

MSc “Platforms for Digitalized Value Networks” programme

- Study plans –

This document presents the general syllabi of all the MSc double degrees available within the EIT Manufacturing “Platforms for Digitalized Value Networks” programme. Please note these are the basic versions of the study plans, in order to provide a better understanding of the programme and the differences among the several available combinations within the programme. Considering universities continuously develop their education offer, some of the courses could result to be updated, changed or replaced along the years. Once enrolled, the student will be supported by a local programme coordinator to define the final study plan accordingly to the general structure of the EIT Manufacturing Master programmes.

General structure of the EIT Manufacturing Master Programmes

Type of modules	Total credits for EIT-M Master	Total credits 1 st year	Total credits 2 nd year
Technical courses (TC)	45	40-50	10-20
Specialization courses (SC)	15		
Innovation & entrepreneurship courses (I&E)	30	10-20	10-20
Master thesis (MT)	30	0	30
Tot	120	60	60

Please scroll down this document to find the different syllabi of the following available combinations.

Available entry and exit combinations from November 2022 on

ENTRY university	EXIT university
SUPSI	Ecole Centrale de Nantes (ECN)
University College Dublin (UCD)	SUPSI
Ecole Centrale de Nantes (ECN)	SUPSI
University College Dublin (UCD)	Ecole Centrale de Nantes (ECN)
Politecnico di Milano (POLIMI)	SUPSI
Politecnico di Milano (POLIMI)	Ecole Centrale de Nantes (ECN)
University College Dublin (UCD)	Grenoble INP (GINP)
SUPSI	Grenoble INP (GINP)
Grenoble INP (GINP)	SUPSI
Politecnico di Milano (POLIMI)	Grenoble INP (GINP)



Platforms for Digitalized Value Networks programme

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SUPSI – ECN collaboration

General structure of the EIT-M Master Programme

Type of modules	Total credits for EIT-M Master	Total credits 1 st year	Total credits 2 nd year
Technical courses (TC)	45	40-50	10-20
Specialization courses (SC)	15		
Innovation & entrepreneurship courses (I&E)	30	10-20	10-20
Master thesis (MT)	30	0	30
Tot	120	60	60

Entry university SUPSI – exit university ECN

1st year SUPSI

I&E: 20

TC: 40 (7 SC)

Draft plan:

Type of modules	SUPSI courses	ECTS	Semester	Total credits
TC	TSM FactPlan: Factory Planning	3	1	33 (18 sem 1 15 sem 2)
	TSM BusAn: Business Analytics (ZH, Tue morning)	3	1	
	TSM MarkFor: Market Analysis and Forecasting (ZH, Tue afternoon)	3	1	
	FTP ModSim Modelling Simulation and Optimisation	3	2	
	PSM Manufacturing Processes Courses*	9	1	
	TSM IndContr: Industrial control	3	2	
	FTP AppStat Applied Statistics and Data Analysis	3	2	
	FTP MultiASys: Multi-agent systems	3	2	
	CM QRM: Quality and Risks management	3	2	



SC	PSM Course Platforms for digitalized value networks*	7 (5+2)	1,2	7 (5 sem 1 2 sem 2)
I&E	CM InnChang: Innovation and Change Management (ZH, Wed evening)	3	1	15 (6 sem 1 9 sem 2)
	CM InnoLEAN: Innovation and Lean	3	1	
	PSM Project Work: Design and configuration of automated production systems using Virtual Environment**	9	2	

*PMS module: this is an example of possible individual project to be included in this curriculum. Similar topics could be identified depending on the students' interest and opportunities in the university labs or companies collaborating with the university.

** Lab offered in Lugano for a class of students with group assignments

I&E	Centrally organized summer school	5	2	5 (sem 2)
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2nd year ECN

Type of modules	ECN courses	ECTS	Semester	Total credits
TC	Multicriteria decision making and decision support	4	1	12
	Integrated design and implementation of CPPS	4	1	
	Integrated design engineering of PSS	4	1	
SC	Design of enterprise information systems	4	1	8
	Collaborative information systems in enterprise	4	1	
I&E	Enterprise of the Future	4	1	10
	R&D Project(2)	5		
	R&D Project(1)	1	1	
MT	Master thesis: focus on Platforms for digitalized value network	30	2	30
Other	Mandatory language course*	4	1	4

*On top of the mandatory 120 ECTS

Recap

Type of modules	ECTS in S1	ECTS in S2	ECTS in S3	ECTS in S4	Total credits
TC	18	15	12		45



SC	5	2	8		15
I&E	6	14	10		30
MT				30	30
Other			4		4
TOT	29	31	34	30	124

Generic objectives of the program

Platforms for digitalized value Networks is a combination of studying manufacturing science including the usage and adoption of advanced digital solutions and platforms.

Specificities of this combination

This study path enables students to gain deeper competencies in modeling and simulation approaches. They will also develop skills for enterprise management based on process performance assessment and information systems design and management for smart and connected enterprises.



