Digital Manufacturing for Innovative Ecosystems

Master Science programme

General. Basic information

Name & type	MSc Digital Manufacturing for Innovative Ecosystems
Mode & duration	full-time, 2 years Credits: 120 ECTS
Accreditation	EIT Label accreditation - November 2020
Annual Tuition fee	EU/EFTA students tuition fee: EUR 8000.00 per year NON EU/EFTA students tuition fee: EUR 15000.00 per year Students financial support is provided to a sub-set of enrolled students. No specific request is needed. Available financial support is: * based on merit

EIT Manufacturing Master School

'Join the force of Innovation in Manufacturing'

The **EIT Manufacturing Master School** offers two-year programmes that encompasses a year of intensive study at two different universities, where students acquire comprehensive knowledge and expertise in their chosen field.

Additionally, the **programme includes a three-week summer school** emphasizing a minor track in **Innovation & Entrepreneurship** held at a third university, enriching the learning experience further.

This initiative is a collaborative effort led by EIT Manufacturing, in association with **seven university partners**. Together, we have designed and implemented five diverse programmes that merge technical and technological coursework with specialized training in innovation and entrepreneurship. These programmes provide students with a multifaceted education that not only equips them with a strong academic foundation but also **fosters the development of practical skills** necessary for success in the dynamic and evolving landscape of manufacturing. The education at EITM Manufacturing Master School combines technical competencies with skills in Innovation and Entrepreneurship. EIT Manufacturing Master School students will be an elite group of forthcoming engineers, operators, innovators, and other relevant professionals.

Programme Overview

The **Digital Manufacturing for Innovative ecosystems (DM) programme** is a Master of Science level programme within the EIT Manufacturing Master School. The EITM Master School is a highly prestigious Manufacturing Engineering and Science education provider on an advanced level with a focus on Innovation and Entrepreneurship (I&E). The education at EIT Manufacturing Master School combines technical competence with skills in Innovation and Entrepreneurship. EIT Manufacturing Master School students will be an elite group of forthcoming engineers, operators, innovators, and other relevant professionals. **The EITM Master School students will:**

- improve their knowledge on up to date manufacturing innovation and learn how to turn this knowledge into successful business;
- take part in events such as Summer Schools and Kick-offs;
- exchange ideas with business partners and researchers at Co-Locations Centres (CLC) and during internships;
- have access to renowned European research facilities;
- earn a double degree and the EIT Manufacturing Certificate.

Digital Manufacturing for Innovative ecosystems programme is a combination of studying manufacturing science including the usage and adoption of advanced digital solutions and platforms. During the programme, students will gain new skills in these areas.
In Digital Manufacturing for Innovative ecosystems, **relevant fields include** modelling and simulation, virtual prototyping, system engineering, industrial processes and operations. Students learn the latest theoretical knowledge and know how to apply their skills in practical real-life problems. **Typical application areas** of Digital Manufacturing for Innovative ecosystems: Cyber-physical systems (CPS), Information system management, digital monitoring

Programme structure

The first year is spent at one university (entry) and second year at another (exit) university in two different European countries. The combination of entry and exit university are called student study path.

The following universities provide an **entry year (first year)**:

- University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland
- University College Dublin (UCD), Ireland
- Grenoble Institute of Technology and Management (Grenoble INP), France

The following parties provide an **exit year (second year)**:

- University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland
- Grenoble Institute of Technology and Management (Grenoble INP), France

Possible combinations:

Combination	ENTRY University (YEAR 1)	EXIT University (YEAR 2)
Combination 1	University College Dublin (UCD), Ireland	(SUPSI), Switzerland
Combination 2	University College Dublin (UCD), Ireland	(Grenoble INP), France
Combination 3	(SUPSI), Switzerland	(Grenoble INP), France
Combination 4	(Grenoble INP), France	(SUPSI), Switzerland

EIT Manufacturing reserves the right to change the exit universities of this programme

