



**POLITECNICO**  
MILANO 1863



# "Quality Assurance"

## Master of Science in Electronics Engineering

prof. **Franco ZAPPA**

Coordinator of Electronics B.S.E.E. and M.S.E.E. Study Programmes

October 9<sup>th</sup>, 2019



1. "Lesson Zero"

**DONE!**

2. What students should know

3. **AQ** - Quality Assurance and  
**AVA** (Autovalutazione, Valutazione periodica Accredитamento)

4. ANVUR visit





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**DONE!**  
**on Oct. 2, 2019**



# "Lesson ZERO"

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**October 2<sup>nd</sup>, 2019**



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# ELECTRONICS website: [www.elettronica.polimi.it](http://www.elettronica.polimi.it)

POLITECNICO MILANO 1863

USEFUL LINKS PRIVACY  

SCUOLA DI INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE

## Corso di Ingegneria Elettronica

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Innovative Education

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Academic Calendar


Lessons, classes and timetables

BeeP

POLIMI Sport

POLIMI Events

POLIMI Open Knowledge



The Study Programme in Electronics Engineering prepares students to design, use, innovate, and deploy electron devices, circuits and systems and to guide the evolution of technology and innovation, with competence and professionalism.

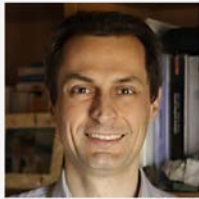
The **Laurea** degree in "Ingegneria Elettronica" (B.S.E.E.) aims at training professionals with solid scientific and technologic know-how, combining physical-chemical-mathematical fundamentals of the most advanced technologies with the engineering capacity to conceive and develop products and electronic systems, exploitable in the most diversified areas of society, often opening up new markets and scenarios.

The **Laurea Magistrale** degree in Electronics Engineering (M.S.E.E.) aims at fostering the skills acquired during the Laurea courses, and to further expand engineering knowledge and excellence in electronics. Examples are integrated electronic and analog design capabilities, complex products design and system integration (sensor and transducer systems, analog/digital conversion, processing and programming, power management), and expertise on CAD design

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### Corso di Ingegneria Elettronica

#### Docenti




Alberto Tosi

Alberto Tosi received the master's degree (summa cum laude) in Electronics Engineering from the Politecnico di Milano, Italy, in 1989 and 2005, respectively. He worked as assistant professor from 2006 to 2014. He has been an associate professor of Electronics with appointments in Milan since 2014. He currently works on silicon and InGaAsDF single photon avalanche diodes (SPADs). He is currently working on the design and development of smart SARDs.




Alessandro S. Spinelli

Alessandro S. Spinelli was born in Bergamo, Italy, in 1968. He received the Laurea summa cum laude and Ph.D. degrees in Electronics Engineering from the Politecnico di Milano, Italy, in 1990 and 1994, respectively. He worked with the company of Teleselec SpA in Milan, Italy, where he worked on single photon avalanche diodes in silicon, and he later worked as a consultant with the Camera Department of Research and Development, STMicroelectronics, Agnès Bracco S.p.A. He became assistant professor with the Electronics degree in 1997 and with the Electronics design, in 2000, and he is currently working on the design and development of smart SARDs.




Alessio Gambetta

Alessio Gambetta received the Laurea summa cum laude in Electronics Engineering from the Politecnico di Milano in 2008. He worked as a research fellow in the Department of Electronics and Information Engineering, where he worked on the design and development of smart SARDs. He is currently working on the design and development of smart SARDs.




Andrea Bonfanti

Andrea Bonfanti received the Laurea summa cum laude in Electronics Engineering from the Politecnico di Milano, Italy, in 1990. He worked as an assistant professor from 1990 to 1995. He is currently working on the design and development of smart SARDs.



Andrea Castoldi

Andrea Castoldi received the Laurea summa cum laude in Electronics Engineering from the Politecnico di Milano, Italy, in 1990. He worked as an assistant professor from 1990 to 1995. He is currently working on the design and development of smart SARDs.



Andrea Crespi

Andrea Crespi received the Laurea summa cum laude in Electronics Engineering from the Politecnico di Milano, Italy, in 1990. He worked as an assistant professor from 1990 to 1995. He is currently working on the design and development of smart SARDs.



**Dean of the School**



**prof. Antonio CAPONE**  
[antonio.capone@polimi.it](mailto:antonio.capone@polimi.it)

**Coordinator of Electronics**



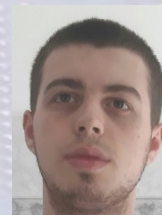
**prof. Franco ZAPPA**  
[franco.zappa@polimi.it](mailto:franco.zappa@polimi.it)

**Student representatives in Electronics:**

**Alberto BADILINI**  
[alberto.badilini@mail.polimi.it](mailto:alberto.badilini@mail.polimi.it)  
[@albertobadilini](#)



**Alessandro DI GIOVINE**  
[alessandromichele.digiovine@mail.polimi.it](mailto:alessandromichele.digiovine@mail.polimi.it)



**Francesco FAILLACE**  
[francesco.faillace@mail.polimi.it](mailto:francesco.faillace@mail.polimi.it)  
[@francescofaillace](#)



**Giacomo TOMBOLAN**  
[giacomo.tombolan@mail.polimi.it](mailto:giacomo.tombolan@mail.polimi.it)  
[@giacotombolan](#)





# "Student ombudsman" - "Difensore degli studenti"

Students can contact him to highlight misconducts

He enters into play after a (not anonymous) complain report, and supports the student to solve issues

He protect and support the student against any possible retaliation.

