



# Combinatorial Optimization

**B4M35KO+BE4M35KO**

# Grading system

To get an **assessment**, the following requirements have to be met:

- ⦿ obtain at least **30 from 50 points**.
- ⦿ successfully **solve all homework** assignments.

How to get points:

- ⦿ 16 points (8 points for each) for theoretical tests I,II (written at lectures).
- ⦿ 8 points for practical test (written at the lab).
- ⦿ 9 points for semester project.
- ⦿ 17 points for homework assignments No. 1-4  
(3-5 points for each assignment if successfully submitted before the deadline).

For more information, please check **course website**:

<https://cw.fel.cvut.cz/b212/courses/ko/start>

# Homeworks

- © homeworks can be coded in **Python**, C++ or Java.
- © **each homework** (the source code) **must be handed** in to [BRUTE](#) (<https://cw.felk.cvut.cz/brute>) with a hard deadline, specified in BRUTE.
- © homeworks are **graded automatically** by the BRUTE.
- © there is **1 penalty point for each commenced week** until the homework is uploaded successfully (you can't get less than 0 points for the homework).
- © check [https://cw.fel.cvut.cz/b212/courses/ko/upload\\_system](https://cw.fel.cvut.cz/b212/courses/ko/upload_system) for technical requirements on the submitted source code.

# Semester project

- © each student chooses from the following two options:
  - a. **Cocontest.**  
Students participating in the contest implement a solver for one specific combinatorial optimization problem.
  - b. **Research on chosen topic.**  
A student chooses a non-trivial problem from the combinatorial optimization area on which he/she will work during the semester. The topic must be approved by the lab teacher!
- © if student wishes to choose **Research on chosen topic**, he/she will email his/her lab teacher with the selected topic by **strict deadline of 5. 3. 2022, 23:59**

# Combinatorial Optimization Contest

## Cocontest 2022

### © Optimization competition

- single real-life **optimization problem**.
- you provide only **code with your solution**, no report needed.
- solutions are **evaluated by BRUTE**.
- grading comprises both the **ability to solve** set of basic instances and the **rating among the other students** on harder instances.
- **computation time** given for the solver **is bounded**.

### © Past contests “**Hall of Fame**”

- 2021 winner: Karolína Machová
- 2020 winner: Václav Voráček
- 2019 winner: Pavel Gramovich
- 2018 winner: Lukáš Hejl
- 2017 winner: Ondřej Benedikt
- 2016 winner: Vladimír Kunc

# Research on Chosen Topic

- ◎ students can solve a **problem for some company, project, diploma thesis** etc.
- ◎ the assignment has two parts: **written report and implementation**.
- ◎ **submission is divided into 3 parts constrained by deadlines**.
  - **1 penalty point for the late delivery** (for each part)
- ◎ written document is between 4 and 8 pages.
- ◎ the evaluation is performed by the student's lab teacher, **it considers fulfillment of formal requirements and the work quality**.

*For more information about what we are doing,  
our projects, thesis topics etc., please visit:*

<http://industrialinformatics.fel.cvut.cz/>

<https://www.facebook.com/IIRC.CVUT/>