Curricula structure:

The two years programme (120 ECTS) includes an Innovation and Entrepreneurship (I&E) Module (30 ECTS) and a Technical Major Module (90 ECTS) structured as follows:

- 45 ECTS for Host Programme technical courses
- 15 ECTS for Host Programme specialization courses
- 30 ECTS for the I&E Module courses
- 30 ECTS for the Master thesis

Students are committed to collect a total of 40-50 ECTS related to the Technical Major and of 10-20 ECTS related to the I&E Module in the first year (60 ECTS total) whereas in the second year they are committed to collect 10-20 ECTS for the Technical Major, 10-20 ECTS for the I&E Module and 30 ECTS for the Master Thesis Project (60 ECTS total). The total of technical courses and specialization

courses must be 60 ECTS, within the boundaries above. All Master School education will be held in English and all partner universities are assumed to use ECTS units.

NOTE: Each university can have, in addition to the general programme above, compulsory requirements for the student study plan, such us mandatory local language courses. You will be informed by your university about this.

DEGREES and EIT Label Certificate:

At the end of the EIT Manufacturing Digital Manufacturing for Innovative ecosystems (DM) programme of 120 ECTS, students will get two degrees from each entry and exit university, according to the following list:

- SUPSI: Master of Science (MSc) in Engineering, University of Applied Sciences and Arts of southern Switzerland (SUPSI). Higher Education Act of Switzerland (414.20/2011) – 90 ECTS Degree
- UCD: ME Manufacturing Engineering with Platforms for Digitalized Value Networks, ME – Manufacturing Engineering – 120 ECTS Degree
- Grenoble INP: Master of Industrial Engineering

In addition to the National Accredited degrees, the students receive the EIT Label Certificate, documenting the EIT accreditation and high quality of the programme.

Career opportunities:

Manufacturing is struggling to find experts able to understand engineering production systems and to manage digital technologies to enable the Industry 4.0 paradigm and to address technological and business challenges. With this programme you can boost your career becoming a digital manufacturing technology expert on the market.
Moreover, the EIT Manufacturing Master School will prepare you for high level technical positions, Innovation roles and business profiles, including the capability

to create your own start-up. It will allow you to create a professional network at national and international level through the several initiatives and the EIT alumni communities.
The degrees also grant you the eligibility (120 ECTS degrees only) for post graduate doctoral studies, eventually to be done at EIT Manufacturing Doctoral School

A student who graduates from the Digital Manufacturing for Innovative ecosystems Master shall:

- have broad knowledge of theories and concepts in Cyber-physical systems (CPS), Information system management, digital monitoring
- be able to critically, independently and creatively participate in strategic work to meet manufacturing-related problems and to be able to relate these measures to sustainable social development,
- be able to implement the gained engineering expertise to create new or improved methods, techniques, products, and services in the field;
- be able to think beyond traditional disciplinary boundaries to find innovative solutions to real-world problems and to come up with new ideas;
- be able to draw up plans and to make decisions foreseeing future consequences from a scientific, ethical, and societal perspective;
- be able to turn innovations in the area into feasible and successful business solutions;
- be able to profitably work in small size teams and contexts by taking into account all relevant elements and showing effective decision-making and leadership abilities.

Admission process:

- First application window deadline is 8th December!

Please note we recommend this deadline to NON EU/EFTA students requiring to apply for a VISA to study in Europe.

If you apply BY 8th December:

- you will be evaluated along December 2024.
- you will receive the offer from the EIT Manufacturing in January 2024.
- local enrolment will start in February*
- 9th December your application will be frozen and we don't consider any further modification and resubmission

*as a preliminary date, depending on the individual conditions of the university

➢ Second application window deadline is 15th January!

Please note we recommend this deadline to NON EU/EFTA students requiring to apply for a VISA to study in Europe.

