SUBJECT: **ADVANCED ARTIFICIAL INTELLIGENCE**		ACRONYM: **INF-388**
CREDITS: **3**	PREREQUISITES: **ILI-295**	EXAM: **DOES NOT HAVE**
LECTURE HRS. PER WEEK: **4**	ASST. HRS. PER WEEK: **0**	LAB. HRS. PER WEEK: **0**

GOALS:

Upon passing the subject the student will be able to:

- Learn about new trends, methods and advances in artificial intelligence.
- Apply artificial intelligence techniques to solve real-world problems.
- Develop a critical vision regarding new proposals in this area of research.

CONTENT:

1. Review of artificial intelligence techniques for problem solving, including:
   1.1. Ant Colonies
   1.2. GRASP
   1.3. Immune Systems
2. Analysis of the state of the art in classic problems, such as: Scheduling, timetabling, bin packing, electrical generators planning, machine translation. Study of new approaches for its resolution.
3. Ways to evaluate advances in methods from artificial intelligence.

METHODOLOGY:

- Expository classes on techniques and case studies.
- Each student will select a problem to solve using the techniques learned.
- Each student will present the status of their project, including the state of the art with a review of recent literature from conferences and journal publications.

BIBLIOGRAPHY:

Michalewicz & Fogel, *How to solve it: Modern Heuristics* , Springer Ed., 2000.

Reeves, C., *Modern heuristic technique for combinatorial problems* , John Wiley & Sons, 1993.

Journals: *IEEE Transactions on Evolutionary Computation, Journal of Heuristics, Complex Systems.*

ELABORATED:	MCRiff	**OBSERVATIONS:** corresponds to the subject of the Models and Methods mention Quantitative and subject MII-474
APPROVED:	CC.DD. Agreement 12/04	
DATE:	04-27-2004	