Technical Communication (GEIAK100-B2A)

Description	The main purpose of the course is to introduce students to the fundamental theories and methods of information systems. Topics include basic logic, number systems, systems theory, information representation, coding and encryption, semantics, modelling principles, and the fundamentals of computer-aided modelling.
Semester	Autumn
Neptun code	GEIAK100-B2A
Instructors	Dr. Károly Nehéz, Associate Professor Áron Kiss, Teaching Assistant.
Credit Hours	2 hours lecture + 2 hours practice per week
Attendance Requirement	Students are required to attend at least 60% of the scheduled classes to be eligible to receive the course signature.
Signature	Students must successfully complete two practical assignments and pass the midterm exam in order to obtain the course signature.
Examination	The written examination consists of theoretical questions and practical tasks based on the course material.

Lectures

1. Information - Basics
2. Information - Processing
3. Information - Coding
4. Information - Coding 2
5. Information - Syntax
6. Information - Semantics
7. Information - Encryption

Practices

1. Mathematical Expressions in LaTeX (optional material)
2. Basics of the HyperText Markup Language
3. Cascading Style Sheets
4. Interactive Practice of CSS
5. OnShape Sketching:
    1. Sketching - Simple wrench example
    2. **Homework:** OnShape - Introduction to Sketching
6. OnShape Part Designing:
    1. Part Designing - Model Train Drawing
    2. Designing a Model Train (booklet)
    3. Designing a Model Train (video tutorial)
    4. Model train (OnShape document)
    5. **Homework:** OnShape - Introduction to Part Studios
7. OnShape Assemblies:
    1. Nutcracker assembly drawings
    2. Nutcracker - Semifinished model (OnShape document)
        1. **TASK 1:** Construct the *piston* and *adjuster* parts.
        2. **TASK 2:** Assemble the parts together to create the machine.

3. Nutcracker - Finished model (OnShape document)
4. **Homework:** Onshape - Assemblies
8. Conditional Probability and Information Theory Exercises
9. Combinatorics Exercises
10. Encoding and Encryption Exercises

Assignments

- HTML Assignment (**submission deadline:** 2025. 11. 04.)
- CAD Assignment (**task selection deadline:** 2025. 11. 11.; **submission deadline:** 2025. 12. 02.)

Additional Notes

- Formulas for Mathematical Exercises
- Introduction to CAD course

Assessments

- Sample Midterm Test
- Examination Questions

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