If you apply BY 15th January:

- you will be evaluated along January 2025.
- you will receive the offer in February 2025.
- local enrolment will start in February*
- 16th January your application will be frozen and we don't consider any further modification and resubmission.

*as a preliminary date, depending on the individual conditions of the university

➢ Third application window deadline is 31st March 2025!

If you apply BY 31st March:

- you will be evaluated along April 2025.
- you will receive the offer in April 2025.
- local enrolment will start in April*
- 1st April March your application will be frozen and we don't consider any further modification and resubmission.

*as a preliminary date, depending on the individual conditions of the university

other IMPORTANT information:

- Please check special university requirements, before applying!
- Applicants must have completed a bachelor's degree encompassing a minimum of 180 ECTS credits.
- Students should have basic competence in engineering analysis, production operations, and mathematics including calculus, algebra, and mathematical statistics.
- Students must have basic competences in programming (python)
- Conditional acceptance:
    - Students in their final year of undergraduate education may also apply and if qualified, receive a conditional acceptance. If you have not completed your studies, please include a written statement from the degree administration office (or equivalent department), confirming that you are enrolled in the final year of your education and giving your expected completion date – which should be before the start of the Master's programme.
    - **If you receive a conditional offer, you should present your degree certificate to your entry university before enrollment at the latest.**
- The specific required admission diplomas are:

B.Sc. degree in Mechanical Engineering, Electrical Engineering, Computer Engineering, Business Engineering, Management Engineering, Computer Science, Information Technology, Industrial Engineering or equivalent degrees.

Documentation languages:

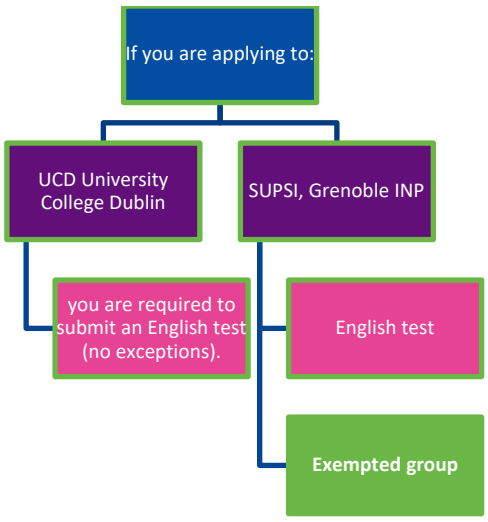
The entry qualification documents are accepted in the following languages: **English** (issued in or officially translated along with verified copies))

You have to provide a duly certified copy of transcript of records in original language and **translated into English**. All courses must be included. Please scan the front and back of every document- all stamps and signatures must be fully visible.

Language requirements:

- ## Language proficiency requirements for EIT Manufacturing Master School

The language of instruction in all EIT Manufacturing Master School programmes is English. All applicants must provide proof of sufficient proficiency in English. Generally, the proficiency must be proved with sufficient results in a language test. Certain groups of applicants may be exempted from the language test but required to provide other documentation on their language proficiency. Only the tests and exemptions listed below will be accepted. Applications without acceptable proof of English proficiency will be discarded and not evaluated further. All language test results must be electronically verifiable.



- ## Accepted English language tests and minimum scores

Please note that the English test must be taken on or after 30 September 2023. Older results will not be accepted.

- IELTS >= 6.5, with no section lower than 6 A photocopy of your test IELTS test result together with your application documents is sufficient.
- TOEFL IBT>= 93 (minimum 21 for writing, 19 in the other sections) English test results from TOEFL should be uploaded to your application form and sent

directly from the ETS test centre to the EIT Manufacturing Master School Office. (EIT Manufacturing Master School code number: C898 , you can choose industrial engineering if you apply to “Platform for Digitalized Value Networks” and “Data Science and AI for Competitive Manufacturing”, otherwise choose mechanical engineering for the other programmes))

- CAE: grades A – C are accepted. Attach the document to your application on the DreamApply portal.
- CPE: grades A – C are accepted. Attach the document to your application on the DreamApply portal.

