Multi-Agent Systems Coordination

**Course level:** Master ([M2])  
**Track(s):** [CPS2, DSC, MLDM]

**ECTS Credits:** 3 (CPS2, DSC, MLDM)

**Course instructors:** Gauthier Picard (Mines Saint-Etienne), Flavien Balbo (Mines Saint-Etienne), Olivier Boissier (Mines Saint-Etienne)

**Education period:** 3rd semester  
**Language of instruction:** English

**Expected prior-knowledge:** Introduction to Artificial Intelligence, Multi-Agent Programming

**Aim and learning outcomes:** Introduction of different coordination mechanisms to be used in the design and development of collective autonomous systems. The objective is to master coordination algorithms (e.g. DCOP, Auctions, Orchestration) to be used in decentralized and distributed systems composed of autonomous agents.

**Keywords:** multi-agent system, coordination,

**Syllabus:**

- Introduction to multi-agent systems and coordination
- Coordination mechanisms
- .....  
- Laboratory sessions programming

**Organisation and timetable:** Lectures (12h), tutorials (10h) and Lab sessions (12h)

**Form(s) of Assessment:** written exam (2h, coefficient 2), practical work/project (coefficient 2) - Resit: written exam (2h)

**Literature and study materials:**

Reference books:

**Additional information/Contacts:**

Gauthier Picard  
Mines Saint-Etienne  
E-mail: Gauthier.Picard@emse.fr
Master in Computer Science

Web page: http://www.emse.fr/~picard/