# Multiple Criteria Decision Support Systems

Màster en Enginyeria Informàtica: Seguretat Informàtica i Sistemes Intel·ligents
Màster interuniversitari en Intel·ligència Artificial
URV

## Research Work

Delivery date of documentation: 20/03/2016
Exposition in class: 04/04/2016

In this work you have to study a topic related to MCDA and Artificial Intelligence. The work will be done individually. Each student will be assigned a different topic.

The objectives of this work are:

1. Find information about the topic, starting for a paper given by the lecturer. You must find other publications about the same topic and identify the most relevant researchers (or groups or institutions) that work in that field.
2. Summarize the method/approach in a clear way (basic definitions, steps, etc).
3. Present a simple example and show different real applications.
4. Find the connections with other models in MCDA and Artificial Intelligence.

The work on these objectives must be written in a document, following a style similar to research publications (in journals or conference). You can find an example in Moodle. The number of pages is not limited, as an indication consider around 10-12 pages. It is important to structure the document appropriately (introduction, sections, conclusions). You must also provide the appropriate references to all the material that you use to do this work (papers, books, webpages, …). This document must be delivered using Moodle in PDF format.

In addition you must prepare a presentation with slides to explain the main ideas to the rest of students. Each student has to present the work in 15 minutes. The slides must be sent to the teacher after the presentation (by email).

### Evaluation:

4 points: Content of the document
2 points: Format, number and appropriateness of the referenced material
2 points: Oral presentation in class + answers to questions
2 points: Slides presented in class

### References:

Below you have some examples and a model on how to cite the referred work. References can be ordered alphabetically or by order of appearance in the document. They can be numbered or cited by short names (as shown in these examples).

**Books:**

[Keeney and Raiffa] R.L. Keeney and H. Raiffa, "Decisions with multiple objectives: Preferences and value trade-offs", John Wiley and Sons, New York, 1976.

[Greco et al.] J. Figueira, S. Greco and M. Ehrgott, "Multiple Criteria Decision Analysis: State of the Art Surveys", Springer-Verlag, New York, 2005.

[name] Name1, Name 2, "title of the book", editorial, place of publication, year of publication.

**Papers in journals:**

[Malczewski] J. Malczewski, "A GIS-based multicriteria decision analysis: A survey of the literature", International Journal of Geographical Information Science, Vol. 20, No. 7, pp. 703-726, 2006.

[Tam et al.] Tam, C. M.; Tong, Thomas K. L.; Leung, Arthur W. T.; Chiu, Gerald W. C., "Site Layout Planning using Nonstructural Fuzzy Decision Support System", Journal of Construction Engineering and Management, Vol. 128, pp. 220-231, 2002.

[name] Name1, Name 2, etc, "title of the paper", name of the journal, volume, number, pages xx-xx, year of publication.

**Papers in Conferences:**

[Agrawal et al.] R. Agrawal, S. Imielin, A. Swami, "Mining association rules between sets of items in large databases." In: Buneman, P., Jajodia, S., Proceedings of the ACM SIGMOD International Conference on Management of Data. ACM, New York, NY, pp. 207-216, 1993.

[name] Name1, Name 2, etc, "title of the paper", name of the conference, pages xx-xx, place and year of the conference.

*Other standard reference styles are also allowed.*

## Bibliography search engines:

Google Scholar (www.**scholar.google**.com): general search of academic, research materials

Science Direct (www.**sciencedirect**.com): Elsevier journals and books

Scopus (http://www.scopus.com/): document search, author search

- *On March 7th you should bring your list of references at class and an outline of your work, in order to obtain feedback from the teacher on that.*