Exempted group

If you apply for: **SUPSI, Grenoble INP** you may be exempted from the English test if you meet one of the conditions presented below in the table:

Exempted group	Required proof
Applicants who have completed a bachelor’s degree (180 ECTS or equivalent) instructed in English at a university in an EU/EFTA country.	Degree certificate, diploma supplement, transcript of records or other official document issued by the institution clearly stating the language of instruction.
Applicants who have completed a bachelor’s degree instructed in English at a university that is physically located in one of the following countries: Antigua and Barbuda, the Bahamas, Barbados, Belize, Botswana, Cameroon, Canada, Dominica, Eritrea, Eswatini, Ethiopia, Gambia, Ghana, Grenada, Guyana, Hong Kong, India, Jamaica, Kenya, Lesotho, Liberia, Malawi, Namibia, Nigeria, the Philippines, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sierra Leone, Singapore,	Degree certificate or proof of estimated graduation granted by a university in this country.

South Africa, Switzerland, Tanzania, Trinidad and Tobago, Uganda, Zambia, or Zimbabwe.	
Applicants who have completed a bachelor's degree instructed in English at a university that is physically located in one of the following countries: Australia, Canada, New Zealand, the United Kingdom, or the United States.	Degree certificate or proof of estimated graduation granted by a university in this country.
Applicants who have completed **secondary education** degree instructed in English in: an EU/EEA country, Australia, Canada, New Zealand, South Africa, Switzerland, the United Kingdom or the United States while residing in that country.	Secondary-school final certificate in PDF format. If the degree is completed in an EU/EEA country, Switzerland or South Africa, English as the language of instruction must be stated unambiguously on the certificate. For those countries, if the language of instruction is not indicated on the certificate, upload an official document issued by the institution clearly stating the language of instruction.

Documents to submit:

To apply to the Master School, you are required to upload the following documents/elements.

IMPORTANT: you need to **submit a complete application package** consisting of the following documents, in pdf and portrait format, **before the application deadline.**

It is every prospective student´s responsibility to make sure their application is correct and complete.

- Degree Certificate/Diploma in its original language AND translated into English (If your university does not provide this service, the translation has to be done by an authorized translator and his/her credentials, signature and stamps must be visible in the translated document). In case of on-going studies, a statement certifying that you are in the final year of your studies. The statement must be written by the degree administration office (or equivalent department), confirming that you are enrolled on the final year of your education and giving your expected completion date.

- Official and stamped transcript of records in original language and translated into English. All courses taken must be included. Please scan the front and back of every document- all stamps and signatures must be fully visible.

- Proof of English proficiency. Please refer to the 'Language requirements' section for more information.

- Curriculum Vitae including details on your academic and professional career, based on EuroPass template CV. Please note that no other CV formats than EuroPass will be accepted and your application will be automatically rejected if you do not meet this condition.

EuroPass CV editor you can find here: europa.eu/europass/eportfolio/screen/cv-editor?lang=en

- Records of evidence Please attach an additional, single PDF file, which will be a record and supporting document of your CV. This means that if you have references, letters of recommendation, employment certificates, volunteer work certificates, contacts to people etc. who can attest to your educational and professional activity. All these evidence files must be one PDF, which you can create using a simple online creator.

- Motivation short movie A short motivational movie (max 2 minutes). In the movie, please answer two questions:

    1) Why are you fit for this program?

2) where do you see yourself five years after graduation?

- A coloured copy of your either National ID (only for EU/EFTA students) or passport

Please notice that, from the moment you are admitted, your university will contact you to complete the formalities for enrolment and might request additional documents from you.

