



LECTURE 0

Master of Science in
Mechanical Engineering

gaetano.cascini@polimi.it

www.mecheng.polimi.it

[@mechengpolimi](https://www.instagram.com/mechengpolimi)



Welcome to POLIMI
Make the most out of your choice!

Overview

- Politecnico di Milano
- Because students matter!
- Services & Opportunities
- Tutoring
- International Mobility
- Programme Structure
- Ph.D.





Politecnico di Milano

Politecnico di Milano



The School of Athens
by Raphael
abc-people.com

POLITECNICO
MILANO 1863



The logo of POLIMI finds its origins in Raffaello's fresco *The School of Athens*. The cartoon of the fresco is today displayed at Pinacoteca Ambrosiana, Milan.

Politecnico di Milano

Over **1.300** Professors and **1.200** employees (technicians, administrative staff, etc.) work here.



Industrial and Information Engineering
Civil and Environmental Engineering
Architecture
Design



4 Schools

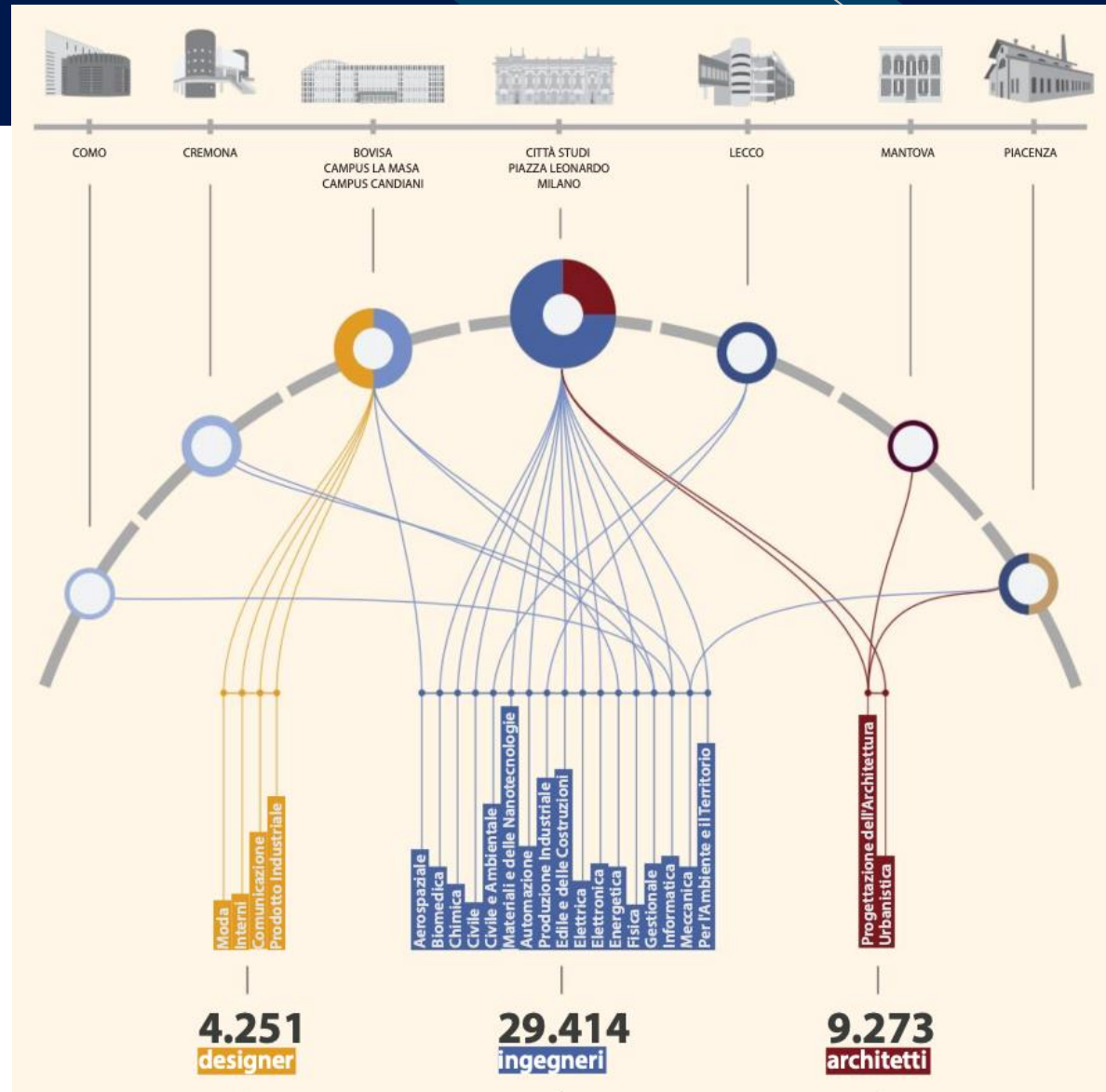
Over **42.000** students



12 Departments



#1 in Italy
#7 in Europe
#20 in the world



DMEC Campuses



Lombardy:

- Milan
- Lecco

Emilia-Romagna:

- Piacenza

Schools and Programmes



According to its specifics, each BS and MS Programme belongs to one of the Schools:

- **Urban Architecture and Building Engineering;**
- **Design;**
- **Civil and Environmental Engineering;**
- **Industrial and Information Engineering.**

The **Dean**, head of the School, coordinates all teaching activities of the issued Programmes along with other members of the Board and Council.

The **Professor-Student Joint Committee** controls the activities of the Programmes and formulates proposals for improvements.

The **Director of Studies** is in charge of the Programme and first contact for every serious trouble students may have.

The Professor-Student Joint Committee

This Committee is made of 5 Professors and 5 Student Ambassadors.

The Professor-Student Joint Committee is in charge of:

- **Controlling and checking the quality of the Programme, lectures, and student services;**
- **Carefully selecting the evaluation criteria that allow the analysis of the performance results;**
- **Formulating proposals to improve the Programmes themselves and submit them to the Dean and the Evaluation Unit.**

Faculty members:

- Prof. Giorgio Colombo
- Prof. Sandro De Silvestri
- Prof.ssa Alessandra Guglielmi – **President**
- Prof. Marco Melacini
- Prof. Angelo Morzenti

Student members:

- Mercedes Alazraki
- Emanuela Dotti – **Vice President**
- Martina Legnani
- Edoardo Marcucci
- Letizia Maria Perri

Contacts

The Programme in Mechanical Engineering you recently joined is among the Programmes offered by the School of Industrial and Information Engineering.

