Tecnológico de Monterrey

IE

# B.S. Electrical Engineering and Semiconductors

## Design the future with every circuit.

### Why study this program at Tec?

From your very first semester, you immerse yourself in an environment where technology isn't just used—it's built.

- **You analyze, design, and develop systems that make automation, electromobility, telecommunications, medical devices, and smart cities possible.**
- **Every component, every device, and every line of code you create has the potential to transform entire industries.**

### Is this your path?

If you don't just use technology, but want to understand how it works and dream of creating the next big innovation in electronics...

**IE at Tec is your platform to make it happen!**



### What makes this program unique at Tec

- Unique concentrations such as Photonics, Quantum Technologies, and Nanodevices.
- Strong industry connections with companies like Cisco, Huawei, Intel, and Texas Instruments.
- Cutting-edge laboratories and student associations such as NAO Team and Noematix.
- Dual degrees with Essex and SMU, plus academic stays at MIT, Berkeley, and KAIST.

### A world of career opportunities.

You can join companies in electronics, energy, information technologies, telecommunications, or semiconductors, as well as consulting firms, research centers, or launch your own technology-based ventures.





### Skills you'll develop:

You'll design integrated circuits, develop electronic devices and power systems, integrate telecommunications, and apply computational intelligence to create solutions—all grounded in ethics, critical thinking, and sustainability.



### Imagine this:

Leading the development of devices for electric vehicles, innovating circuits for 5G telecommunications, creating your own tech solutions company, or working with semiconductors at world-class research centers.

**At Tec, that future starts today.**

### Be part of something bigger

Ranked # **110** worldwide in Electrical and Electronic Engineering (QS 2026)

Academic stays at MIT, Berkeley, KAIST, and more

Dual degrees with Essex and SMU

Partnerships with Intel, Huawei, Cisco, and Continental

Check which campuses offer this program at tec.mx

**Design the future with every circuit. Here, you learn how to build it.**

**Take the first step toward engineering that transforms.**

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# Curriculum
# B.S. Electrical Engineering and Semiconductors

## 1ST SEMESTER
- Elective Course Mathematics and Science
- Differential and Integral Calculus
- Biology and Sustainability
- Algorithmic Thinking
- Innovative Perspectives in Engineering
- The Laws of Motion and Conservation
- Tec Week: Induction to the Social Service
- Tec Week Elective I

## 2ND SEMESTER
- Elective Course Humanities and Fine Arts
- Multivariable Calculus
- Linear Algebra
- Chemistry Fundamentals
- Exploration Topic
- Statistics and Data Handling
- Fundamentals of Thermodynamics
- Foreign Language
- Tec Week Elective II
- Tec Week Elective III

## 3RD SEMESTER
- Elective Course Social and Behavioral Sciences
- Differential Equations
- Fundamentals of Object-Oriented Programming
- Logic Systems
- Advanced Mathematics
- Electrostatics
- Applied Electrical Circuits
- Electromagnetic Fields
- Tec Week Elective IV
- Tec Week Elective V

## 4TH SEMESTER
- Elective Course Leadership, Entrepreneurship and Innovation
- Electrical Systems
- Semiconductor Physics
- Programmable Logic Devices
- Electronic Devices
- Disciplinary Tec week
- Tec Week Elective VI

## 5TH SEMESTER
- Elective Course Ethics and Citizenship
- Control Systems Design
- Signals and Systems
- Optoelectronics
- Applied Electronics
- Electronic Design Based on Microcontrollers
- Tec Week: Professional Life Planning
- Tec Week Elective VII

## 6TH SEMESTER
- Digital Communications
- Design of Analog Integrated Circuits
- Digital Signal Processing
- Power Electronics
- Design of Digital Integrated Circuits
- Tec Week Elective VIII
- Tec Week Elective IX

## 7TH SEMESTER
TEC SEMESTER

You'll be able to customize your career through:
- Concentrations
- Internships
- International experience
- Elective training units

- Tec Week Elective X
- Tec Week Elective XI

## 8TH SEMESTER
- Elective Multidisciplinary Professional
- Semiconductor Based Solutions
- Tec Week: Strategies and Guides for the Final Degree Exam
- Tec Week Elective XII

You'll be able to customize your learning experience by choosing from the different available options.

*The curriculum may vary. Contact an admissions advisor or visit **tec.mx** for more information.

**Want more info?**

Scan this QR to know more about this program.
**tec.mx/ie**

**Your future in *ENGINEERING AND SEMICONDUCTORS* starts here.**

***WHY NOT?***

**RVOE: DEC-520912**