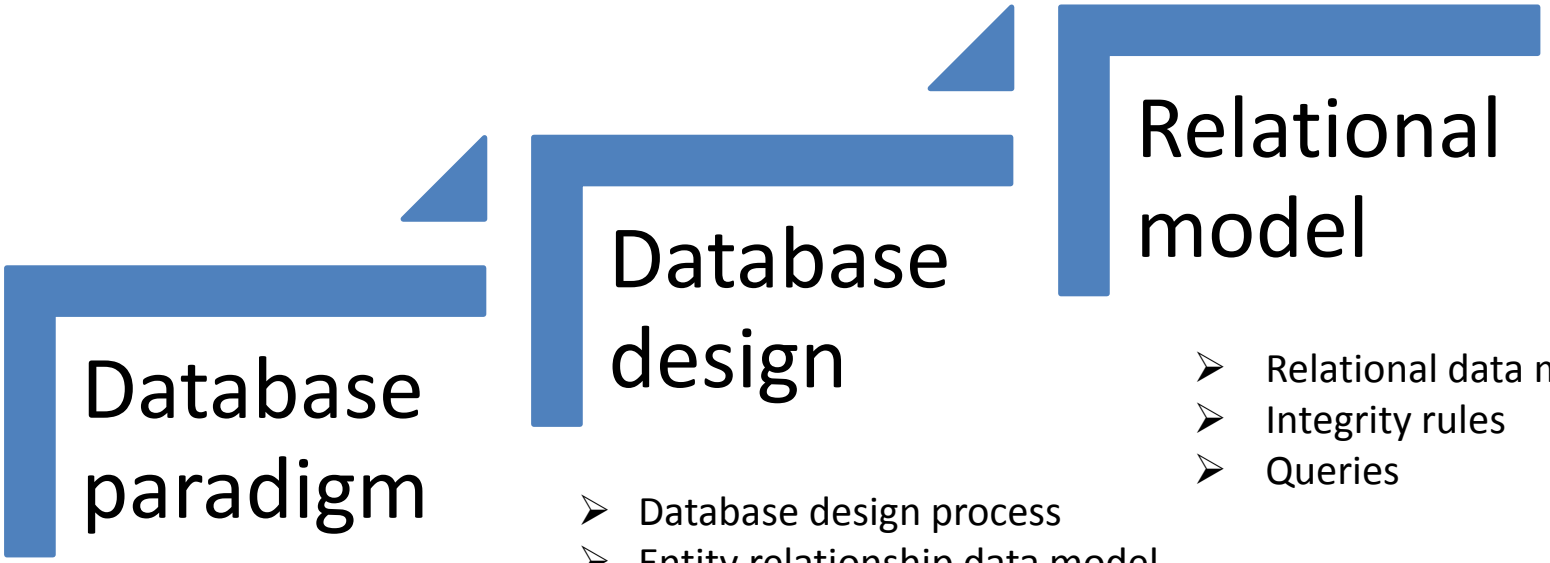
# Content of the course




- Introduction
- Basic concepts
- Architecture

- Database design process
- Entity relationship data model
- Entity relationship scheme design

- Relational data model
- Integrity rules
- Queries

# Learning activities

## Class/Teams attendance

- 2 weekly sessions of 2 hours in classroom with PC.
- The class material will be uploaded to Moodle.
- It’s important reading the material prior attending the class.
- Theoretical explanation at the beginning of the session.
- Exercise resolution guided by the teacher.

## Self learning : SQL queries

Practice SQL queries using Caronte web application.

Module 1 – Simple queries : Simple, Aggregation and Group by SQL Queries.
Module 2 – Advance queries : Group by having, subquery's, difficult SQL Queries.

# Final mark

40% * TP + 40% * P + SL * 20%

TP : Theory and problems

P : Practical

SL : Self Learning (Qualification Module 1 + Module 2)

Important:

- The minimum mark in TP and P it's 4 over 10
- Final mark computed must be 5 over 10

# Evaluation activities

- Theory and problems exam

- Practical exam (queries)
  - Exam with computer.
  - It’s allowed bring notes.

