Tecnológico de Monterrey

IMD

B.S. in Biomedical Engineering

Technology that improves lives.

Why study this degree at Tec?

You're about to enter one of the most promising fields of the future: the intersection of health, science, and technology. Here, you prepare to design solutions that transform medical care—from innovative devices to intelligent systems for diagnosis and therapy.

You'll be part of an interdisciplinary environment where technologies are created with real impact on quality of life.

Is this your path?

At Tec, we combine science, empathy, and innovation to educate the engineers who are revolutionizing the healthcare sector.

If you're interested in medicine, enjoy solving complex problems, and are passionate about technology as a tool to improve lives...

IMD at Tec is your platform to make it happen!



What makes this degree unique at Tec:

- Five curricular tracks and concentrations such as Biomechanics, Tissue Engineering, and Medical Signal Processing.
- Access to research stays and collaborative projects in 25 countries.
- A human-centered innovation ecosystem with an interdisciplinary vision.
- Programs with partners such as IMSS, Boston Scientific, and high-specialty hospitals.
- Exchange programs with leading universities like MIT, CUHK, and the University of Barcelona.

Your career field is full of possibilities. Some of them include:

From the medical industry and clinical engineering toresearch, public health, and the development of emerging technologies.

- You can work in device design, hospital administration, bioinstrumentation, biomaterials, rehabilitation, medical imaging, consulting, or health-tech entrepreneurship.





Skills you will develop:

- Designing medical technologies across all stages of healthcare.
- Integrating engineering and medicine to solve complex problems.
- Mastering cutting-edge tools for diagnosis, therapy, and care.
- Understanding regulatory frameworks and technology transfer processes.
- Working with an ethical mindset, social awareness, and critical thinking.

Imagine this:

Designing a low-cost 3D-printed prosthesis. Leading the development of a biosensor to detect diseases. Researching regenerative therapies or applying artificial intelligence in smart hospitals.

At Tec, that future starts today.

You'll be part of something bigger

- Partners such as IMSS, Hospital San Juan de Dios, and Boston Scientific
- Exchange programs with Linköping, UNT, CUHK, and Wollongong.
- Disciplinary and cross-disciplinary concentrations to shape a profile tailored to you
- Check which campuses offer this program at tec.mx

The voices of those already making an impact

- **Luis Soenksen** – PhD from MIT, part of the Wyss Institute for Biologically Inspired Engineering.
- **Ana Paulette Arreygue** – Distinguished clinical engineer in the U.S.
- **Yoku Sashida** – Founder of a medical innovation company.

A glimpse of how our community creates real impact.

Your vocation already has purpose. Here, you learn how to turn it into technology that transforms.

Take the first step toward the future of healthcare.

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Curriculum
B.S. in Biomedical Engineering

SEMESTER 1
- 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

SEMESTER 2
- 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

SEMESTER 3
- Elective Course Social and Behavioral Sciences
- Basic Structure and Function
- Differential Equations
- Advanced Mathematics
- Electricity and Magnetism
- Applied Electrical Circuits
- Fundamentals of Biomechanics
- Tec Week Elective IV
- Tec Week Elective V

SEMESTER 4
- Elective Course Leadership, Entrepreneurship and Innovation
- Cellular and Metabolic Processes
- Biomedical Metrology
- Functional Anatomy
- Biomechanics
- Analog Bioinstrumentation
- Analysis of Human Biochemistry and Histology
- Disciplinary Tec week
- Tec Week Elective VI

SEMESTER 5
- Elective Course Ethics and Citizenship
- Signals and Systems Analysis
- Physiopathological Processes
- Hospital Project Management
- Digital Bioinstrumentation
- Applied Molecular Medicine
- Tec Week: Professional Life Planning
- Tec Week Elective VII

SEMESTER 6
- Advanced Application of Biomedical Engineering
- Modeling and Control of Physiological Processes
- Design Methodologies in Biomedical Engineering
- Synthesis and Characterization of Biomaterials
- Medical Technologies and Infrastructure
- Applied Bioinstrumentation
- Medical Imaging
- Tec Week Elective VIII
- Tec Week Elective IX

SEMESTER 7
- Neuroengineering
- Mechanics of Biofluids
- Tissue Engineering and Bioprinting
- Clinical Engineering
- Advanced Medical Signal and Image Processing
- Innovation and Advanced Design in Biomedical Engineering
- Tec Week Elective X
- Tec Week Elective XI

SEMESTER 8
TEC SEMESTER

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

- Tec Week Elective XII
- Tec Week Elective XIII

SEMESTER 9
- Elective Multidisciplinary Professional
- Medical Technologies Development
- Tec Week: Strategies and Guides for the Final Degree Exam
- Tec Week Elective XIV

● 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/imd

Your future in BIOMEDICAL ENGINEERING starts here.

WHY NOT?

RVOE: DEC-520912