

Name of programme: Logistics Management International Semesters

Title of Module	Operations Research
Responsible person	Prof. Dr. Michael Guckert
Lecturer	Prof. Dr. Michael Guckert
Module Code	LOG07
Type of Module	X obligatory module, O elective module
Level	O BA x BSc O BEng, O MA O MSc O MEng O MBA
Language	English
Related Degree Programme/s	Logistics Management (B.Sc.)
Department	Management and Communication
Location	O Gießen, x Friedberg
Availability/ frequency of module	O every semester, O annually in the Winter Semester, x annually in the Summer Semester,
Hours per Week / Workload	42 HpW, contact hours per week 150 H in total
Number of CrP/ECTS	5 ECTS/CrP
Forms of instruction	x lecture, O seminar, O supervised training, O Laboratory Practical Course
Qualifications and Goals	In this module students learn how to use linear and integer programming in application scenarios, especially in the field of logistics. On completion of this course students should have an understanding of the importance of supporting a decision-making process using linear optimisation methods. Focusing on tasks and problem solving they learn to use linear programming efficiently. The students are able to estimate the difficulty of the given problem and can choose appropriate algorithms and heuristics. Both in lectures and laboratory tutorials students work on exercises to improve their practical skills.
Short Description of Contents	Shortage of resources and an increasing pressure to reduce carbon dioxide emissions are driving factors for optimal operations in the field of transportation and logistics. This module shows how transportation and routing can be optimised by using operational research methods as linear programming and beyond.
Description of Contents	Linear Optimisation (Simplex and alternative methods), transportation and routing problems, assignment problems, warehousing problems, introduction to computational complexity, introduction to decision and game theory
Prerequisites	(1) basics in logistics and business administration, (2) B2 level in English
Assessment	O oral (O examination of xx minutes, O presentation), x written (x examination of 90 minutes , O term paper)
Literature/Textbooks	Literature will be announced in the lecture.
Other	