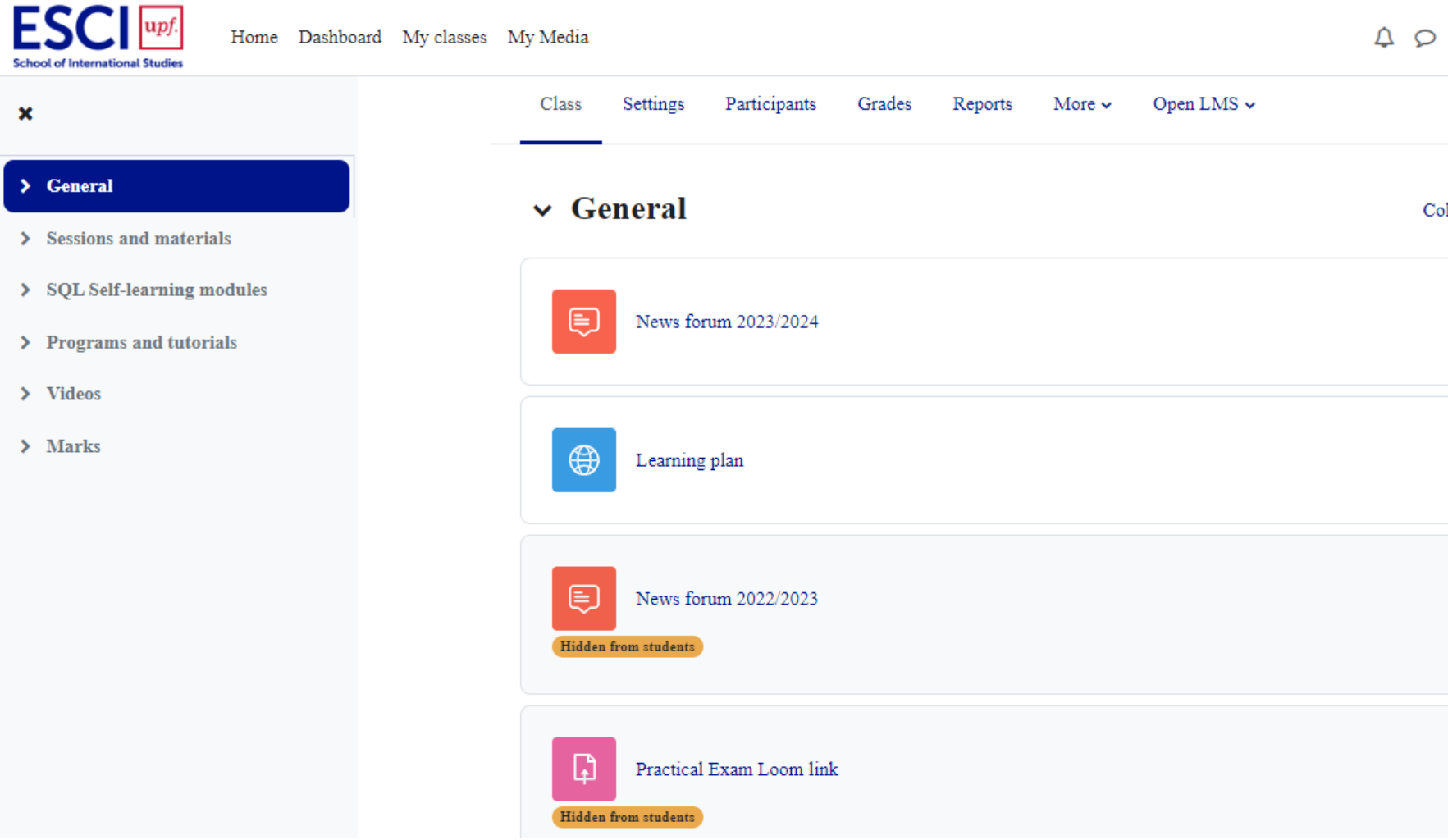
## Self learning activities

- Module 1 : 20 queries to solve.
- Module 2 : 10 queries to solve.
- Each module must be completed since there is no recovery.

# Course schedule

| | | | 5.30 -7.30 pm | | | 5.30 - 7.30 pm | |
|---|---|---|---|---|---|---|---|
| | | Monday | Tuesday | Wednesday | Thursday | Friday | Self learning |
| 12 January | Week 1 | | | | | Subject Presentation + Intro | |
| 15-19 January | Week 2 | | Architecture | | | Hi Data! (I) | |
| 22-26 January | Week 3 | | Hi Data! (II) | | | Hi Data! (III) | |
| 29-2 February | Week 4 | | Advanced Design 1 | | | Advanced Design 2 | |
| 5-9 February | Week 5 | | Advanced Design 3 | | | Relational Model | Module 1 |
| 12-16 February | Week 6 | | Integrity rules | | | Simple SQL Queries I<br>Example theorical exam | |
| 19-23 February | Week 7 | | Theorical exam | | | Simple SQL Queries II | |
| 26-2 March | Week 8 | | Advance SQL Queries I | | | Advance SQL Queries II | Module 2 |
| 4-8 March | Week 9 | | Advance SQL Queries III | | | SQL Queries - Specific operators I<br>(From 3pm - 7pm) | |
| 11-15 March | Week 10 | | | | | Practical Exam (From 3pm - 5pm) | |
| To define | | Recovery exam (Theorical + practice) | | | | | |

