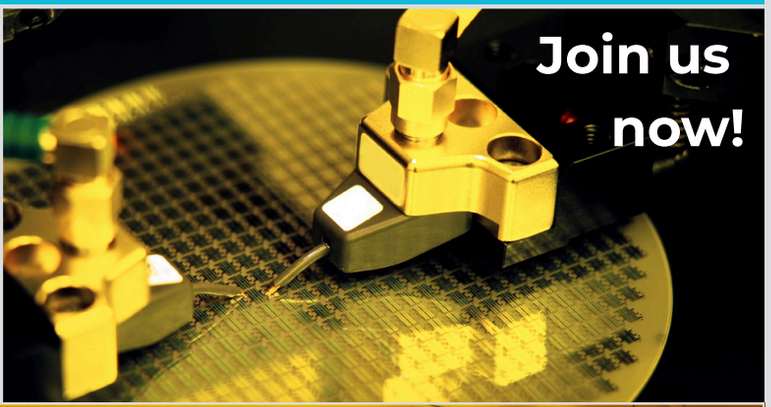


Our master program is for you, if you

- are interested in modern and emerging technologies,
- like to design integrated circuits and develop new semiconductor devices,
- would like to work at high-tech companies,
- like to experiment and build cutting-edge measurement systems,
- and if you are interested in deeptech and innovation.





Find your career in the semiconductor industry!

Progress in semiconductor manufacturing depends heavily on our ability to understand and measure increasingly complex materials and devices. As a BME-trained physicist and Head of Product Marketing at Semilab, I see the value every day of connecting scientific insight with engineering practice. BME's Semiconductor Engineering MSc develops exactly this combination for the dynamic high-tech sector.



Anita Pongrácz,
Semilab

As an electrical engineer graduated from BME and Country R&D Officer at Infineon, I know firsthand that BME's strong engineering foundations lead straight to the forefront of the semiconductor industry. Our chips actively shape the future of e-mobility and green energy. Serving as a local center of excellence, BME's Semiconductor Engineering MSc bridges cutting-edge tech with practical innovation, offering high market value and an international career path. I highly recommend this program to anyone who wants to actively build tomorrow's technology.



Zoltán Szabó,
Infineon

MEMS have been the center of my 2-decade-long professional life. The teams I head as a Section Manager at Bosch develop and measure microstructures and ASICs of MEMS: sensors that serve you every day, from life-saving airbags to earphones. My journey in the complex world of semiconductors was inspired by the BME's electrical engineering curriculum, which is now expanding with a new Semiconductor Engineering master's program. Challenge yourself, sign up - start your journey and engineer the future at the smallest scale and biggest impact.

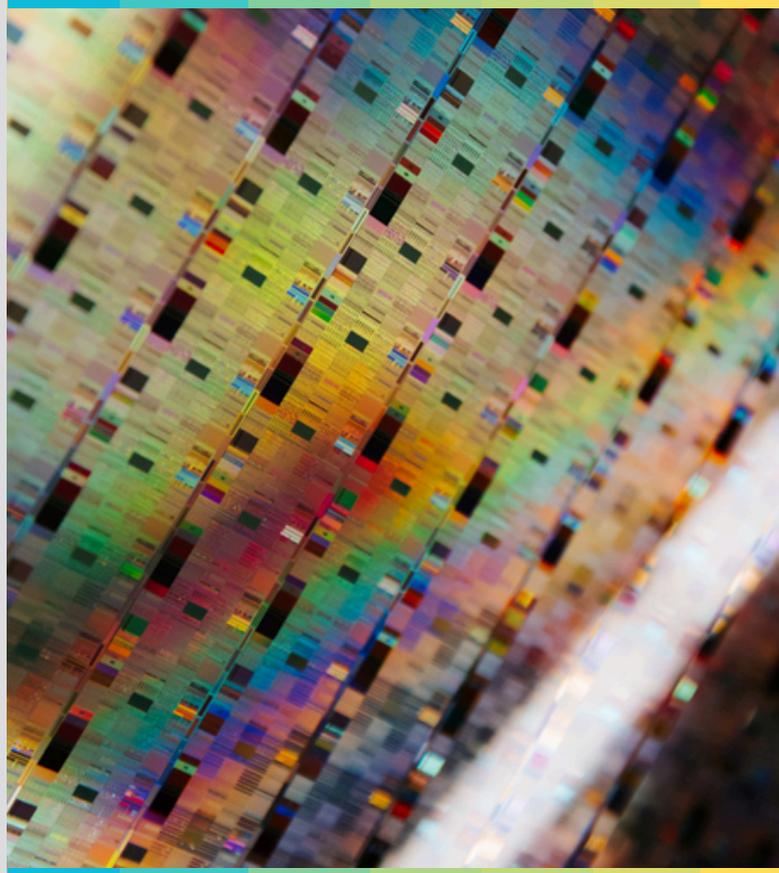


András Takács,
Bosch

Semiconductor Engineering

joint master program of the
Faculty of Electrical Engineering and Informatics and the
Faculty of Natural Sciences of the
Budapest University of Technology and Economics

