OEWEEK 2022

EUROPE EDEN DIGITAL LEARNING

Redesign of the „Databases“ course based on MOOC methodology

ktu 1922 faculty of informatics

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Co-funded by the Erasmus+ Programme of the European Union

About the course „Databases“

- Part of the *Computer Science* study programs (B.Sc)
- 6 ECTS
- Delivered in the 4th semester of studies
- Structure:
  - Lectures - 32 h (blended learning)
  - Practical work - 32 h (on campus)
  - Individual learning - 96 h
- ~400 students per semester
- Learning material, assigments are presented in the Moodle course

- Methodology of lectures' delivery
  - *Teacher*: presents and explains topic using slides, asking questions, giving assignments, organizing discussions
  - *Students*: listen, communicate, collaborate, asking questions, doing assignments, giving feedback
- The main challenges:
  - Keeping the attention of students during the lecture
  - Ensuring active involvement of students
  - Attendance
  - Different aptitudes

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Redesign of the course „Databases“

Themes of the course

1. Introduction to databases
2. Evolution of data storing. Relational data model
3. **Entity-relationship model**
4. ER-based design of database schema
5. Database management systems
6. Development of databases
7. Database in the architecture of software system
8. SQL
9. Indices, views, data constraints and control
10. Functional dependencies
11. 1-3 normal form and algorithm of normalization
12. Multivalued dependencies. Fourth normal form

MOOC “Entity-Relationship Modelling”

- 11 subthemes
- For each subtheme:
  - Video of ~5 min length
  - Short test (no open questions, no limitations to repeat)
- 1 final task for preparation of the final test
  - precondition: 11 tests are completed
- 1 final test
  - no open questions, precondition: final task is completed

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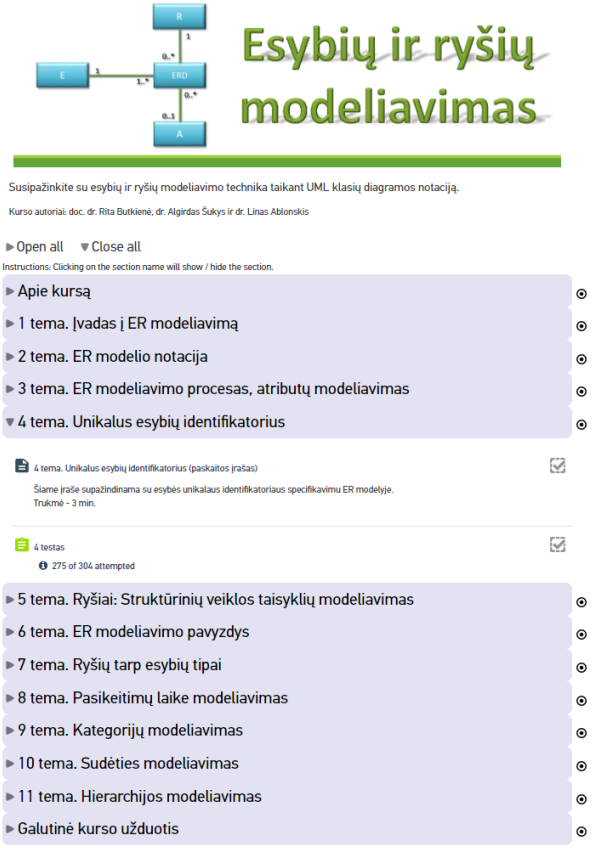
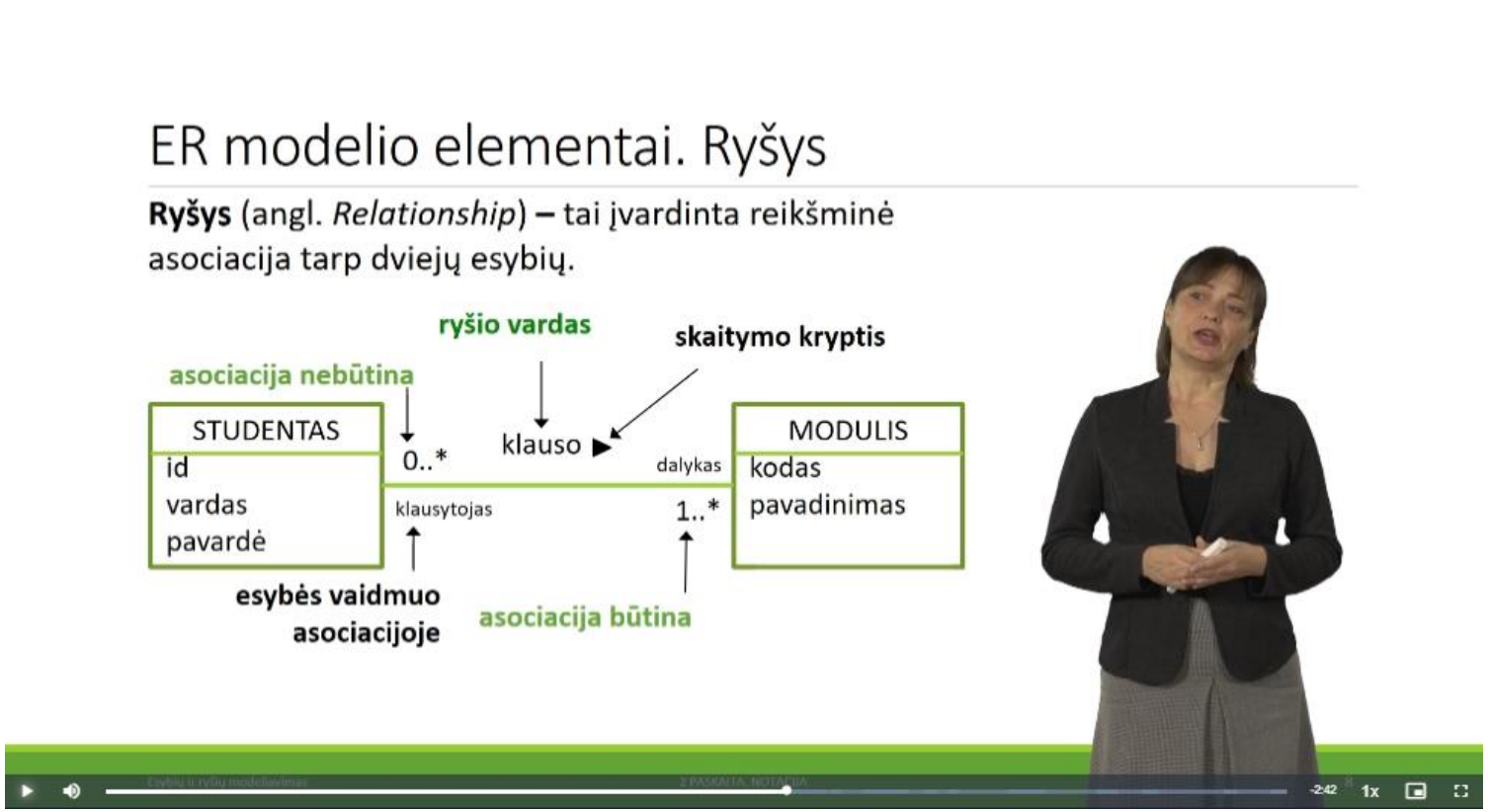
MOOC “Entity-Relationship Modelling”: Structure





