# Technical Communication (GEIAK100-B2A)

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| **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<br>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. |

## Lecture Notes

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
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. **TASK:** Construct all parts except the *piston* and the *adjuster*. Note that all dimensions are in inches (*Workspace units... > Length default unit* should be set accordingly).
    3. **Homework:** Onshape - Assemblies

8. OnShape Assemblies II:
    1. Construct the *piston* and *adjuster* parts.
    2. Assemble the parts together to create the machine.
9. Conditional Probability and Information Theory Exercises
10. Combinatorics Exercises
11. Encoding and Encryption Exercises

**Assignments**

1. HTML Assignment (**submission deadline:** 2025. 11. 04.)

**Additional Notes**

1. Formulas for Mathematical Exercises
2. Introduction to CAD course

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Examination Questions