- The Dean of the School is Professor **Antonio Capone**.
- The Director of Studies is Professor **Gaetano Cascini**.

The Student Ambassadors of your Programme are:

- | | | |
|-------------------------------|----------------------------|----------------------------------|
| ■ Alessandro Amici; | ■ Laurens Lanzillo; | ■ Matteo Brambilla; |
| ■ Amirhossein Omidvar; | ■ Leonardo Gazulli; | ■ Mattia Aurelio Martini; |
| ■ Davide Bassani; | ■ Lorenzo Vignoli; | ■ Mercedes Alazraki; |
| ■ Francesca Benatti; | ■ Luca Sartor | ■ Milagros Magaz; |
| ■ Francesca Rondelli; | ■ Marco Gandolla; | ■ Tommaso Gentili. |

The Student Ombudsman Office

Students who wish to complain about any behavior that breaks the University regulations and/or denies students' rights and duties at POLIMI may contact the Ombudsman.

The Ombudsman acts after a non-anonymous complaint is made: after having properly investigate the case, the in-charge Professor tries to find a suitable solution and always informs the student on the outcome of the query. The ultimate objective is always to protect the student against any reprisals.

The Ombudsman is **Professor Mara Tanelli**.

Contacts:

Email: difensoredeglistudenti@polimi.it

Phone: +39 02.2399.3621





Because Students
matter!

Students and Ambassadors: Rights and Responsibilities

Students hold the right to actively participate in the life and governance of the University by electing their Ambassadors. They are asked to express their opinion during each of the University management bodies meeting they are invited to.

You directly vote 2 of your Student Ambassadors.

Elections occur very 2 years: your chance to be heard.

The easiest and most effective way to submit a proposal or a request on issues like lectures or student services to the right University body is speak your mind through your Student Ambassadors.



Students and Ambassadors: Rights and Responsibilities

Your Student Ambassadors' commitment helped POLIMI achieve over the years several positive results:

- **Teaching and lectures have been reorganised;**
- **More Funding & Scholarships (included the ones for low income students) have been issued by Diritto allo Studio;**
- **Top students have been exempted from paying tuition fees.**

N.B. by submitting your ideas and requests through your Students Ambassadors, you have a real chance to change your University decision-making process. You just have two options:

- 1. Contact your Student Ambassadors, after a careful evaluation, ask them to submit to decision-making bodies your idea or request;**
- 2. You run for Student Ambassadors and eventually, become one yourself.**

Students' opinion on Courses (1/2)

To check the quality of its Courses and Lectures, Politecnico di Milano asks their students to respond to a quality-check survey:

Filling in the online ANONYMOUS survey is MANDATORY in order to register for an exam and for all of the courses in your timetable.

By responding to the questionnaire, students play an active role in improving and strengthen the quality of the University.

Questions are about:

- **Courses;**
- **Professors;**
- **Lecturers' practical modules;**
- **Infrastructures.**



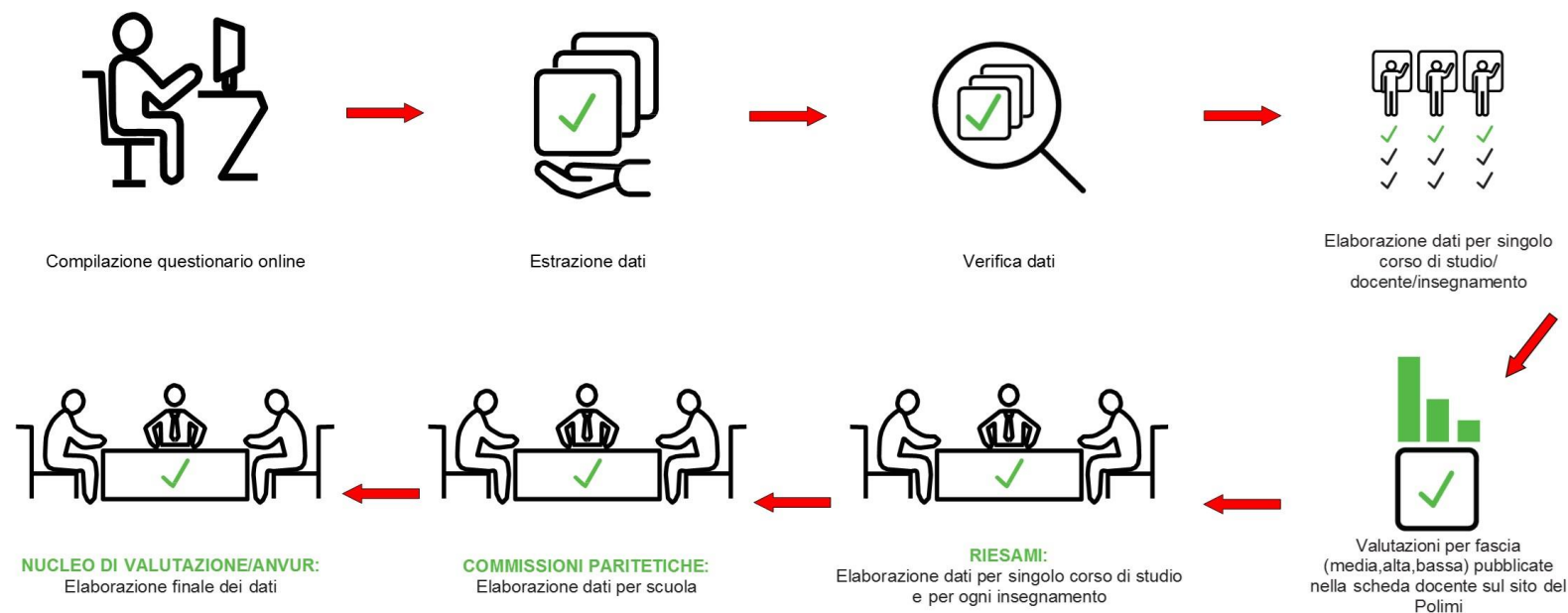
Know that POLIMI cares about your opinion, therefore we highly recommend to our Students to:

- **Pay full attention when responding;**
- **Give appropriate and consistent responses;**
- **Use open-ended questions to make helpful and constructive comments .**

Students' opinion on Courses (2/2)

**COSTRUISCI IL TUO FUTURO
CON LE TUE RISPOSTE**

IL QUESTIONARIO E' ANONIMO



Students' opinion: final year

During your last year at POLIMI, you will be asked to give your opinion on:

→ **Your Programme**

To register for Graduation (Undergraduate and Postgraduate) you MUST fill in a questionnaire on:
Lecture organisation, Course contents, infrastructures, library, internships, international mobility, final exam.