He is prof. Gerardus JANSZEN

[difensoredeglistudenti@polimi.it](mailto:difensoredeglistudenti@polimi.it)

02-2399.8366







# Professors and Committees

task	activities	name	phone
<b>Coordinator of the B.S. and the M.E. in ELECTRONICS ENG.</b>		Franco ZAPPA	6149
<b>Study Programme secretary</b>	records and reports on CCS meetings	Salvatore LEVANTINO	3731
<b>Quality Assurance</b>	assesses Quality of teachings and Study Programme	Marco SAMPIETRO	6188
<b>School tutoring</b>	manages and proposes tutoring activities	Franco ZAPPA	6149
<b>Internships</b>	selects and accepts companies proposals	Franco ZAPPA	6149
<b>Admission to M.S.E.E.</b>	for Italian students	Massimo GHIONI	4003
	for Italian students	Salvatore LEVANTINO	3731
	for international students	Christian MONZIO COMPAGNONI	4038
<b>Transfers among other B.S.</b>	from / to other B.S.	Daniele IELMINI	6120
<b>International exchanges</b>	<b>outgoing</b> POLIMI students going abroad	Marco SAMPIETRO	6188
	<b>incoming</b> international students coming to POLIMI	Christian MONZIO COMPAGNONI	4038
<b>Lessons timetables</b>	<b>B.S.E.E.</b> 2nd and 3rd years (prof. Epifani for 1st year)	Giorgio FERRARI	4008
	<b>M.S.E.E.</b> 1st and 2nd years	Carlo SAMORI	4035
<b>Study Plans</b>	<b>B.S.E.E.</b> per la L ELN di primo livello	Dario NATALI	3766
	<b>M.S.E.E.</b> per la LM ELN di secondo livello	Chiara GUAZZONI	6147
<b>Graduation Committee secretary</b>		Alessandro SOTTOCORNOLA SPINELLI	4001
<b>Open Day</b>	organizes events and meetings	Giacomo LANGFELDER	3425
	"Meet me Tonight" and other info events	Marco CARMINATI	6102
<b>ELECTRONICS web site</b>		Ivan RECH	3700
<b>Advisory Board</b>	organizes meetings and discussions with Job market	Franco ZAPPA	6149
	monitors match between offered courses and	Giacomo LANGFELDER	3425
	Company requests	Dario NATALI	3766
<b>Innovative Teaching</b>	evaluates new way to provide teaching and skills	Marco CARMINATI	6102
	proposes novel educational approaches	Ferericca VILLA	3490





# Students' opinion on teaching

D1		Are you <b>interested</b> in the topics of this teaching?
D2	TEACHING	Was the <b>preliminary knowledge sufficient</b> to understand the topics?
D3	TEACHING	Was the teaching carried out in a manner <b>consistent</b> with what was stated on the Study Program?
D4	TEACHING	Was this teaching free from <b>unnecessary repetitions</b> of topics covered in other courses?
D5	TEACHING	Was the <b>study load</b> proportionate to the assigned credits?
D6	TEACHING	Was the teaching <b>material</b> adequate?
D7	TEACHER	Does the teacher <b>stimulate</b> the interest towards the discipline?
D8	TEACHER	Does the teacher <b>explain</b> the topics clearly?
D9	TEACHER	Are <b>lessons important</b> for learning the contents of this teaching?
D10	TEACHER	Are <b>examination</b> procedures clearly defined?
D11	TEACHER	Was <b>teaching</b> material provided in advance by the teacher?
D12	TEACHER	Are <b>hours</b> of the teaching activity respected?
D13	TEACHER	Is teaching <b>staff</b> actually available for clarifications and explanations?
D14	OTHER ACTIVITIES	Are integrative educational activities (exercises, labs, seminars, etc.) coordinated with lessons?
D15	OTHER ACTIVITIES	Are integrative educational activities other than lessons (exercises, labs, seminars, etc.) useful for learning?
D16	OTHER ACTIVITIES	Are tutors / assistants <b>clear</b> ?
D17	INFRASTRUCTURES	Are classrooms <b>suitable</b> to follow lessons well (can you see and hear)?
D18	INFRASTRUCTURES	Are classrooms <b>large</b> enough?
D19	INFRASTRUCTURES	Are premises and equipment for integrative educational activities (exercises, labs, seminars, etc.) adequate?
D20	SATISFACTION	Are are <b>overall satisfied</b> with how this teaching was carried out?



