

Course description

Course abbreviation:	KPV/PPPS	Page:	1 / 3
Course name:	Practices of computer support		
Academic Year:	2023/2024	Printed:	03.06.2024 09:59

Department/Unit /	KPV / PPPS			Academic Year	2023/2024
Title	Practices of computer support			Type of completion	Pre-Exam Credit
Long Title	Practices of computer support in mechanical				
Accredited/Credits	Yes, 3 Cred.			Type of completion	Combined
Number of hours	Tutorial 3 [Hours/Week]				
Occ/max	Status A	Status B	Status C	Course credit prior to	NO
Summer semester	0 / -	0 / -	0 / -	Counted into average	NO
Winter semester	0 / -	0 / -	0 / -	Min. (B+C) students	10
Timetable	Yes			Repeated registration	NO
Language of instruction	Czech			Semester taught	Summer semester
Optional course	Yes			Internship duration	0
Evaluation scale	S N				
No. of hours of on-premise					
Auto acc. of credit	Yes in the case of a previous evaluation 4 nebo nic.				
Periodicity	K				
Substituted course	None				
Preclusive courses	N/A				
Prerequisite courses	N/A				
Informally recommended courses	N/A				
Courses depending on this Course	N/A				

Course objectives:

The aims of the subject are to increase knowledge and abilities in the area of analysis business activities with help software tools.

Requirements on student

To gain credits, the student must complete a project approved by the lecturer.

Content

Learning outcomes of the course unit The subject is focused on the analysis of business activities using software tools.

1. Organizational instructions, introductory presentation
2. Statistical analysis as a basic analysis tool
3. Linear programming
4. Solving linear programming tasks (material division, production planning)
5. Solving linear programming problems (transport problem, assignment method)
6. Solving linear programming problems (orbital transport problem)
7. Project Management (CPM)
8. Project Management (PERT)
9. Simulation methods (Monte Carlo simulation, discrete simulation examples)
10. Simulation methods (heuristic methods)

Fields of study

Guarantors and lecturers

- **Guarantors:** Doc. Ing. Milan Edl, Ph.D. (100%)
- **Tutorial lecturer:** Doc. Ing. Milan Edl, Ph.D. (100%)

Literature

- **Basic:** Laurenčík, Marek. *Excel - pokročilé nástroje : funkce, marka, databáze, kontingenční tabulky, prezentace, příklady*. První vydání. 2016. ISBN 978-80-247-5570-0.
- **Extending:** Pecinovský Josef, Pecinovský Rudolf. *Office 2019 - Průvodce uživatele*. Grada, 2019. ISBN 978-80-247-2303-7.
- **Recommended:** Barilla, Jiří; Simr, Pavel. *Microsoft Excel pro techniky a inženýry*. Vyd. 1. Brno : Computer Press, 2008. ISBN 978-80-251-2421-5.
- **Recommended:** Plevný, Miroslav; Žižka, Miroslav. *Modelování a optimalizace v manažerském rozhodování*. Vyd. 2. Plzeň : Západočeská univerzita, 2010. ISBN 978-80-7043-933-3.
- **Recommended:** Jablonský, Josef. *Operační výzkum : kvantitativní modely pro ekonomické rozhodování*. Praha : Professional Publishing, 2007. ISBN 978-80-86946-44-3.

Time requirements

All forms of study

Activities	Time requirements for activity [h]
Contact hours	39
Individual project (40)	40
Total:	79

assessment methods

Knowledge - knowledge achieved by taking this course are verified by the following means:

Continuous assessment

Skills - skills achieved by taking this course are verified by the following means:

Seminar work

prerequisite

Knowledge - students are expected to possess the following knowledge before the course commences to finish it successfully:

basic prerequisite is basic knowledge of algorithms and company economics.

have basic knowledge of MS Word

have basic knowledge of MS Excel

Skills - students are expected to possess the following skills before the course commences to finish it successfully:

is able to work with MS Word at the basic level

is able to work with MS Excel at the basic level

Competences - students are expected to possess the following competences before the course commences to finish it successfully:

N/A

teaching methods

Knowledge - the following training methods are used to achieve the required knowledge:

Discussion

Skills - the following training methods are used to achieve the required skills:

Skills demonstration

Interactive lecture

learning outcomes

Knowledge - knowledge resulting from the course:

describe simple business activities using a spreadsheet

Skills - skills resulting from the course:

analyze simple business activities using a spreadsheet

solve linear programming tasks using a spreadsheet

apply simulation methods within a spreadsheet

manage projects using a spreadsheet

Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Mechanical Engineering	Bachelor	Full-time	Industrial Engineering and Management	1	2020	2023	Výběrové předměty	C	3	LS