→ **Services**

To register for the first exam of your final year, you MUST respond to an ANONYMUS questionnaire on:
Enrolment, courses and tracks, exam registration, taxes, student offices, ICT services, libraries, PoliPrint, canteen, communication, studying environment.



Services e Opportunities

Student support services: contacts

Courses related issues:

1. Professor;
2. Director of Studies;
3. Student Ambassadors;
4. Professor-Student Joint Committee;
5. Dean of the School;
6. Ombudsman.



Administrative issues:

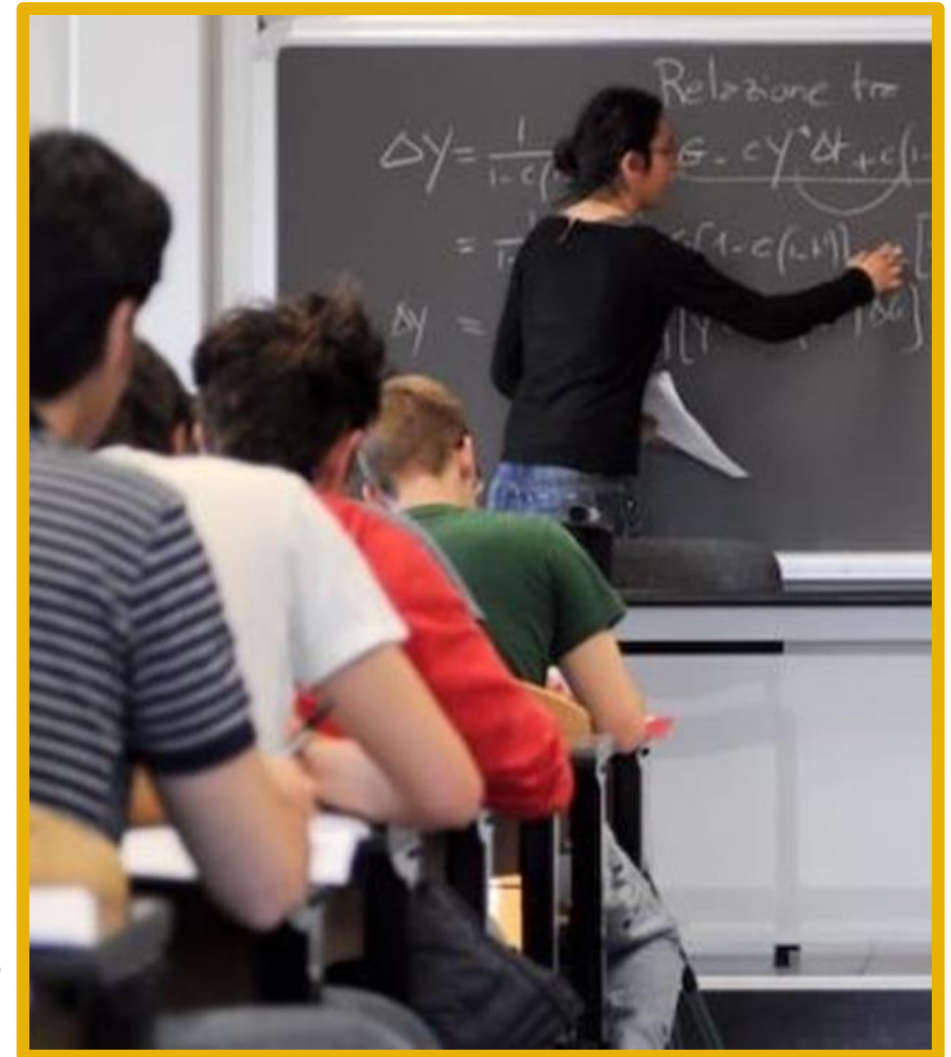
- Student Office: desks, online chat, chatbot and e-mail (<https://www.polimi.it/en/current-students/contacts/>).

Organisation and timetables:

- Programme contact person;
- Dean's Office: desks, chat and e-mail (<https://www.polimi.it/en/current-students/contacts/>);
- Department Student Office.

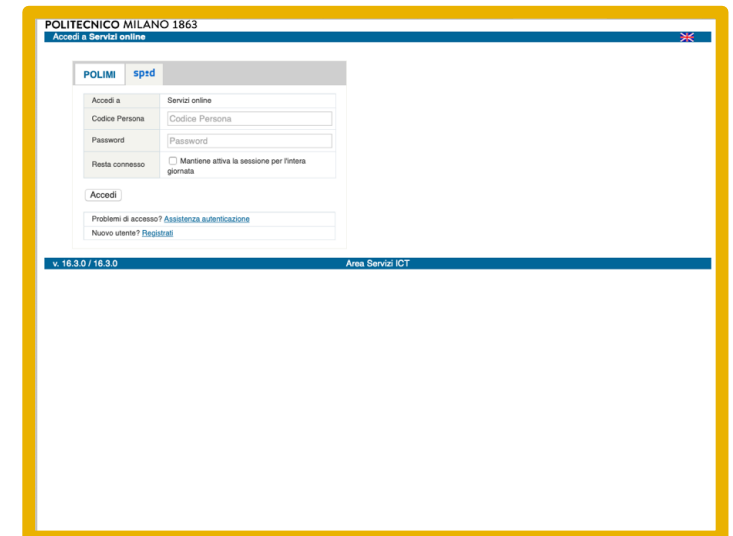
Regulations

- **Educational Rules:** available on the School website (<https://www.ingindinf.polimi.it/en/>) and the University website (<https://www.polimi.it/en/programmes/>)
- **Charter of the rights and duties of students:** http://www.normativa.polimi.it/?id_sottoc=66.
- **School Regulations:** <https://www.ingindinf.polimi.it/it/scuola/informazioni-e-documenti/documenti-e-regole> (Italian only).
- **Academic Calendar and Deadlines:** <https://www.polimi.it/en/current-students/calendar-and-deadlines/deadlines/>.