Semiconductor Engineering MSc



semiconductormsc.bme.hu

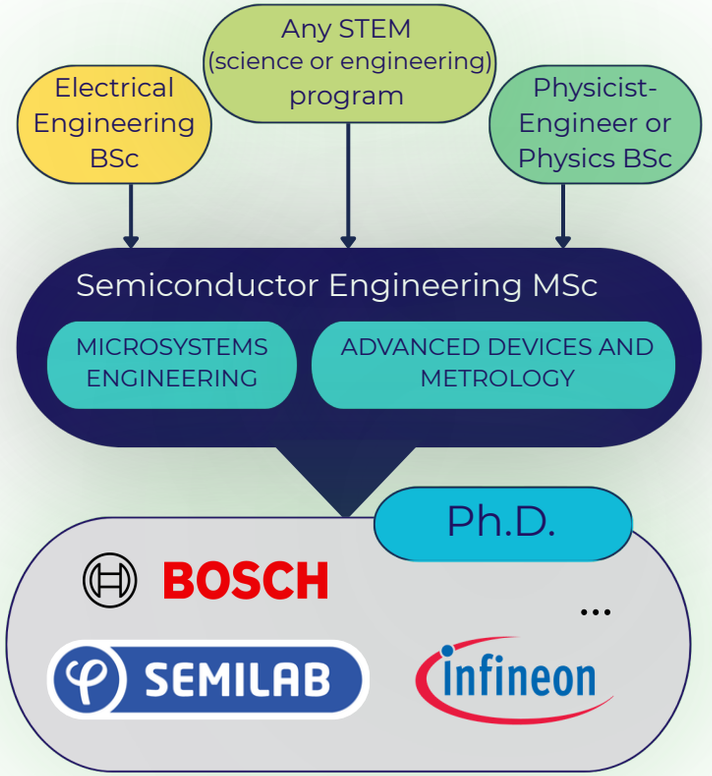
MŰEGYETEM 1782 | BME

Carrer paths

Did you know that the European Chips Act aims to double the EU's global market share in semiconductor industry to 20% by 2030 by mobilizing over €43 billion in public and private investment?

Did you know that there are also many rapidly growing companies in Hungary that specialize in semiconductor and chip technologies?

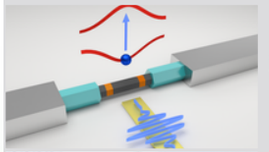
It is the right time to join this cutting-edge field of engineering!



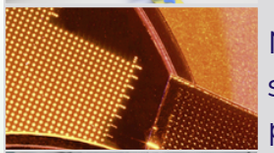
What will you learn?

You can study the physics and process technology of semiconductors and semiconductor devices, and gain knowledge of measurement techniques and computer modeling used by the semiconductor industry. The program covers a wide range of areas, from semiconductor materials and individual devices to integrated systems and emerging technologies.

Focus areas of our program



Semiconductor physics and materials science



Novel devices from power semiconductors to photonics and photovoltaics



Semiconductor process technology



Semiconductor metrology



Microsystems design and MEMS technologies



Heterogeneous integration



Neuromorphic and quantum devices



Deeptech and innovation

FOUNDATIONAL SUBJECTS: Quantum Physics, Solid State Physics, Electronics, Microelectronics (for those who did not study these in their BSc)	17 ECTS
CORE SUBJECTS: SC Physics, SC Devices, SC Process Technologies, SC Metrology, Solid State Electronics, Packaging and Integration, SC Modeling and Simulation, SC Characterization Lab	29 ECTS
TRANSVERSAL SKILLS: Management, Communication, Deeptech and Engineering Innovation	6 ECTS
OPTIONAL SUBJECTS: Any course of the university	6 ECTS
MICROSYSTEMS ENGINEERING SPECIALIZATION: Microsystems Modeling, System Level Design + Lab, ... **OR** **ADVANCED DEVICES AND METROLOGY SPECIALIZATION:** Emerging Devices and Architectures for Information Technologies, SC Photonics, Quantum Transport in Semiconductor Nanostructures, Advanced Semiconductor Metrology Lab, ...	22 ECTS
PROFESSIONAL PRACTICE AND THESIS WORK: Summer Practice, Summer School, Project works, Diploma Thesis	40 ECTS