IMPORTANT:

- Please upload the **original version of your degree certificate and transcript of records.** If this is not possible, photocopies of your degree certificate, transcript of records and statements should be **stamped and signed by the degree administrations office (or equivalent department) of the issuing institution, or by a Notary Public.** Please note that we do not accept documents after the deadline. All documents must be uploaded/come in before the deadline in order for us to process your application.
- **Applications that are not supported by official documents will not be processed.**
- **Applications with fraudulent documents will invariably be rejected.**
- **All admitted students must present the original Transcript of records and Degree Certificate/Diploma before enrolment.**

VISA:

Applicants are responsible for their own VISA.

SPECIAL UNIVERSITIES REQUIREMENTS

This applies only if the below universities are a possible choice for the programme you want to apply

- **For NON EU/EFTA** students choosing **SUPSI (University of Applied Sciences and Arts of Southern Switzerland – Switzerland)** as entry/exit university, before applying, please note you need to: **submit 2 applications**:

1. one application into DreamApply portal

2. second application into SUPSI local portal by 30th April, to be eligible to enrol locally: www.supsi.ch/home_en/bachelor-diploma-master/informazioni-generali/iscrizioni.html .

Please keep in mind this in case you request a VISA to study in EU.

- check the Switzerland entry requirements at: www.sem.admin.ch/sem/it/home/publiservice/weisungen-kreisschreiben/auslaenderbereich/verfahren_und_zustaendigkeiten.html

- check NOT ELIGIBLE Countries for VISA in Switzerland at: www.sem.admin.ch/dam/sem/it/data/rechtsgrundlagen/weisungen/auslaender/verfahren/zustimmungspfl-studierende-i.pdf.download.pdf/zustimmungspfl-studierende-i.pdf.

SYLLABI:

Study plan
Grenoble INP - SUPSI

General structure of the EITM Master Programme

Type of modules	Total credits for EIT-M Master	Total credits 1st year	Total credits 2nd 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 Grenoble – exit university SUPSI

1st year Grenoble

I&E: 21

TC: 39 (9 SC)

Type of modules	Grenoble courses	ECTS	Semes-ter	Total credits
TC	Sustainability in Industrial Engineering - WGUS1074	3	S1	30 (21 S1, 9 S2)
	Basic Economics for Sustainable Industrial Engineering - WGUS1014	3	S1	
	Information Systems Management - WGUS2044	3	S1	
	Data analytics for industrial engineering - WGUS2092	3	S1	
	Quality and Process Development - WGUS2054	3	S1	
	Challenges of the production transition (GS)- WGUS7102	3	S1	
	Inventive problem solving, bio inspired innovation - WGUS2071	3	S2	
	UE Sustainable work and organization - WGUS2082	3	S1	
	Production and Operations Management - WGUS1044	3	S2	
	Industrial Economics for Sustainable industrial Engineering - WGMS7028	3	S2	
SC	Performance Evaluation of Production Systems - WGUS1065	3	S1	9 (3 S1, 6 S2)
	Project on Data Analytics for Manufacturing - WGUS3022	3	S2	

	Research Project - 4GUC00E5	3	S2	
I&E	French and Intercultural communication (S7) – (WGMS7011 and WGMS7021)	3	S1	21 (6 S1, 15 S2)
	Product Development Project 1 - 4GMP1611	3	S1	
	Production and Operations Management - WGUS1044	5	S2	
	Product Development Project 2 - 4GUP1901	5	S2	
	Centrally organized summer school	5	S2	

2nd year SUPSI

I&E: 9

TC: 21 (6 SP)

MT: 30

Type of modules	SUPSI courses	ECTS	Semes-ter	Total credits
TC	TSM_FactPlan: Factory Planning	3	S3	15 (12 S1, 3 S2)
	TSM_BusAn: Business Analytics(ZH,Tue morning)	3	S3	
	TSM_MarkFor: Market Analysis and Forecasting (ZH, Tue afternoon)	3	S3	
	TSM_HuCePSys Human Centered Production Systems	3	S4	
	FTP_OrdDiff Ordinary Differential Equations and Dynamics Systems	3	S3	
SC	CM_QRM Quality and Risk Management	3	S4	6 (S3)