Information: where and how to look for

- The Politecnico di Milano website: www.polimi.it. For further details on the University or your timetable, check the students' page (<https://www.polimi.it/en/current-students/>).
- The School website: <http://www.ingindinf.polimi.it>. For more detailed information on your programme (admission, courses, tracks and graduation days) check the **Mechanical Engineering Programmes website** <https://www.mecheng.polimi.it/?lang=en>.
- Find your profile and your timetable on the **Online Services** webpage: www.polimi.it/servizionline.

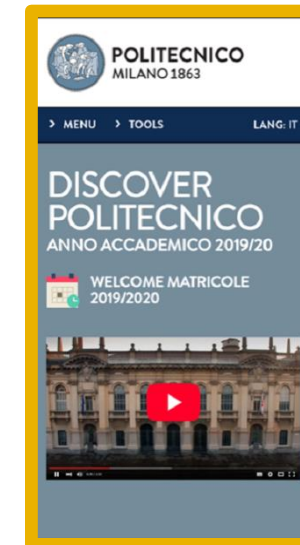


App, newsletter and Social Networks

SOCIAL



- **DISCOVER POLIMI:** the mobile **APP** for freshmen that helps you discover all POLIMI services for students.
- **POLIMI:** the mobile **APP** for all students who would like to have immediate access to lecture timetables, manage study plan, request support to student office, etc.
- **Politamtam:** subscribe to our fortnightly newsletter <http://www.politamtam.polimi.it/> to be notified of all events, student clubs' activities, students' opportunities, and so much more.
- **Social Networks:** www.facebook.com/polimi;
www.youtube.com/polimi; www.instagram.com/polimi;
www.twitter.com/polimi;
www.linkedin.com/school/polimi;
www.polimi.it/itunes.



Comunicazione e strumenti: Instagram

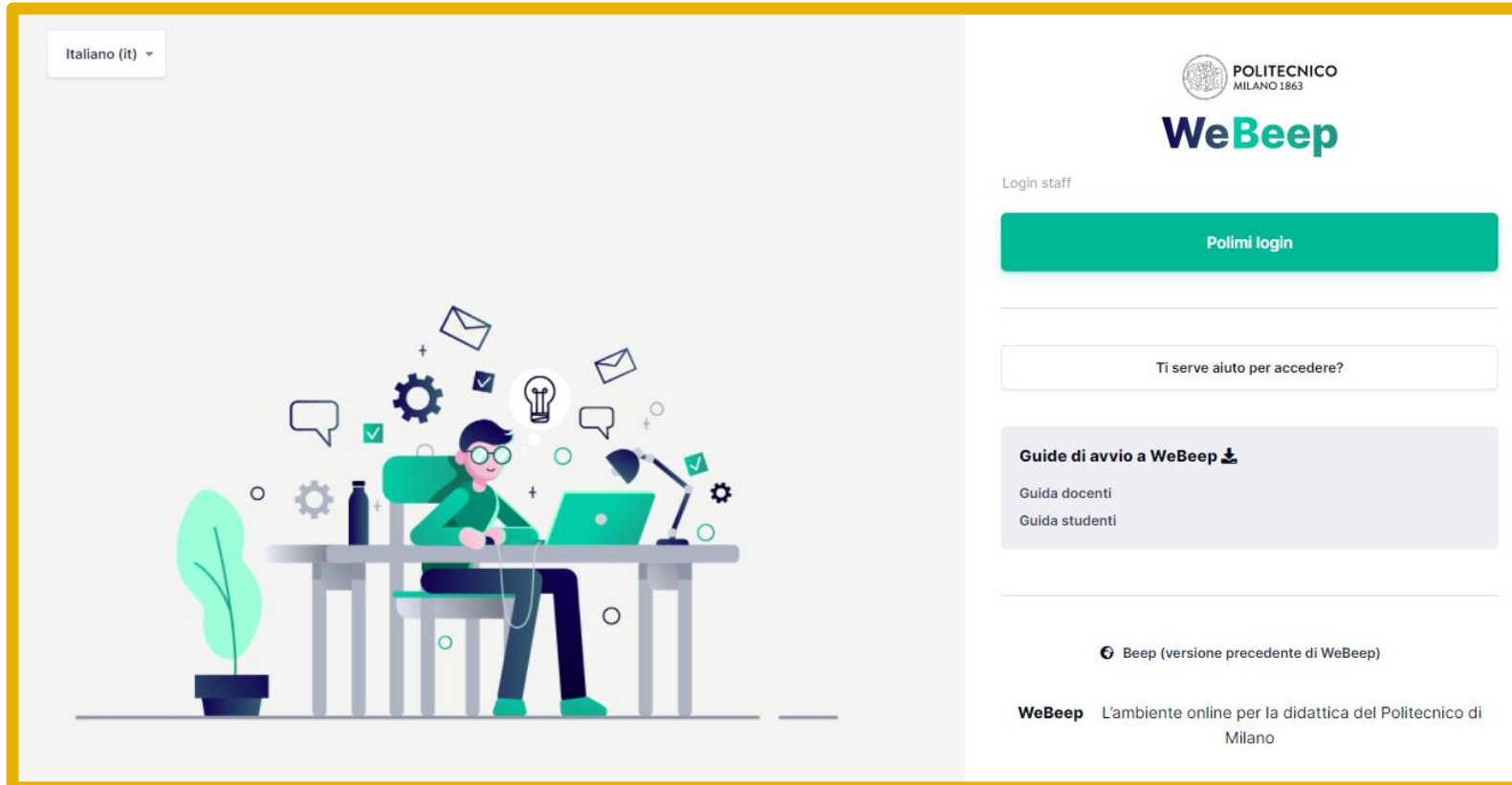
[@mechengpolimi](#)



[@meccpolimi](#)

WEBEEP

WeBeep is our web app where you can find all lecture-related information and material:
[WeBeep: Login al sito \(polimi.it\)](http://polimi.it).



WeBeep Courses

Teaching material and notes, student-teacher communications.

WeBeep ME Programme:

Communications between study program students, Student Representatives, and Director of Studies.

P.S. Remember to subscribe to the Mechanical Engineering Programme!!!