Meet senior professionals  
from Electronics industries,  
talking & answering questions about  
their technical and managerial paths  
from POLIMI to job's market

The screenshot shows the CareerService website for the 'TAVOLA ROTONDA' event. The event is titled 'TAVOLA ROTONDA' in large yellow letters. Below the title, it says 'TAVOLA ROTONDA CON AZIENDE PER STUDENTI DI INGEGNERIA ELETTRONICA'. The event is scheduled for Monday, October 21, 2019, from 15:15 to 17:15. The location is Aula D 2.4, Edificio 25, Via U.B. Secondo, 3, Milano. The event is for 'CORSI DI LAUREA' in 'Ingegneria Elettronica'. The website also features a 'flex' logo and a 'GUARDA IL PROFILO AZIENDALE' link.

This is a smaller screenshot of the CareerService website, showing the event details for October 28, 2019. The event is titled 'TAVOLA ROTONDA' in large yellow letters. Below the title, it says 'TAVOLA ROTONDA CON AZIENDE PER STUDENTI DI INGEGNERIA ELETTRONICA'. The event is scheduled for Monday, October 28, 2019, from 15:15 to 17:15. The location is Aula D 2.4, Edificio 25, Via U.B. Secondo, 3, Milano. The event is for 'CORSI DI LAUREA' in 'Ingegneria Elettronica'. The website also features a 'flex' logo and a 'GUARDA IL PROFILO AZIENDALE' link.



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1999 "**Bologna process**": international reform of EU's higher education systems

- Harmonization of educational qualifications;
- Adopt two main cycles ( $3y + 2y = BS + MS$ );
- Consolidate the credit system (CFU);
- Promote mobility for students and teachers;
- Quality Assessment.

**ENQA** (European Association of Quality Assurance)

In Italy:



**AGENZIA NAZIONALE DI VALUTAZIONE  
DEL SISTEMA UNIVERSITARIO E DELLA RICERCA**

an independent third-party evaluator between Ministry and University



What is "quality"?

*"degree to which a set of intrinsic characteristics meets requirements"*

For education, quality is the

**"degree to which teaching, courses, training, research meet requirements"**

that is the

**"degree of matching between pre-established objectives and end-results"**

**Quality Assurance (AQ)** is the

**"set of activities implemented to produce trust that objectives will be met"**



## AUTOVALUTAZIONE SELF-EVALUATION



**POLIMI self-evaluation** of  
internal Quality Assurance

## VALUTAZIONE EVALUATION



**ANVUR checks** results vs. requirements  
to be consistent with EU standards

## ACCREDITAMENTO ACCREDITATION

**MIUR authorizes** POLIMI to issue "Degrees"  
to specific Study Programmes, since they fulfill  
requirements (after ANVUR check and ok)





## PROGETTO & PIANIFICAZIONE **CONCEIVEMENT & PLANNING**

definition of clear Degree Progr. objectives  
verification of their value for the job market  
definition of activities to carry

## EROGAZIONE **DELIVERY**

implementation of what was planned

## MONITORAGGIO **MONITORING**

gather information on how it is going  
monitoring careers, **students' opinions**, and  
**advices** from teachers, students, job market

## MIGLIORAMENTO **IMPROVEMENT**

are educational goals been achieved?  
is there anything to revise or fine-tune?



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ho il piacere di confermarti che una Commissione di Esperti della Valutazione (CEV) incaricata dall'ANVUR visiterà la tua Università, in relazione al processo di Accredimento Periodico

A tale proposito, ti riporto di seguito i Corsi di Studio (CdS) e i Dipartimenti individuati dall'ANVUR con delibera del Consiglio Direttivo n. 108 del 17/04/2019 che, come da Linee Guida, verranno valutati nell'ambito della procedura di accreditamento.

Lauree	Lauree Magistrali	Lauree Magistrali a ciclo unico
<ul style="list-style-type: none"><li>• Design degli interni L-4</li><li>• Ingegneria per l'ambiente ed il territorio L-7</li></ul>	<ul style="list-style-type: none"><li>• Chemical Engineering - Ingegneria Chimica LM-22</li><li>• Electronics engineering - Ingegneria elettronica LM-29</li><li>• Mechanical engineering - Ingegneria meccanica (Sede di MILANO) LM-33</li></ul>	<ul style="list-style-type: none"><li>• Ingegneria Edile-Architettura (Sede di LECCO) LM-4 c.u.</li></ul>

Dipartimenti
Ingegneria civile e ambientale
Meccanica





# ANVUR visit in November 2019





Meeting with the **Coordinator** (F. ZAPPA) and **AQ manager** (M. Sampietro)

Meeting with the annual "**Review**" group

Meeting with the "**Students Representatives**"

Interviews with **students** in the classroom

Visit facilities (study rooms, labs and libraries, and other student services)

Meeting with Technical and Administrative staff

Meeting with the "Joint Teachers-Students Committee"

Meeting with the stakeholders, i.e. Companies, Industries, etc.