



*** Course Data Sheet Outline ****
(on-line catalogue)

The on-line catalogue of courses is updated at each session by ATHENS institutions

Session <i>13-17 March 2023</i>
Institution <i>Politecnico di Milano</i>
Course location <i>Politecnico di Milano</i>
Email contact <i>of the ATHENS local coordinator</i>
Title of the course <i>VALUable Machine Learning Hero Agency</i>
Code of the course
Language of tuition <i>English</i>
Minimum year of study <i>4th</i>
Number of places Minimum (10≥20) Maximum (unlimited) Reserved for local students <i>Min 16 – Max 20/24? (8-12 from Engineering + 8-12 from Design)</i>
Prerequisites <i>Students from Engineering background should have basic knowledge and experience in developing machine learning systems. Students from Design should be familiar with a human-centred design approach and representation tools (e.g. Adobe Illustrator, ProCreate, or similar, ...).</i>
Objectives <i>Clearly indicate the main objectives of the course</i> <i>The course aims to enable design and engineering students to:</i> <ul style="list-style-type: none">• <i>Understand and outline machine learning systems as socio-technical systems;</i>• <i>Identify and use values to drive the design of machine learning systems;</i>• <i>Anticipate possible impacts of machine learning systems in practical, personal, social, cultural, and eco-systemic dimensions;</i>• <i>Identify and exploit the core characteristics and capabilities of machine learning systems in suitable applications;</i>• <i>Generate relevant, consistent, effective, ethically acceptable, sustainable, and desirable design concepts including machine learning systems;</i>• <i>Communicate and collaborate in an interdisciplinary teams to develop a machine learning system.</i>



Programme to be followed

Detail the programme of the week (day 1 – day 5)

DAY 1

09.30 – 10.30 | Technology is not neutral (*course and topic introduction + ice-breaking activity*)
10.45 – 12.30 | A responsible and value-driven approach to the design of machine learning (ML) systems (*lecture + beginning of group-work*)
12.30 – 13.30 | Lunch break
13.30 – 15.30 | Problem framing (*group work*)
15.45 – 16.30 | Peer review session

DAY 2

09.30 – 10.30 | Getting in touch with machine learning (*lecture*)
10.30 – 11.30 | Exploration and attempt to define ML capabilities (*group work*)
11.45 – 12.30 | ML Agents explanation (*lecture*)
12.30 – 13.30 | Lunch break
13.30 – 14.30 | Training of VALUable ML Heroes designers (*formative tests*)
14.45 – 16.30 | VALUable ML Hero concept development (*brief & tools intro + group work*)

DAY 3

09.30 – 12.30 | VALUable ML Hero concept development (*group work*)
12.30 – 13.30 | Lunch break
13.30 – 14.30 | Peer review session
14.45 – 16.30 | VALUable ML Hero representation (*group work*)

DAY 4

09.30 – 12.30 | VALUable ML Hero representation (*group work*)
12.30 – 13.30 | Lunch break
13.30 – 16.30 | Testing VALUable ML Heroes (*peer review activity*)

DAY 5

09.30 – 12.30 | Finalization of VALUable ML Hero representation (*group work*)
12.30 – 13.30 | Lunch break
13.30 – 15.30 | Final presentation and peer review
15.45 – 16.30 | Lessons learnt and discussion

Course exam

Clearly indicate the format of the examination (the exam must take place on Friday at the latest, no project or report submitted after an ATHENS week)
Intermediate formative tests and reviews, and final project presentation.

Professor responsible

Name/SURNAME of the responsible professor
Davide SPALLAZZO

Participating professors

Name/SURNAME of participating professors
Martina SCIANNAMÉ'



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Contact

Email / Telephone

Indicate the contact (email and telephone) of the professor responsible

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Course Address