Services and Opportunities

- **Libraries:** You can find 4 libraries in all POLIMI campuses in Milan and other 5 in all other campuses over Lombardy and Emilia-Romagna.
- **Career Service** is the University service that connects students with companies, helping with finding internships or jobs: <http://www.careerservice.polimi.it/>.
- **POLIHUB** is the startup District & Incubator that gives you opportunities for turning your ideas into a startup company: www.polihub.it.
- **MOOCS** is the POLIMI portal of free online courses (MOOCS): www.pok.polimi.it.
- **International mobility** → exchange programmes, short mobility, double degrees: <https://www.polimi.it/en/services-and-opportunities/>.

For further info: <https://www.polimi.it/en/services-and-opportunities/>.





Tutoring

Services and Opportunities

The tutoring service of the School supports student during their studies with peer-tutors and contact-teachers.

Tutors must:

- Be students' first contact when in need due to any lecture-related issue;
- Help students with any course-related problem, even clarifying some concepts or doing exercises.



The School offers to its students different tutoring opportunities. Meaning any enrolled student can be part of the peer-tutoring programme, provided on-demand, or take part into other more traditional tutoring services, provided on a daily basis.

For further info: <https://www.ingindinf.polimi.it/en/1/translate-to-english-studenti/services/tutoring>.

Tutoring for Postgraduate Students

Peer-to-Peer tutoring is the service provided for international students mainly. More experienced peer-tutors provide help, individually or virtually in small groups (3-4 people), on the basic courses of the Postgraduate Programme. It is possible to request for a tutor's help both during the very first semester of your master, and at other given time over the year by sending an email: tutorato-ingegneria@polimi.it.

Specific tutoring : extra practical lessons held by PhD students and expert teachers on some selected courses of the Programme (information provided by the Lecturer of the course).



Exchange Programmes

Make your CV International

POLIMI offers their students many opportunities to study or abroad:

- Exchange Programmes allow you to attend courses in one of our partner Universities;
- Double Degrees Programmes will allow you to graduate from POLIMI and another Partner University.



<https://www.polimi.it/en/services-and-opportunities/experience-abroad/>

Exchange Programmes: Contacts

If you need any information on how to apply for an Exchange programme, please contact one of the following Professors in charge:

- **Mr. Mauro Filippini**
- **Mrs. Silvia Barella**
- **Mrs. Paola Saccomandi**

You can also send an email to: erasmus-dmec@polimi.it.

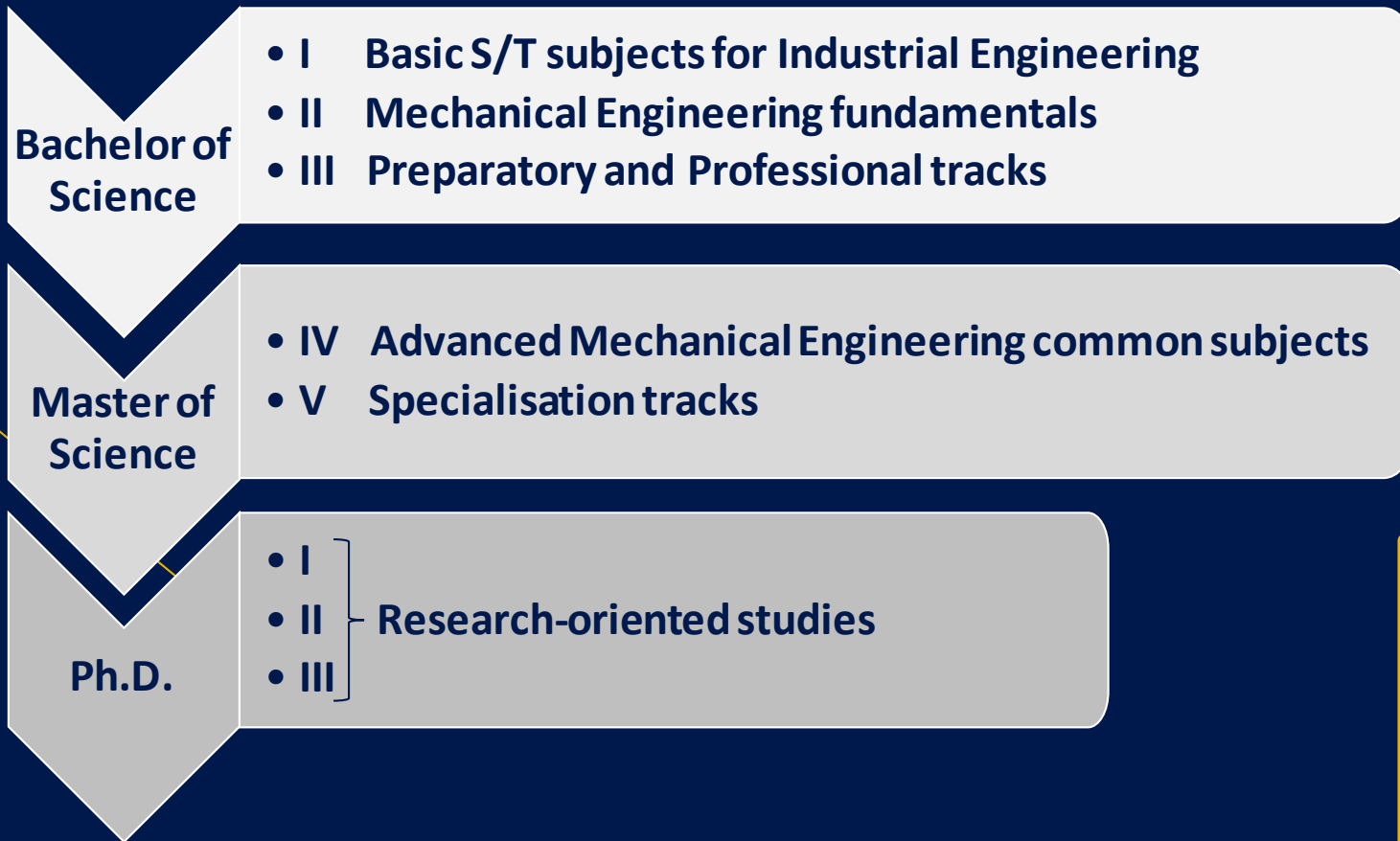
In the Educational Rules document you can find the complete list of all Partner Universities, which can be selected as destinations.

The International Student Mobility grant is issued every year, but to be selected you must apply by following the University policy on Exchange Programmes.

