

Subject information

Name: Operations Research

Code: BPI1112

Semester: 2023/24/1

Lecturer: Grünwald Richárd

Type: Theoretical and practical

Classes/week: 2+2

Credit: 5

Thematics

Problems leading to a linear programming problem. The simplex method. Initialization, the case of an unbounded objective function. Convex polyhedron and its vertices, geometric interpretation. Degeneracy, Bland's rule, perturbation method. Duality theorems. Primal and primal-dual simplex method. Sensitivity analysis. Transport and assignment problems. Network models. Nonlinear programming problems.

Requirements

During the semester, 2 tests, on 19 October 2023 and on 30 November 2023, at the time and place of the practical class, must be passed with at least 20-20% in order for the practical grade not to be automatically unsatisfactory. If this condition is fulfilled, the thresholds for the average of the 2 tests are the following:

	–	39%	fail (1)
40%	–	54%	pass (2)
55%	–	69%	satisfactory (3)
70%	–	84%	good (4)
85%	–		excellent (5).

There will be an opportunity to correct the above papers during the semester on 07 December 2023, the first paper can be corrected at the time and place of the practical class, the second at the time and place of the theoretical class. In all cases, the result of the rewritten test will overwrite the result of the previously written test, and the above rules will apply to the new percentages. In the case of an unsatisfactory practical grade, determined on the basis of these rules, any (or both) mid-term papers may be corrected during the examination period (at a later date). The rules for the correction of an unsatisfactory practical grade can be found in paragraph 14 of the University of Nyíregyháza's Study and Examination Regulations. Photo identification is required on site before writing the tests and no aids other than writing utensils and pocket or 2-line calculators are allowed. The tests may differ from the sample test, if any, to any extent.

Ethical standards

For all matters not specifically pointed out by the lecturer, the Code of Studies and Examinations of University of Nyíregyháza is authoritative. It should be stressed that this also applies to the rules on absences from practical classes.

Recommended literature

1. ROBERT J. VANDERBEI, *Linear Programming*, Princeton University, 2001.
 2. WAYNE L. WINSTON, *Operations Research: Applications and Algorithms*, Duxbury Press, 2003.
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Contacts

Inn hour: B241 University of Nyíregyháza, 15:15-16:00 Tuesday

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