



Presentation AI Program

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VRIJE
UNIVERSITEIT
BRUSSEL

AI PROGRAM

- Mandatory Courses
- Elective Courses

MANDATORY COURSES: 23+6 ECTS IN TOTAL

A student in AI has to follow **all** of the following courses:

Course	ECTS	Semester
Actual Trends in Artificial Intelligence	6	1–2
Computational Game Theory	6	1
Declarative Programming	6 ^{*)}	2
Heuristic Optimisation	5	2
Statistical Foundations of Machine Learning	6	2

*) This is mandatory for all CS students, but it **is** an **AI** course

OVERVIEW MANDATORY COURSES

Actual Trends in Artificial Intelligence

Johan LOECKX

Talks of guest AI-lecturers on their research

Computational Game Theory

Tom LENAERTS (ULB), Ann NOWÉ

Strategic individual and population learning

Declarative Programming

Geraint Wiggins

Basic and advanced constraint logic programming.

Heuristic Optimisation

Thomas STÜTZLE (ULB)

Focus on stochastic local search techniques

Statistical Foundations of Machine Learning

2018-19: Gianluca BONTEMPI (ULB)

2019-20: Bernard MANDERICK

ELECTIVE COURSES: AT LEAST 7 ECTS

A student in AI has to obtain **at least 7 ECTS** from the list below

Course	ECTS	Semester
Adaptive Systems Seminar	6	2
Advanced Methods in Bioinformatics	6	2
AI Programming Paradigms	6	1
Computational Creativity	6	2
Computer Vision	4	1
Decision Engineering	5	1
Discrete Modeling, Optimization, and Search using ASP	6	1
Evolution of speech	6	1
Multi-agent Learning Seminar	6	1-2
Natural Language Processing	6	2
Swarm Intelligence	5	2

OVERVIEW ELECTIVE COURSES

Adaptive Systems Seminar

Bernard MANDERICK

State of the art topics in machine learning

Advanced Methods in Bioinformatics

Wim VRANKEN

Algorithms and methods in computational biology

OVERVIEW ELECTIVE COURSES

AI Programming Paradigms

Katrien BEULS

Central topics in symbolic AI programming and their application to language processing

Computational Creativity

Geraint WIGGINS

Philosophy, theory and practice in the science of artificial creative agents in domains including arts, science and engineering.

Computer Vision

Hichem SAHLI

OVERVIEW ELECTIVE COURSES

Decision Engineering

Yves DE SMET (ULB)

Introduction to decision theory

Discrete Modeling, Optimization, and Search using ASP

Bart BOGAERTS

Theory and Practice of Answer Set Programming

OVERVIEW ELECTIVE COURSES

Evolution of Speech

Bart DEBOER

Biological evolution of human speech

Multi-Agent Learning Seminar

Ann NOWE

Reinforcement Learning: reading papers and doing project work

OVERVIEW ELECTIVE COURSES

Natural Language Processing

Katrien BEULS

Building intelligent systems that are able to interact with their environment through natural language

Swarm Intelligence

Mauro BIRATTARI (ULB)

Marco DORIGO (ULB)

Natural and artificial systems composed of many individuals that coordinate using decentralized control and self-organization