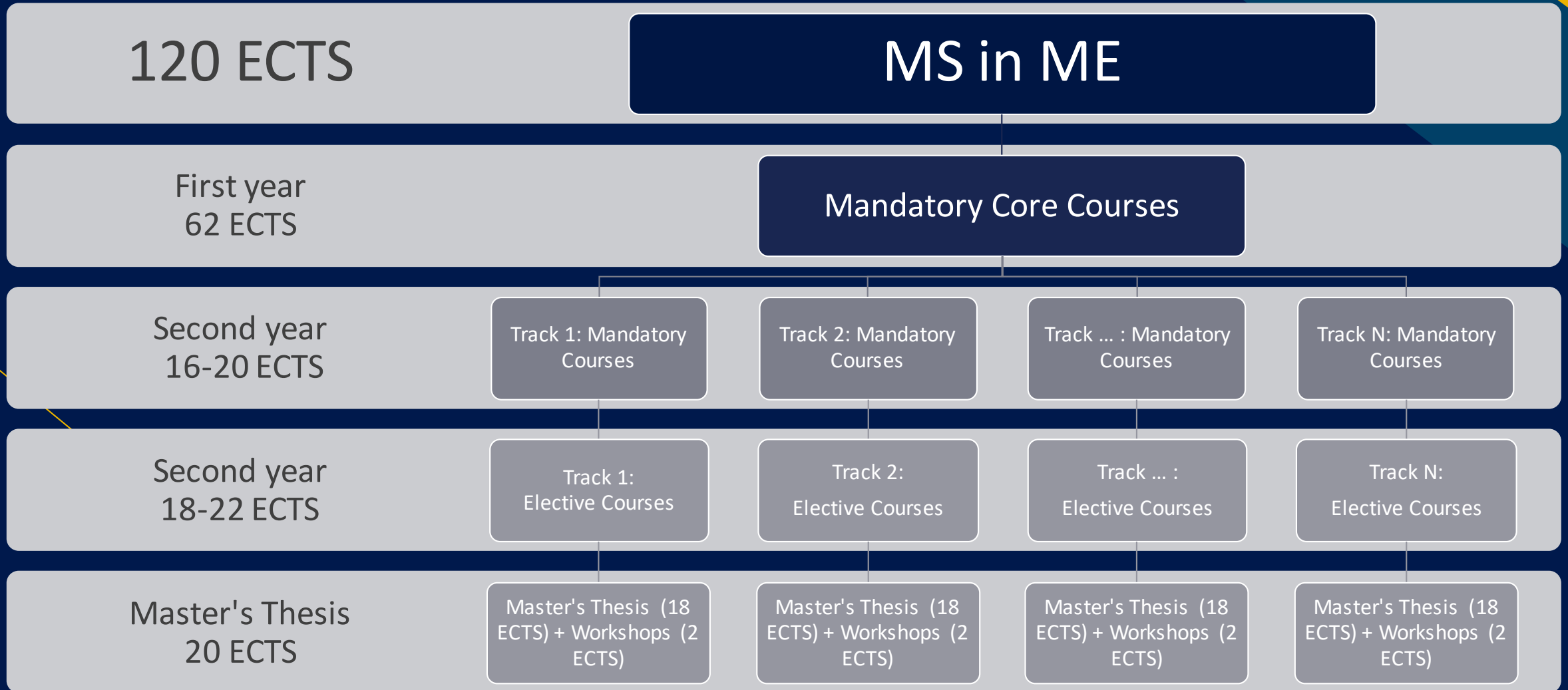


Programme Structure

MS in Mechanical Engineering



Programme structure



MS: first year

62 ECTS

Mandatory
Core Courses

- Control and actuating devices for mechanical systems
- Applied metallurgy
- Energy systems
- Advanced manufacturing processes
- Machine design
- Mechanical system dynamics
- Measurements
- Design and management of production systems

MS: second year

38 ECTS

Track Mandatory
Courses
16-20 ECTS

Track Elective
Courses
18-22 ECTS

Tracks:

- ME1: Production Systems
- ME2: Mechatronics and Robotics
- ME3: Virtual Prototyping
- ME4: Int. Comb. Engines and Turbomachinery
- ME5: Advanced Mechanical Design
- ME6: Advanced Materials and Manufacturing
- ME7: Ground Vehicles
- ME8: Machine Tools and Manuf. Systems (BV+PC)
- ME9: Mobility Engineering
- ML5: Engineering Design and Manufacturing (LC)

MS: Master's thesis

20 ECTS

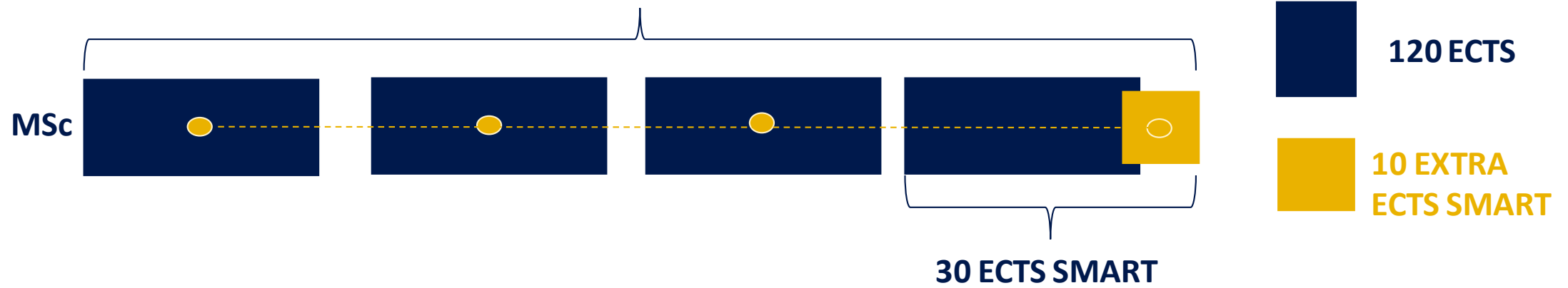
Master's Thesis –
research project
18 ECTS

Workshops
2 ECTS

- Written dissertation about a chosen Master's thesis research/industrial project
- Horizontal competences acquired by attending four workshops.