	CM_InnoLEAN: Innovation and Lean	3	S3	
I&E	PSM Individual project on Digital manufacturing	9	S43	9 (S3)
MT	Master thesis: focus on Digital Manufacturing	30	S4	30 (S4)

Recap

Type of modules	ECTS in S1	ECTS in S2	ECTS in S3	ECTS in S4	Total credits
TC	21	9	12	3	**45**
SC	3	6	3	3	**15**
I&E	6	15	9	0	**30**
MT	0	0	0	30	**30**
Tot	30	30	24	36	**120**

Study plan –
SUPSI - GRENOBLE collaboration

General structure of the EITM Master Programme

Type of modules	Total credits for EIT-M Master	Total credits 1st year	Total credits 2nd 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 GRENOBLE

1st year SUPSI

I&E: 20

TC: 40 (10 SC)

Type of modules	SUPSI courses	ECTS	Semes-ter	Total credits
TC	TSM_FactPlan: Factory Planning	3	S1	33 (21 S1, 12 S2)
	TSM_MarkFor: Market Analysis and Forecasting (ZH, Tue afternoon)	3	S1	
	TSM_IndContr: Industrial control	3	S2	

	PSM Individual project on digital manufacturing*	9	S1	
	FTP_AppStat Applied Statistics and Data Analysis	3	S2	
	FTP_ModSim Modelling Simulation and Optimisation	3	S2	
	FTP_OrdDiff Ordinary Differential Equations and Dynamics Systems	3	S1	
	CM_QRM: Quality and Risks management	3	S2	
	TSM_BusAn: Business Analytics (ZH,Tue morning)	3	S1	
SC	PSM Individual project on topics related to digital manufacturing *	7 (5+2)	S1,2	7 (5 S1 2 S2)
I&E	TSM_HuCePS Human-Centred Production Systems	3	S2	20 (3 S1 17 S2)
	CM_InnoLEAN: Innovation and Lean	3	S1	
	PSM Project Work: Design and configuration of automated production systems using Virtual Environment**	9	S2	
	Centrally organized summer school	5	S2	

*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

2nd year GRENOBLE

I&E: 10

TC: 20 (5 SC)

MT: 30 ECTS

Type of modules	GRENOBLE courses	ECTS	Semes-ter	Total credits
TC	Smart Analytics for Big Data - 5GUC3500	5	S3	10
	Virtual Reality for Industry 4.0 - 5GUC3319	5	S3	
SC	Multi-criteria Decision Aiding and Artificial Intelligence - 5GUC4202	5	S3	10
	Tactical and Operational Supply Chain Management - 5GUC2004	5	S3	
I&E	OPTION: Operational Excellence in R&D - 5GUC3700 OR iDesigner: Tackling Complexity by Integration - 5GUC0904	5	S3	10
	Innovation challenge	5	S3	
MT	Master thesis	30	S4	30
TOTAL		**60**		**60**

Recap

Type of modules	ECTS in S1	ECTS in S2	ECTS in S3	ECTS in S4	Total credits
TC	21	12	10		**43**
SC	5	2	10		**17**
I&E	3	17	10		**30**
MT				30	**30**
Tot	29	31	30	30	**120**

Study plan –
UCD - SUPSI collaboration

General structure of the EIT-M Master Programme

Type of modules	Total credits for EIT-M Master	Total credits 1st year	Total credits 2nd 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

Local up-to-date webpages for entry/exit university courses:

ME Manufacturing Engineering with Digital Manufacturing for Innovative Ecosystems programme - Programme Details (ucd.ie)

Draft plan:

Type of modules	UCD courses	ECTS	Semes-ter	Total credits
TC	Systems Analysis & Improvement	5	1	35 (20 sem 1, 15 sem 2)
	Data Analytics for Engineers	5	1	
	Engineering Project Mgt	5	1	