Platforms for Digitalized Value Networks programme

- Study plan -

UCD - SUPSI collaboration

General structure of the EIT-M Master Programme

Type of modules	Total credits for EIT-M Master	Total credits 1 st year	Total credits 2 nd year
Technical courses (TC)	45	40-50	10-20
Specialization courses (SC)	15		
Innovation & entrepreneurship courses (I&E)	30	10-20	10-20
Master thesis (MT)	30	0	30
Tot	120	60	60

Entry university UCD – exit university SUPSI

1st year UCD

Draft plan:

Type of modules	UCD courses	ECTS	Semester	Total credits
TC	Systems Analysis & Improvement	5	1	30 (15 sem 1, 15 sem 2)
	Engineering Project Mgt	5	1	
	Quant. Methods for Engineers	5	1	
	Business Information Systems Management	7.5	2	
	Marketing Management	7.5	2	
SC	Supply Chain Design & Analysis	5	1	10 (5 sem1, 5 sem 2)
	Operations Management	5	2	
I&E	Technical Communication	5	1	15 (10 sem 1, 5 sem 2)
	Design & Innovation	5	1	
	Professional Engineering (Management) (option)	5	2	
	Professional Engineering (Finance) (option)	5	2	
I&E	Centrally organized summer school	5	2	5 (sem 2)



2nd year SUPSI

Type of modules	SUPSI courses	ECTS	Semester	Total credits
TC	TSM FactPlan: Factory Planning	3	1	15 (12 sem 1 3 sem 2)
	TSM BusAn: Business Analytics (ZH, Tue morning)	3	1	
	TSM MarkFor: Market Analysis and Forecasting (ZH, Tue afternoon)	3	1	
	FTP ModSim Modelling Simulation and Optimisation	3	2	
	CM IntSust: Integrated Sustainable Management of Production Systems	3	1	
SC	PSM Platforms for digitalized value networks: focus on platform environment	5	1	5 (5 sem 1)
I&E	CM InnChang: Innovation and Change Management (ZH, Wed evening)	3	1	10 (10 sem 1)
	CM InnoLEAN: Innovation and Lean	3	1	
	PSM Platforms for digitalized value networks: focus on business models	4	1	
MT	Master thesis: focus on Platforms for digitalized value network	30	2	30

Recap

Type of modules	ECTS in S1	ECTS in S2	ECTS in S3	ECTS in S4	Total credits
TC	15	15	12	3	45
SC	5	5	5		15
I&E	10	5+5	10		30
MT				30	30
Tot	30	30	27	33	120



Platforms for Digitalized Value Networks programme

- Study plan -

ECN – SUPSI collaboration

General structure of the EIT-M Master Programme

Type of modules	Total credits for EIT-M Master	Total credits 1 st year	Total credits 2 nd year
Technical courses (TC)	45	40-50	10-20
Specialization courses (SC)	15		
Innovation & entrepreneurship courses (I&E)	30	10-20	10-20
Master thesis (MT)	30	0	30
Tot	120	60	60

Entry university ECN – exit university SUPSI

1st year ECN

I&E: 21

TC: 39 (6 SP)

Draft plan:

Type of modules	ECN courses	ECTS	Semester	Total credits
TC	Modelling of Complex Systems (I)	4	1	33 (20 sem 1, 13 sem 2)
	Introduction to Optimization Methods	5	1	
	Production Management	5	1	
	Discrete-event Simulation	4	1	
	Basics of Computer Science and Mathematics	2	1	
	Statistics and Data Analysis	5	2	
	Stochastic and Multi-Agent Simulation	4	2	
	Systems Engineering	4	2	
SC	Management Systems and Socio-Organizational Aspects for Ind. Eng.	4	2	6 (6 sem 2)
	conference	2	2	
I&E	Innovation engineering	4	2	16
	Enterprise Modelling 1	4	1	



	Financial and Economic Aspects for Ind. Engineering	4	1	(8 sem 1, 8 sem 2)
	Enterprise Management*	4	2	
Other	Mandatory language course*	4	1	8
	Mandatory language course*	4	2	(4sem1, 4 sem2)

* On top of the mandatory 120 ECTS of the programme

I&E	Centrally organized summer school	5	2	5 (sem 2)
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2nd year

I&E: 9

TC: 21 (9 SP)

MT: 30

Type of modules	SUPSI courses	ECTS	Semester	Total credits
TC	TSM FactPlan: Factory Planning	3	1	12 (9 sem 1 3 sem 2)
	TSM BusAn: Business Analytics (ZH, Tue morning)	3	1	
	TSM MarkFor: Market Analysis and Forecasting (ZH, Tue afternoon)	3	1	
	TSM IndContr: Industrial control	3	2	
SC	PSM Platforms for digitalized value networks*	9	1	9 (9 sem 1)
I&E	CM InnChang: Innovation and Change Management (ZH, Wed evening)	3	1	9 (6 sem 1 3 sem 2)
	CM QRM: Quality and Risks management	3	2	
	CM InnoLEAN: Innovation and Lean	3	1	
MT	Master thesis: focus on Platforms for digitalized value network	30	1,2	30 (15 sem1, 15 sem2)

Recap

Type of modules	ECTS in S1	ECTS in S2	ECTS in S3	ECTS in S4	Total credits
TC	20	13	9	3	45
SC	0	6	9	0	15
I&E	8	13	6	3	30



MT	0		0	30	30
Other	4	4			8
Tot	32	36	24	36	128