Implementation for MSc IN MECHANICAL ENGINEERING

130 ECTS (120 + 10 ECTS)



30 ECTS SMART =

≈ 10 ECTS *SMART*

Track Mandatory Courses
(courses covering topics related to the
chosen specialization track)

+

≈ 20 ECTS *SMART*

Elective Courses
(Transversal courses)

Horizontal Competences

■ How are the Horizontal Competences ETCS awarded?

- Admission: confirm you have been awarded already 49+ ECTS
- Workshops: each one lasts about 4 hours and covers important topics for you future career.
- Exams: you have to take and pass a multiple-choice test and for each passed module you'll be awarded 0.5 ECTS;

Once you pass all the 4 modules tests (1 per workshop), you will be awarded the 2 ECTS required.

Company	Speaker	Title	Language	Date	Time	Room
PoliHub	Stefano Mizio	Startup innovation workshop	ENGLISH	2020 April 07	09:00 - 13:00	Teams
	Maurizio Dalla casa	Cenni di diritto civile ed aspetti del contenzioso giudiziale in ambito industriale	ITALIAN	2020 April 07	14:00 - 18:00	Teams
Siemens		How To Be Ready for the New Industry, now	ENGLISH	2020 April 08	09:00 - 13:00	Teams
BHGE	Marco Ruggiero	IPR management in large enterprises: a primer	ENGLISH	2020 April 08	14:00 - 18:00	Teams
	Andrea Casaroli	La fotografia come strumento tecnico per l'ingegneria	ITALIAN	2020 April 09	14:00 - 18:00	Teams

Master's Thesis and Graduation Day

■ Topic

- Master students are supposed to write a Master's Thesis on a subject or a scientific domain (SSD) that is part of the selected track.

■ Supervisor

- Once identified the subject of interest, students ask that course Professor for available topics on which to write the dissertation.
- N.B. is always best not to rush the process, therefore the best timing to start looking for a dissertation topic is when you have about 2 or 3 on top exams left.

■ Thesis presentation

- On your graduation day you will present your work in front of a Graduation Committee.
- If you present your dissertation in front of an opponent, you will get a higher evaluation of your work.

For further info <http://www.ccsmecc.polimi.it/en/enrolled-students/theses-and-graduation-essays/>.

More opportunities to improve your skills

PASSION IN ACTION

BEYOND THE CURRICULUM: TRAINING AND PASSION

"Passion in Action" is a catalogue of **open participation** teaching activities that the Politecnico offers to students to **support the development of transversal, soft and social skills** and to encourage/facilitate students in enriching their personal, cultural and professional experience. This opportunity is open to everyone. Students may choose from a range of subjects depending on their own interests and personal aptitudes. Students taking part in "Passion in Action" can register for any of the activities in the catalogue, regardless of whether they are related to the programme in which they are enrolled (subject to any prerequisites for access to individual initiatives). Acquired skills will be accredited on the [Diploma Supplement](#).

SCHEDULED INITIATIVES

	OCT 2019	NOV 2019	DEC 2019	JAN 2020	FEB 2020	MAR 2020	
	APR 2020	MAY 2020	JUN 2020	JUL 2020	AUG 2020	SEP 2020	

 CAMPUS:

 LANGUAGE:

Courses with open enrollment

ME Programme: Contacts

■ Admission (Milano Bovisa)

- Prof. Simone Cinquemani – students graduated in Italy
- Prof. Massimo Scotti – students graduated abroad

■ Admission (Lecco)

- Prof. Andrea Tommaso Venia

■ Customisation of your Postgraduate Programme (Milano Bovisa)

- Prof. Massimiliano Annoni

■ Customisation of your Postgraduate Programme (Lecco)

- Prof. Andrea Tommaso Venia

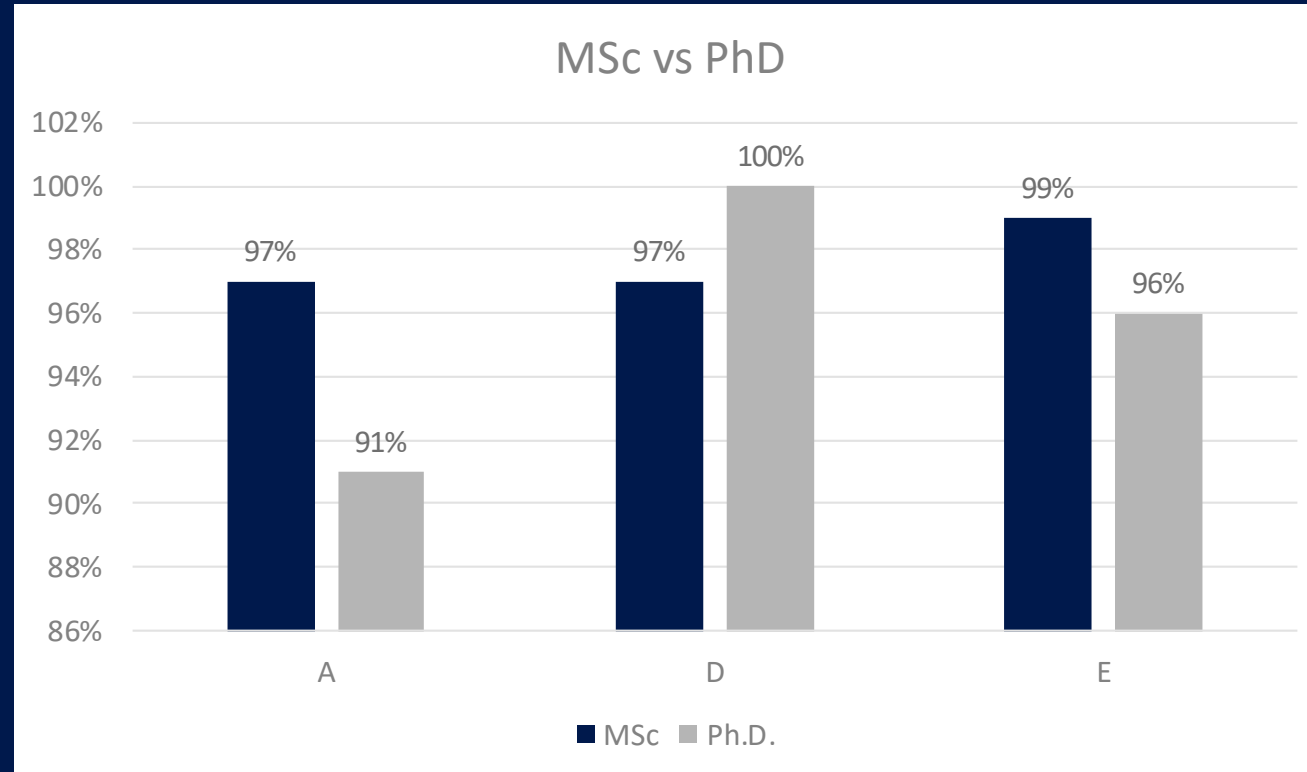




Ph.D.