	Quant. Methods for Engineers	5	1	
	Marketing Management	7.5	2	
	Business Information Systems Management	7.5	2	
SC	Supply Chain Design & Analysis	5	1	10 (5 sem1, 5 sem 2)
	Operations Management	5	2	
I&E	Technical Comms (Online) OR Innovation Leadership OR Research Skills and Techniques	5	1	10 (5 sem 1, 5 sem 2)
	Professional Engineering (Management) (option) OR 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	Semes-ter	Total credits
TC	TSM_BusAn: Business Analytics (ZH,Tue morning)	3	1	9 (sem 1)
	TSM_MarkFor: Market Analysis and Forecasting (ZH, Tue afternoon)	3	1	
	FTP_OrdDiff Ordinary Differential Equations and Dynamics Systems	3	1	
SC	TSM_FactPlan: Factory Planning	3	1	6 (3 sem1 3 sem 2)
	CM_QRM Quality and Risk Management	3	2	
I&E	CM_InnoLEAN: Innovation and Lean	3	1	15

	TSM_HuCePSys Human Centered Production Systems	3	2	(12 sem 1
	PSM Individual project on Digital manufacturing	9	1	3 sem2)
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	20	15	9		**44**
SC	5	5	3	3	**16**
I&E	5	5+5	12	3	**30**
MT				30	**30**
Tot	30	30	24	36	**120**

UCD - GRENOBLE collaboration

General structure of the EITM Master Programme

Type of modules	Total credits for EIT-M Master	Total credits 1st year	Total credits 2nd 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 GRENOBLE

1st year UCD

ME Manufacturing Engineering with Digital Manufacturing for Innovative Ecosystems - Programme Details (ucd.ie)

Type of modules	UCD courses	ECTS	Semes-ter	Total credits
TC	Systems Analysis & Improvement	5	1	30 (15 sem 1, 15 sem 2)
	Data Analytics for Engineers	5	1	
	Engineering Project Mgt	5	1	
	Quant. Methods for Engineers	5	1	
	Business Information Systems Management	7.5	2	

	Operations Management	5	2	
SC	Supply Chain Design & Analysis	5	1	10 (5 sem1, 5 sem 2)
I&E	Technical Comms (Online) OR Innovation Leadership OR Research Skills and Techniques	5	1	15 (10 sem 1, 5 sem 2)
	Marketing Management	7.5	2	
	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 GRENOBLE

Local up-to-date webpages for entry/exit university courses:

Note: The course list below belongs to Curriculum 2024-2026 which was published on July 2024 at https://genie-industriel.grenoble-inp.fr/en/studies/master-in-sustainable-industrial-engineering-sie#page-programme. Grenoble INP curriculum is renewed biannually.

Type of modules	GRENOBLE courses	Semes-ter	ECTS	Total credits
TC	Smart Analytics for Big Data - 5GUC3500	S3	5	10
	Virtual Reality for Industry 4.0 - 5GUC3319	S3	5	
SC	Multi-criteria Decision Aiding and Artificial Intelligence - 5GUC4202	S3	5	10
	Tactical and Operational Supply Chain Management - 5GUC2004	S3	5	

I&E	1 choice out of 4: Mastering Customer Satisfaction & Operational Excellence in the context of New Product Development - 5GUC5104 iDesigner : Tackling Complexity by Integration - 5GUC0904 Environment Politics and Firm Strategies - 5GUC4502 Circular EconomiX - 5GUC4302	S3	5	10
	Innovation challenge	S3	5	
MT	Master thesis	S4	30	30
TOTAL			**60**	**60**

Recap

Type of modules	ECTS in S1	ECTS in S2	ECTS in S3	ECTS in S4	Total credits
TC	20	12.5	10	0	**42.5**
SC	5	0	10	0	**15**
I&E	5	12.5+5	10	0	**32.5**
MT			0	30	**30**
Tot	30	30	30	30	**120**