# Moodle AulaESCI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Open LMS
General
Sessions and materials
SQL Self-learning modules
Programs and tutorials
Videos
Marks
General
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News forum 2023/2024
Learning plan
News forum 2022/2023
Hidden from students
Practical Exam Loom link
Hidden from students

Learning plan
News forum 2022/2023
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# Sessions Content

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## Session schedule and materials

| | Theory | Guided Exercises | Problems | Activities |
|---|---|---|---|---|
| **12-jan (Session 1)** | Subject Presentation and Guidelines<br>Introduction | | | Register to Caronte for self-learning activities |
| **16-jan (Session 2)** | Architecture | Installation SQL Developer | | |
| **19-jan (Session 3)** | DB Design Introduction<br>Hi Data I | Exercises<br>Data Modeler tutorial | | |
| **23-jan (Session 4)** | Hi Data II | Exercises<br>models ebooks | | |
| **26-jan (Session 5)** | Hi Data III | Exercises<br>Session Materials | | |

Practical Recovery Exam Lo…
practical exam
Sessions and materials
Sessions Content
SQL Self-learning modules
modules
Programs and tutorials
Software
Videos
Learning SQL Videos
Marks



URL

# modules

URL Settings More

Click on modules to open the resource.

practical exam

Sessions and materials

Sessions Content

SQL Self-learning modules

modules

Programs and tutorials

Software

Videos

Learning SQL Videos

Marks

Final Marks



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# Software

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## SQL Data Modeler 21.2

download: https://www.oracle.com/tools/downloads/sql-data-modeler-downloads.html
Tutorial: [link]

## SQL Developer 21.2.1

download: https://www.oracle.com/tools/downloads/sqldev-downloads.html
Tutorial: [link]

## SQL

Tutorial: [link]

# Self learning application
# Caronte

Campus Virtual de la UAB  Català (ca)  No heu iniciat sessió  Inicia la sessió

## Caronte : Entorn de Suport Docent per a Enginyeries

Inici de sessió

Nom d'usuari

Contrasenya

Recorda el nom d'usuari

Inicia la sessió

Crea un compte d'usuari nou

Heu oblidat la contrasenya?

Calendari

de gener 2024

## Registration steps

1) Access to https://caronte.uab.cat/

2) Create a new account

3) Complete the registration with:

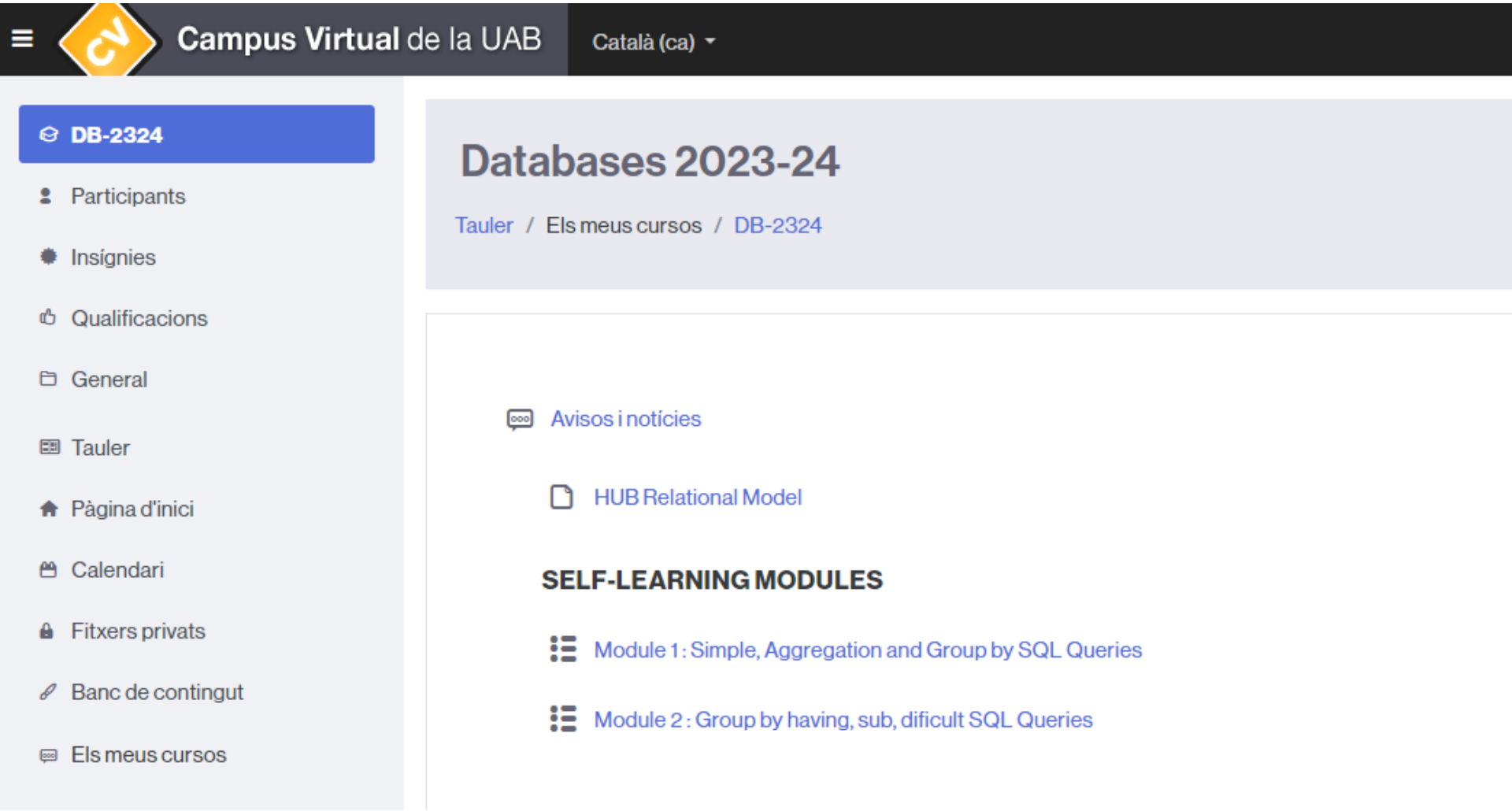
   User: *UPF NIA or DNI*

   Password: *UPF email*

4) Sign up into databases course (Databases 2023-24)

   using the password “DB2324”

# Caronte : SQL exercises



# Bibliography


**Basic:**

- A. Silberschatz, H.F. Korth, S. Sudarshan, *Fundamentos de Bases de Datos*, 5a edición, McGraw-Hill, 2006.
- C.J. Date, *Introducción a los sistemas de Bases de Datos*, Vol.1, 7a edición, Prentice Hall, 2001.

**Complementary:**

- T.M. Connolly, C.E. Begg, *Sistemas de Bases de Datos*, 4a edición, Pearson-Addison-Wesley, 2005.
- P.Rob, C. Coronel, *Sistemas de Bases de datos. Diseño, implementación y administración*, Thomson-Paraninfo, 2004.
- M. Celma, J.C. Casamayor, L. Mota, *Bases de Datos Relacionales*, Pearson-Prentice Hall, 2003. D.M.
- Kroenke, *Procesamiento de Bases de Datos*, 8a edición, Pearson-Prentice Hall, 2003.

# Bibliography


- M. Marqués, J.I. Aliaga, S. García, G. Quintana, *SQL y desarrollo de aplicaciones en ORACLE 8*, Col.lecció; "Treball d'Informàtica i Tecnologia, 9, Universitat Jaume I, 2001.
- Elmasri/Navathe, *Sistemas de Bases de Datos*, Addison-Wesley, 3a edición, 2000.
- A. Silberschatz, H.F. Korth, S. Sudarshan, *Fundamentos de Bases de Datos*, 3a edición, McGraw-Hill, 1998.
- A. de Miguel, M. Piattini, *Diseño y uso de Bases de Datos Relacionales*, Ra-Ma, 1997.
- G.W. Hansen, J.V. Hansen, *Diseño y administración de Bases de Datos*, 2a edición, Prentice Hall, 1997.
- C.J. Date, H. Darwen, *A Guide to the SQL standard, 3rd edition*, Addison-Wesley, 1994.