



# Business and databases

Project Nr. 2022-1-FR01-KA220-VET-000086996





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## Subjects:

Business ; Computer programming

## Grades:

1st high school year of Business Course and 2nd high school year of IT Systems Management and Programming Course.

## Observations:

- Business course students with skills on IT Systems Management and Programming Course with knowledge on Database management.
- Students' prior knowledge on the topic: students of Business Course have knowledge on Management contents but low/none about database structure.
- Students of IT Systems Management and Programming Course have Knowledge on database queries and structure but low comprehension about management requirements.

## Learning objectives:

- The main goal is to provide students from both courses with management and database structuring skills/expertise. Students from the Business Course should deliver requirements for Management Systems and students from the IT Systems Management and Programming course should exchange concepts about database structure requirements.

## Expected results:

- Business students will develop a report about Information Systems Management requirements and present it with the support of the provided database structure. IT Systems Management and Programming students will develop databases to support Information Systems for Business students. All databases must be discussed with the teacher and both courses students.



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## Content of the unit:

Business Course students:

- Introduction to Customer Database Management
- Customer data collecting and storing
- Customer data analysis and interpretation
- Sales analysis and reports
- Customer data security and privacy

IT Systems Management and Programming students:

- Database structuring using SQL
- Table creation and maintenance
- Advanced database components
- Database security and access control

## How will I motivate students? :

Students will interact with each other in their course subjects and with the other course students in order to exchange ideas and concepts.

In both courses, students will develop tasks that include digital tools to cooperate, assess and exchange feed-back about the project.

## Structure of the learning unit / Assign a tool to each step:

Business Course:

- Project approach with teacher: 30 min.;
- Online discussion and requirements definition: 60 min.;
- Project management requirements definition using Jamboard<sup>1</sup>: 30 min.
- Development: 60 min;
- Pitch presentations: 120 min;
- Evaluation using Kahoot: 15 min;

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<sup>1</sup> At the time of the creation of the activity, JamBoard was not yet closed. Other whiteboard applications can be used, like Microsoft Whiteboard (see below).



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#### IT Systems Management and Programming:

- Project approach with teacher: 30 min.;
- Online discussion and requirements definition: 60 min.;
- Project database requirements definition Using Whiteboard: 30 min.;
- Development: 60 min;
- Pitch presentations: 120 min;
- Evaluation using Kahoot: 15 min;

### Explain why you chose the digital tools:

**Microsoft Whiteboard** allows multiple students to work simultaneously in a digital space, making it easy to share visuals and ideas.

The choice of using this tool was guided by the need for the two classes to work together remotely and for teachers to be able to check and eventually give tips.

**Kahoot** should motivate students because it can test their knowledge, reiterate important concepts, and help them retain information. It's great for teachers because it gives a report at the end to check which answers students got wrong, allowing teachers to improve and review the material.

**Canva** is a great tool to use for presentations because it has many free animated designs and is much more colourful and engaging than PowerPoint.

The Choice of presentations is to help Students fix the contents and to explain the results of their research.

**Moodle** was used to support the teaching and learning process by delivering learning materials: Contents, tasks, Group work guidelines and quizzes.



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## Screen capture of the content created:

Collaboration on Microsoft Whiteboard:

The screenshot shows a Microsoft Whiteboard interface with a dark header bar containing the 'Whiteboard' title and a 'Partilhar' (Share) button. The main workspace is divided into two primary sections: 'CRM' (orange header) and 'Base de Dados' (blue header).

**CRM Section:**

- Requisitos:** A list of requirements including 'Qual as informações necessárias de regular sobre os vendedores?' and 'R: n.º de vendedor e nome'.
- Os vendedores são referenciados nas compras / vendas?** A note stating 'R: sim, tanto o n.º e nome'.
- Campos que pretendem apresentar, nas tabelas a criar, colocam em substituição.**
- Campos que pretendem apresentar, nas tabelas a criar, colocam em substituição.**

**Base de Dados Section:**

- Produto:** - Cod. Produto \* - Nome - Tipo produto - Custo
- Produto / Compra:** - Cod. Produto \* - Id. compra - Quantidade - Desconto
- Compra:** - Id. Compra \* - Cliente - Data - Valor Total - Desconto
- Cliente:** - Id. Cliente \* - Nome - Data Nascimento - Género - Estado civil
- Marketing:** - Id. histórico \* - Cliente - DTH I - DTH F
- Conteúdo:** - Cod. Conteúdo \* - Tipo
- Acesso:** - N.N - Histórico \* - Endereço(URL) - Conteúdo \* - Data \*
- Segurança:** - Id. user \* - AccessLevel - Username - PWD
- Campaña:** - COD campanha \* - Programação - Data I - Data F

The interface includes a bottom toolbar with various drawing and editing tools, and a zoom level indicator showing 21%.



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## Quizz on Moodle

### Question 1

Not yet answered

Marked out of 12.50

**Por que a privacidade e a proteção dos dados dos clientes são importantes na gestão de base de dados?**

Select one:

- ☐ Para reduzir custos operacionais
- ☐ Para evitar penalidades legais e manter a confiança dos clientes
- ☐ Para aumentar o número de clientes
- ☐ Para facilitar a exportação de dados para terceiros

### Question 2

Not yet answered

Marked out of 12.50

**O que é um sistema de CRM?**

Select one:

- ☐ Um sistema de gestão de recursos corporativos
- ☐ Um sistema de armazenamento de dados fiscais
- ☐ Um sistema de gestão de relacionamento com clientes
- ☐ Um sistema de segurança de dados



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Canva presentation :

## INFORMAÇÕES DE CLIENTES QUE DEVEM CONSTAR NA BASE DE DADOS

 <b>INFORMAÇÕES PESSOAIS</b> <ul style="list-style-type: none"><li>➤ Nome completo</li><li>➤ Data de nascimento</li><li>➤ Gênero</li></ul>	<b>INFORMAÇÕES DE CONTACTO</b> <ul style="list-style-type: none"><li>➤ Endereço de email</li><li>➤ Número de telefone</li><li>➤ Endereço residencial</li><li>➤ Endereço de correspondência (se for diferente do endereço residencial)</li></ul>	<b>INFORMAÇÕES PROFISSIONAIS</b> <ul style="list-style-type: none"><li>➤ Nome da empresa</li><li>➤ Cargo ou posição</li><li>➤ Endereço comercial</li><li>➤ Telefone comercial</li></ul>
<b>INFORMAÇÕES DE PREFERÊNCIAS</b> <ul style="list-style-type: none"><li>➤ Preferências de contacto</li><li>➤ Histórico de compras</li><li>➤ Preferências de produtos e serviços</li></ul>	<b>DETALHES DE CONTA</b> <ul style="list-style-type: none"><li>➤ Número ou ID do cliente</li><li>➤ Nome de usuário (se for aplicável)</li><li>➤ Senha (armazenada de forma segura e criptografada)</li></ul>	<b>INFORMAÇÕES FINANCEIRAS</b> <ul style="list-style-type: none"><li>➤ Histórico de pagamento</li><li>➤ Dados de faturamento</li><li>➤ Métodos de pagamento preferidos</li></ul>

Learning unit created by:

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