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Students' feedback

Overall, to what extent are you satisfied with the course or the part of the course implemented differently?

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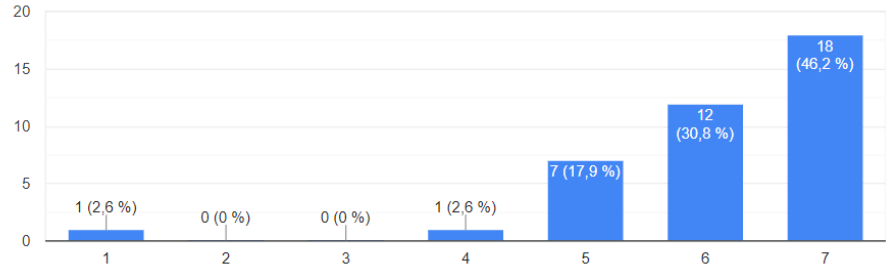

Would you recommend this course (or the part implemented differently) to your friends/acquaintances/colleagues?

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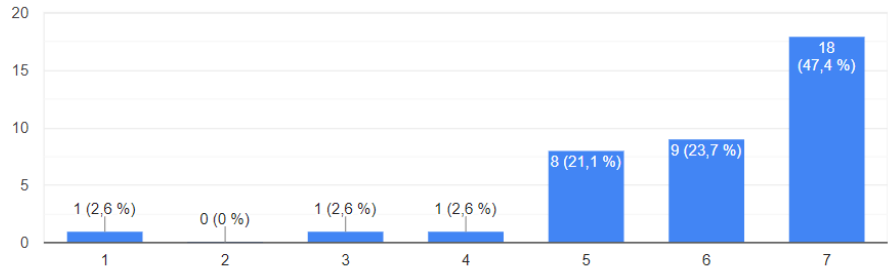

Have you taken any MOOCs (Massive Open Online Course) before this course?

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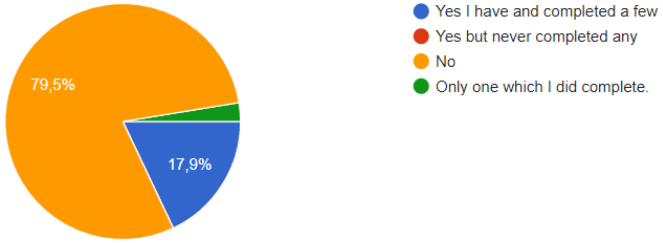

How did you find the length of the course (or part of it implemented differently)?

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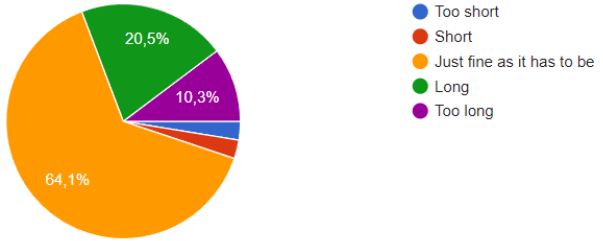

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Conclusions: most liked or disliked aspects of the MOOC

1. I liked tests, because I can repeat as many times as I want
2. I enjoyed the fact that the course was split into small sections with short videos
3. Liked that videos are short and just needed information, easy to understand
4. Really liked the transitions between the short videos
5. Progress bar was very useful
6. A little too many questions

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1. Final task was a bit too demanding for a course like this
2. Some difficult multi choice questions
3. It is interesting to listen to a course that explains the material well. The only place I would change is just some places in self-monitoring questions.

Thank you!

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