

Summer School – 1st -11th, August, 2017

Summer School on Multiple Criteria Decision Making for Problems in Logistics and Supply Chain Management

The objective of this Summer School is to introduce the fundamental concepts related to Multiple Criteria Decision Making. This approach is particularly useful for analyzing several criteria in real life decision problems. Particularly, this course focuses on problems related to Operations in Supply Chain. The course will provide both theory and practice by the use of software and presentation of multiple criteria methods. The course will offer a technical visit and a tour in São Paulo city as part of the program.

Organisation

Graduate Program in Production Engineering (PPGEP-So). Please, visit the following website: http://www.ppgeps.ufscar.br/?set_language=en. This course is offered in compliance with the agreement between PPGEP-So and Department of Industrial Engineering & Innovation Sciences of Eindhoven University of Technology (TU/e).

Dates

- Application opening: March 1st, 2017
- Deadline for Application: May 1st, 2017
- Acceptance of Application: before May 8th, 2017
- Early registration deadline : Jun 30th, 2017
- Beginning of the summer school : Tuesday 1 August until Friday 11 August 2017

Application by email: jose-vidal@ufscar.br; jqvvidal@gmail.com

Practical information

There is no fee for the course. It covers tuition, laptop and free access to internet and on line material.

Location: LAGESP Laboratory – CCGT/UFSCar. Sorocaba, São Paulo State, Brazil

Maximum number of participants: 20

Application requirements

- Detailed curriculum with photo
- Abstract (half Page) describing your research
- A letter from a supervisor specifying the motivations to attend the summer school. This letter must mention the course in logistics area, which the student has taken.
- Completed address and contacts
- Copy of first page of passport

Student Life

Taking this short course you will have a great experience.

In <http://www.ppgeps.ufscar.br/student-life-1> you find information about the advantages of staying in Sorocaba, a medium city close to São Paulo (80km). There are regular buses from Sorocaba to São Paulo and vice-versa, every day each 15 min.

Costs and living

The students are financially responsible for living and travel costs. However, we can give some advice on where the students can stay. There are lots of student guest houses available. The students are also responsible for eating expenses. Inside the campus there is canteen.

Prerequisite and requirements

The audience is expected to have a good working knowledge in logistics and supply chain management. Young researchers who wish to achieve their research on the subject are welcome. This course is offered to graduate and undergraduate students in Industrial Engineering of UFSCar, TU/e and USP. Graduate students are preferred. Undergraduate students must present intention of study or research in logistics operations area.

More details on the covered topics, evaluation and schedule

- Introduction and how people make decisions involving multiple objectives
- Outranking Methods
- Multiple objectives Value-Focused Thinking and Problem Structuring
- Preference and Utility Theory
- MAVT/MAUT (Multi-Attribute Value/Utility Theory)
- Decision involving multiple objectives: SMART
- Weighting methods
- Resource allocation and negotiation problems
- Decision-making under uncertainty
- Decision trees and influence diagrams
- Revising judgments in the light of new information
- Decisions involving groups of individuals
- Scenario planning: an alternative way of dealing with uncertainty

- Development of caseworks during the course

- **Software used:** VISAdecision (MAUT): www.visadecisions.com/
Superdecisions (AHP): www.superdecisions.com

- **Development of a conference paper:** hand in October 31th.

Schedule: *Week-days, 8-12 A.M.*

Total of hours: 60

Friday 4th: Technical visit and tour in São Paulo city

Target group

The course is intended for multicriteria analysts in the fields of logistics, supply chain management and transportation with a good statistical knowledge. It will be particularly useful to those interested in:

- to apply MCDM in some works, especially in thesis and some research
- to provide an alternative/complementary approach of optimization modelling applied in real life decision problems;
- to know general aspects regarding MCDM methods and in which way can be applied;
- to analyse and discuss applications of MCDM to complex situations, for example: freight distribution in megacities, supplier selection process, location of facilities.

Language

The official language of the School is English.

Course lecturer

Associate professor: José Geraldo Vidal Vieira

More detail: **Personal website** <http://jose-vidal.wixsite.com/jgvv>