Education: Bachelor & Master Level

Placement:
Graduates (MSc)
vs Ph.D.s (Survey 2021)



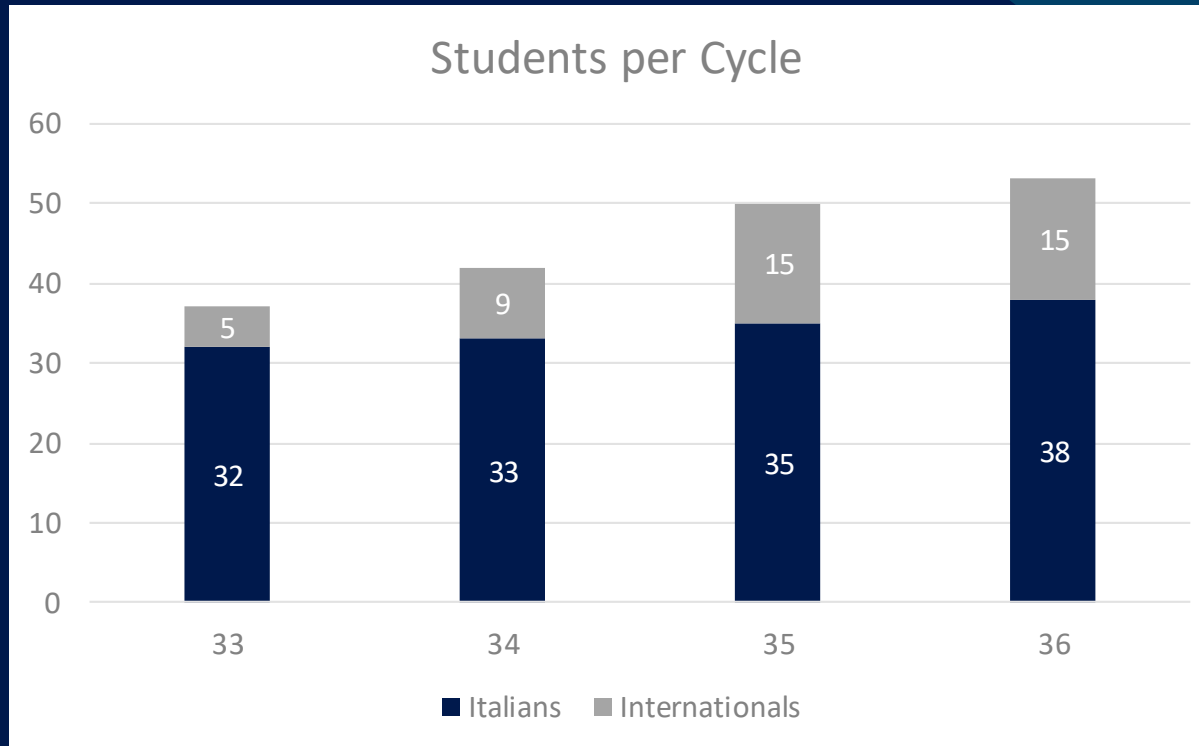
A: Architecture
D: Design
E: Engineering

Employment rate MSc: 99%
Employment rate Ph.D.s: 96%

Monthly net amount MSc: 2.183 €
Monthly net amount PhDs: 2.418 €

Ph.D. in Mechanical Engineering

Placement of Ph.D.s in Mechanical Engineering:
(Survey 2021)



Employment rate Ph.D.s: 97,1%

Monthly net amount PhDs: 2067 €

Internationalisation



POLITECNICO
MILANO 1863

- Centrale Supélec;
- Politecnico di Milano;
- Technische Universität Berlin;
- University College London;

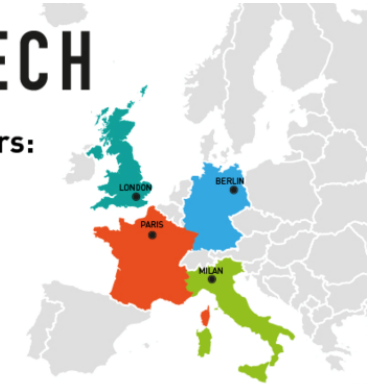
→ European Campus without borders for students and faculties

IDEA League A focused network of leading European universities of science and technology



ALLIANCE TECH

European Campus without borders:
a real international experience!



同濟大學
TONGJI UNIVERSITY

Internationalisation



**Massachusetts
Institute of
Technology**



**POLITECNICO
MILANO 1863**

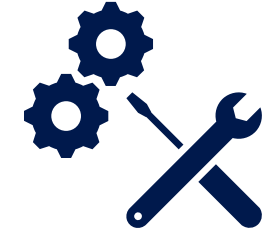


Progetto Roberto Rocca

Doctoral at MIT

The Progetto funds 6-12 month research stays at MIT for 5-6 Politecnico PhD students every year. High-quality profiles are sought. Priority will be given to students who participate in collaborative projects between MIT and Politecnico research groups. Please note that in addition to academic excellence, the fit between the applicants' interests and those of the hosting labs is a major criterion for selection

Deadlines



PHD START DATE	FEB 2022	MAY 2022	NOV 2022
APPLICATION DEADLINE	NOV 2021	MARCH 2022	MAY 2022



Contacts



MeccPhD Office

Campus Bovisa, Via La
Masa 1

Ground floor

Administration Area

ph. 02-2399 8555



phd-dmec@polimi.it



PHD STUDENT AMABSSADOR

Giovanni Lugaresi

Campus Bovisa, Via La Masa 1

ph. 02-2399 8538

giovanni.lugaresi@polimi.it

Programme Coordinator

Prof. Daniele Rocchi

Campus Bovisa

Via La Masa, 1

First floor

ph. 02-2399 8485

daniele.rocchi@polimi.it



Lucia Ferrari

lucia.ferrari@polimi.it

phd-dmec@polimi.it



THANK YOU FOR
YOUR ATTENTION

THE END